2015-2016 Graduate Catalog

For students whose initial enrollment occurs Fall 2015 - Summer 2016, this Catalog is valid through Summer 2024.

The University reserves the right to cancel or alter any part of this Catalog without notice (subject to the following):

The course offerings and requirements of the University of Memphis are continually under examination and revision. This Catalog presents the offerings and requirements in effect at the time of publication, but is no guarantee that they will not be changed or revoked. The specific courses or activities constituting the degree requirements for any programs are subject to state contractual terms and do not constitute a contract between the student and the University of Memphis.

The University of Memphis reserves the right to make changes as required in course offerings, curricula, academic policies and other rules and regulations affecting students to be effective whenever determined by the institution. These changes will govern current and formerly enrolled students. Enrollment of all students is subject to these conditions. Any fees, charges or costs, and all academic regulations set forth in this Bulletin are subject to change at any time, and all courses, programs, and activities described in this Bulletin are subject to cancellation or termination by the University of Memphis or the Tennessee Board of Regents at any time.

The University of Memphis provides the opportunity for students to increase their knowledge by providing programs...
of instruction in the various disciplines and programs through faculty who, in the opinion of the institution, are trained and qualified for teaching at the college level. However, the acquisition of knowledge by any student is contingent upon the student's desire and ability to learn and the application of appropriate study techniques to any course or program. Thus, the University of Memphis must necessarily limit representation of student preparedness in any field of study to the competency demonstrated at that specific point in time at which appropriate academic measurements were taken to certify course or program completion. (TBR 2:04:00:01)

The University of Memphis offers equal educational opportunity to all persons without regard to race, religion, sex, creed, color, national origin or disability. The University does not discriminate on these bases in recruitment and admission of students or in the operation of its programs and activities, as specified by federal laws and regulations. The designated coordinators for University compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 are the Vice President for Student Affairs and the Equal Opportunity Compliance Officer. Information in this document will be provided in alternate format upon request.

The University of Memphis is an Equal Opportunity/Affirmative Action University. It is committed to education of a non-racially identifiable student body.

The University of Memphis is one of 45 institutions in the Tennessee Board of Regents system, the seventh largest system of higher education in the nation. The TBR is the governing board for this system, which comprises six universities, 13 community colleges and 26 area technology centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education.

The University of Memphis is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097, telephone number 404-679-4501) to award bachelor's, first professional, master's, educational specialist, doctoral degrees, and graduate certificates.

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**Graduate Catalog**
Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
Full sitemap
2015-2016 Graduate Catalog

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Full sitemap
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The Graduate School

JASBIR DHALIWAL, Ph.D.
Dean of the Graduate School
901.678.4212

The University of Memphis is a Doctoral Extensive Research/High Activity university. The Graduate School is the center of advanced study and research within the University. The basic objectives of the Graduate School are:

- To preserve and disseminate knowledge;
- To extend knowledge through research; and
- To prepare men and women to assume responsible and useful roles in a changing society.

The Doctor of Philosophy degree is awarded in audiology and speech-language pathology, biology, biomedical engineering, business administration, chemistry, communication, computer science, counseling psychology, earth sciences, educational psychology and research, engineering, English, history, mathematical sciences, music, philosophy, psychology, and social and behavioral sciences. The degrees of Doctor of Audiology, Doctor of Education, and Doctor of Musical Arts are awarded by the School of Communication Sciences and Disorders, the College of Education, Health and Human Sciences, and the College of Communication and Fine Arts, respectively. The College of Education, Health and Human Sciences also awards the degree of Education Specialist with a major in education. The Cecil C. Humphreys School of Law awards the Juris Doctor degree.

Masters programs are offered in fifty-five major areas through six colleges and two schools. The degrees include Master of Arts, Master of Science, Master of Architecture, Master of Arts in Liberal Studies, Master of Arts in Teaching, Master of Business Administration, International Master of Business Administration, Master of City and Regional Planning, Master of Education, Master of Fine Arts, Master of Health Administration, Master of Music, Master of Professional Studies, Master of Public Administration, Master of Public Health, Master of Social Work, and Master of Science in Nursing.

Mission of the University

The University of Memphis is a learner-centered metropolitan research university providing high quality educational experiences while pursuing new knowledge through research, artistic expression, and interdisciplinary and engaged scholarship.

Values

The University of Memphis, as an engaged learning community, celebrates:

- The pursuit of excellence in teaching and research as the highest measures of successful achievement.
- Interdisciplinary collaboration, artistic expression, and research as vehicles for leveraging our resources, solving problems, and multiplying our accomplishments.
- The transfer and dissemination of knowledge with community stakeholders for the intellectual, economic, and social advancement of our community.
- Innovation and creativity in everything we do.
**Respect for diversity and individual worth.**

**Integrity and transparency in all our actions.**

**Responsible stewardship and conservation of resources.**

**Stewardship of wisdom, knowledge, and information created by our predecessors.**

**Leadership and involvement in the economic, social, and professional growth of Memphis, the state of Tennessee, and the nation.**

**Role of the Graduate School**

The role of the Graduate School includes the following items:

- Advocate graduate education and graduate student policies both on campus and in the profession
- Strengthen the link between the research mission and graduate education at the university
- Establish criteria for review and approval of graduate faculty
- Provide oversight for policies and standards for graduate education at the campus level
- Advance graduate education and enhance the graduate student experience
- Review all proposals for new courses, new academic programs, and curricular and program modifications
- Review, formulate, and approve policies and regulations relating to graduate education, graduate student recruitment, admission, retention, and graduation policies
- Maintain equitable standards and policies across disciplines and program
- Provide guidance relative to issues and problems affecting graduate education and graduate students at the university
- Promote excellence for graduate students and faculty relative to the graduate education experience
- Provide an administrative framework to facilitate efficient admission, retention, and graduation processes for graduate students
- Promote the diversity of our student population and making graduate study accessible.
- Advocate for adequate library and other research resources and services to support graduate education

**History**

The roots of The University date back to September 12, 1912, with the establishment and beginning of classes at West Tennessee State Normal School, which trained primary and secondary education teachers. However, the seeds for the normal school's creation were sown three years earlier, in 1909, when the Tennessee General Assembly passed a General Education law calling for the establishment and maintenance of three normal schools, one located in each of the three grand divisions of the state.

The eastern edge of Memphis became the site for West Tennessee State Normal School, which in 1929 became West Tennessee State Teachers College. In 1941, the college expanded its curriculum in liberal arts, and the name was changed to Memphis State College, an institution serving three to four thousand students. The undergraduate program was reorganized into three schools and a graduate school was added in 1951.

Memphis State achieved university status in 1957. On July 1, 1994, the name was officially changed to The
University of Memphis.

Governing Body
The governance and control of The University of Memphis is vested in the Tennessee Board of Regents. The composition and powers of the Board are set forth in Tennessee Code Annotated 49-8-201 through 49-8-203. The Board consists of eighteen members: twelve lay citizens appointed for six-year terms by the Governor from each congressional district and grand division of the state; one faculty member appointed for a one-year term; one student appointed for a one-year term by the Governor from among the system institutions; and four ex officio members: the Governor, the Commissioner of Education, the Commissioner of Agriculture, and the Executive Director of the Tennessee Higher Education Commission.

Accreditation
The University of Memphis is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) (1866 Southern Lane, Decatur, GA 30030-4097; telephone number 404-679-4501) to award bachelor's, first professional, master's, education specialist, and doctoral degrees. Individual colleges, schools, and departments are accredited by the appropriate agencies.

Organization
The schools and colleges that make up The University are the Graduate School, the Cecil C. Humphreys School of Law, the Loewenberg School of Nursing, the School of Communication Sciences and Disorders, the School of Public Health, and six colleges offering graduate and undergraduate programs: the College of Arts and Sciences, the Fogelman College of Business and Economics, the College of Communication and Fine Arts, the College of Education, Health and Human Sciences, the Herff College of Engineering, and the University College.

The Memphis Community
Memphis is one of the South’s largest and most attractive cities. As a medical, educational, communication, distribution, and transportation center, Memphis offers a rich and full range of research opportunities and cultural experiences. The city, known worldwide for its musical heritage as home of the blues and the birthplace of rock and roll, has many fine restaurants, museums, and theaters, as well as one of the nations largest urban park systems. Annual events include the St. Jude/Liberty Bowl Football Classic, Memphis in May International Festival, Kroger/St. Jude Tennis Tournament, Africa in April Cultural Awareness Carnival, St. Jude Memphis Golf Classic, and Carnival Memphis. Tourist attractions include the Beale Street Historic District, the National Civil Rights Museum, the Center for Southern Folklore, and Elvis Presley’s home, Graceland. The medical complex in Memphis is the South’s largest and one of the nation's foremost centers of medical research.

The University’s modern and beautifully landscaped campus is centrally located in an attractive residential area of Memphis, with shopping, recreation, and entertainment centers nearby. In addition to the Main Campus facilities, the University has research and athletic training facilities and married student housing on the South Campus, as well as teaching sites throughout West Tennessee.
Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Admission Regulations

Admission to the Graduate School is open to anyone holding a bachelor's or master's degree from an accredited
college or university. Applicants should have completed undergraduate or graduate work of sufficient quality and scope to enable them to successfully pursue graduate study. The University of Memphis offers equal educational opportunity to all persons, without regard to race, religion, sex, age, creed, color, national origin, or physical handicap.

Students are admitted to the University of Memphis through a cooperative effort of the Graduate School and the departments, colleges, and schools of the University. When the Graduate School receives the student's application material, an official file is established and reviewed. The department then reviews the application file and makes a recommendation to the Graduate School. The Graduate School notifies applicants as soon as a decision has been reached.

Applicants are required to meet admissions criteria established by the Graduate School in order to enroll in graduate courses. In order to be admitted to a degree program in any academic unit, applicants are also required to meet any additional standards set by the unit or college. Applicants are selected on a competitive basis and, therefore, admission is not granted to all applicants who meet only the minimum requirements. Past behavior and classroom performance can be considered in admissions decisions. Some academic programs have individual application forms and additional requirements such as portfolios, proficiency examinations, auditions, etc.

**Individual program requirements described in the University of Memphis Graduate Bulletin 2015-2016, are subject to change. Please contact the academic department or the Graduate School for changes.** Domestic graduate admission applications will only be accepted through Self-Service Banner. The Office of Admissions no longer accepts hard-copy (paper) applications. Please visit the Graduate School web site for program addresses, deadlines, and additional information. Deadlines and requirements may differ for each program.

**Prospective students should check with the appropriate program for specific deadlines and admissions requirements.** For admission to a degree program, applicants should allow approximately three to six weeks from date of receipt of complete application for the necessary credentials to be processed by the appropriate degree program and the Graduate School. Applicants are urged to apply early to ensure full consideration. Late domestic applicants may be admitted as graduate non-degree students and as such are not guaranteed placement in specific programs; some classes may be closed to non-degree students. International applicants should allow at least four months for the application process; they can not be admitted as non-degree students.

All applications must be accompanied by a non-refundable application fee ($35.00 for domestic applicants; $60.00 for international applicants), unless previously paid. Applications received without the application fee will not be processed.

The University of Memphis requires all applicants born after January 1957 to have had the measles (MMR) vaccination after January 1, 1980, in order to be admitted. See "Miscellaneous Information" for additional information.
Return completed applications and required credentials to Graduate Admissions, 200 Wilder Tower, University of Memphis, Memphis, Tennessee 38152-3520. The applicant is advised to have all credentials on file well in advance (preferable six weeks) of the beginning of the term for which application is made.

See "Admission of International Students" for details about additional requirements for international applicants.

All credentials become the property of the University and will not be forwarded or returned. If the applicant does not enroll, credentials will be maintained in active files for 12 months, after which they will be destroyed. After that time, candidates must reapply for admission and submit a new set of credentials if they wish to be admitted to the Graduate School. Students who do not enroll for a Fall or Spring semester must apply for readmission.
Follow UofM Online
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Graduate and prospective graduate students are responsible for being thoroughly familiar with the rules, regulations, and degree requirements of the Graduate School and of the academic departments, as well as with the Code of Student Conduct.

The Fogelman College of Business and Economics, the College of Education, Health and Human Sciences, and
the Herff College of Engineering have additional college degree requirements. Please see Degree Programs for individual program requirements.

Please check the sites below for specific academic regulations.

- Course Numbering System
- Course Load Limitations
- Audit Courses
- Attendance Policy
- Change of Major or Advancing from a Master's to a Doctoral Program
- Adding and Dropping Courses
- Withdrawal from Graduate School
- Leave of Absence
- Grading System
- Credit by Exam
- Course Validation
- Transfer Credit
- Grade and Retention Appeals
- Academic Misconduct
- Academic Probation
- Termination Procedures
- Graduate Faculty
- Regulatory Issues
- Privacy Rights of Parents and Students

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
Full sitemap
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Archived Graduate Catalogs

2015 - 2016 Graduate Catalog

2014 - 2015 Graduate Catalog

2013 - 2014 Graduate Catalog
Full sitemap
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Degree Programs and Courses

Graduate and prospective students are responsible for being thoroughly familiar with the rules, regulations, and
degree requirements of the Graduate School and of the academic departments. The Fogelman College of Business and Economics, the College of Education and the Herff College of Engineering have additional college degree requirements.

For information regarding specific degree program requirements and courses available, click on the appropriate links below. Click here for a complete listing of all degree program contacts including web pages, telephone numbers and e-mail addresses.

COLLEGE OF ARTS AND SCIENCES

Anthropology
Bioinformatics
Biological Sciences
Center for Earthquake Research and Information
Chemistry
Computer Science
Earth Sciences
English
Foreign Languages and Literature
History
Mathematical Sciences
Philosophy
Physics and Material Science
Political Science
Psychology
Sociology

School of Urban Affairs and Public Policy

- City and Regional Planning
- Criminology and Criminal Justice
- Public Administration
- Social Work

Graduate Certificate Programs

- African American Literature
- Bioinformatics
- Cognitive Science
- Geographic Information Systems
- Information Assurance
Local Government Management
- Museum Studies
- Philanthropy and Nonprofit Leadership
- Teaching English as a Second Language
- Women’s and Gender Studies

FOGELMAN COLLEGE OF BUSINESS AND ECONOMICS

School of Accountancy
Business Information Technology
Economics
Finance
Management
Marketing and Supply Chain Management

Graduate Certificate Programs
- Business Information Assurance
- Business Intelligence and Analytics
- Business Project Management
- Software Testing

COLLEGE OF COMMUNICATION AND FINE ARTS

Architecture
Art
Communication
Journalism
Rudi E. Scheidt School of Music
Theatre and Dance

Graduate Certificate Programs
- Artist Diploma in Music
- Entrepreneurial Journalism

COLLEGE OF EDUCATION

Counseling, Educational Psychology and Research
Instruction and Curriculum Leadership
Leadership

Graduate Certificate Programs

- Autism Studies
- Career and College Counseling
- Community College Teaching and Leadership
- Disabilities Studies
- Instructional Design and Technology
- Literacy Leadership and Coaching
- Qualitative Studies in Education
- Quantitative Studies in Educational Research
- STEM (Science, Technology, Engineering and Mathematics) Teacher Leadership
- Teaching in Diverse School Populations
- Urban Education

HERFF COLLEGE OF ENGINEERING

Biomedical Engineering
Civil Engineering
Electrical and Computer Engineering
Engineering Technology
Mechanical Engineering

Graduate Certificate Programs

- Applied Lean Leadership
- Image and Signal Processing
- Packaging Engineering

LOEWENBERG SCHOOL OF NURSING

Graduate Certificate Programs

- Family Nurse Practitioner
- Healthcare Informatics Leadership
- Nursing Administration
- Nursing Education
- Nursing Informatics

SCHOOL OF COMMUNICATION SCIENCES AND DISORDERS
SCHOOL OF HEALTH STUDIES

SCHOOL OF PUBLIC HEALTH

Health Administration
Public Health

Graduate Certificate Programs

- Population Health

UNIVERSITY COLLEGE

Liberal Studies
Professional Studies

Graduate Certificate Programs

- Liberal Studies

Graduate Catalog

Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
2015-2016 University Calendar

The calendar is subject to change at any time prior to or during an academic term due to emergencies or causes...
beyond the reasonable control of the institution, including severe weather, loss of utility services, or orders by federal or state agencies. (TBR 2:04:00:01)

FALL SEMESTER 2015

TBA: New faculty orientation, 8:00 A.M.
TBA: General Faculty meeting, 2:00 P.M.
AUGUST 24: Classes begin, full and first sessions
SEPTEMBER 7: Holiday: Labor Day
OCTOBER 9: Last day of classes/exams, first session
OCTOBER 10-13: Fall Break
OCTOBER 14: First day of classes, second session
NOVEMBER 25-NOVEMBER 29: Holiday: Thanksgiving
DECEMBER 2: Classes end, full and second sessions
DECEMBER 2: Second session exams
DECEMBER 3: Study Day
DECEMBER 4-10: Final examinations
DECEMBER 13: Commencement

SPRING SEMESTER 2016

JANUARY 18: Holiday: M. L. King, Jr.
JANUARY 19: Classes begin, full and first sessions
MARCH 4: Last day of classes/exams, first session
MARCH 7-13: Spring Break
MARCH 14: First day of classes, second session
APRIL 27: Classes end, full and second sessions
APRIL 27: Second session exams
APRIL 28: Study Day
APRIL 29 - MAY 5: Final examinations
MAY 7: Commencement

SUMMER 2016

TBA
**Study Day Definition:** The day prior to final examinations during most regular semesters. No academic activities shall be scheduled on Study Day. No study or review sessions that the student may feel obligated to attend may be scheduled.

**Final Examination Period:** No examination shall be given at a time other than the scheduled time except with written permission from the department chair and the college dean. No social or athletic functions shall be scheduled during the Final Examination Period.

Intercollegiate athletics are excepted from the above policies.
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Admission of International Students

The University of Memphis believes that the presence of international students on campus enriches the educational
environment for all. The University of Memphis is authorized under Federal law to enroll non-immigrant alien
students on the F-1 student visa. **We accept only students with the equivalent of a U.S. bachelor's degree--16
years of formal schooling.**

Prospective students must apply to the Graduate School and the respective department (only if the department
requires an additional application). Individual departments may have different admission requirements and
application deadlines. It is essential that you familiarize yourself with departmental information.

Applications are available for on-line submission at
banssbprod.memphis.edu/pls/PROD/bwskalog.P_DispLoginNon. A non-refundable application and processing fee
of sixty dollars U.S. (U.S. $60.00) is required of every international applicant, unless previously paid. Payment of
the application fee is by credit card. For a list of specific program deadlines, click here.

For admission to a degree program, international applicants should allow **at least four months** for necessary
documents to be processed by the appropriate degree program and the Graduate Admissions office. All test scores
and credential evaluations must be on file in the Graduate Admissions, 101 Wilder Tower, at least four months
before the desired enrollment date. Applicants are urged to apply early to ensure full consideration. Applicants will
be selected on a competitive basis and, therefore, admission will not be granted to all applicants who meet only the
minimum requirements. Some departments require higher standards or additional items such as portfolios,
proficiency examinations, auditions, etc.

When Graduate Admissions receives your application materials, an official file is established and reviewed. Your
requested department then reviews your application and makes a recommendation to Graduate Admissions. You
will be notified as soon as a decision has been reached.

**Letters of Recommendation:** If the program to which you are applying requires letters of recommendation, have
them sent directly to the department. Some departments also require other material such a a statement of
professional goals. Be sure to check with them.

**Readmission into the University:** International students who wish to apply for readmission to the University must
meet the deadlines set for regular admissions.

**English Conditional Admission:** International students are required to demonstrate a strong grasp of the English
language before admission into graduate programs. Conditional admission may be granted depending on
individual academic departmental policy. If English conditional admission is offered, students will need to register
for English skills assessment and take instructional sessions (if required as a result of that assessment) through
the University's Intensive English for Internationals (IEI) program (www.memphis.edu/iei). Upon successful
completion of the requisite sessions, as determined by IEI, the student's English skills will be considered up to
standard and the TOEFL/IELTS requirement may be waived depending on specific academic department policy.
The student can then proceed into their graduate academic program. Please note that in order to have a complete
application packet, students seeking English conditional admission will need to simultaneously apply for the IEI program through the link above, to the Graduate School by clicking here, and to their academic program by visiting the department website. Please note that a student cannot be a graduate assistant (GA) until they have been fully admitted and have begun their graduate academic program. Please review your academic program department's website and graduate catalog entries to determine if English conditional admission is offered. Questions can be directed to the program's graduate coordinator. Students will pay IEI fees until they meet the language criterion. If courses are taken outside of IEI, the student will be charged additional tuition at the regular rate.

Please contact James Kierulff in the Graduate School for more information.

**ADDITIONAL ADMISSION REQUIREMENTS**

In addition to general admissions requirements, international students must provide the following items:

- **TOEFL Scores:** All applicants who will be attending the University on a student visa and who are not native speakers of English and are not graduates of The University of Memphis must supply a minimum score of 550 on the paper, a 210 on the computer-based, or 79 on the internet based Test of English as a Foreign Language (TOEFL). Some degree programs require a higher TOEFL score; check department listings for specific requirements. Testing locations and other information can be obtained from www.toefl.org or by writing to TOEFL, Educational Testing Service, Princeton, New Jersey, 08540, U.S.A. All test scores must be sent directly from the testing agency to The University of Memphis (institution code R-1459). Graduate Admissions will accept scores on the International English Language Testing System (IELTS) in lieu of the TOEFL. The minimum acceptable IELTS score is 6.0. The University is pleased to offer English Conditional Admission for qualified students. Students who are unable, or do not feel prepared, to take the TOEFL or IELTS can request conditional admission based on completing an English skills assessment, any required English skill building sessions (www.memphis.edu/iei) and, if required, a TOEFL/IELTS exam while you are in the USA. For questions or guidance through the English conditional admission process, please contact James Kierulff (jkerulff@memphis.edu). Conditional admission may not be offered by all departments. Please check departmental graduate catalog webpages for program specific information.

- **Evaluation of Credentials:** Applicants whose highest degree is from a foreign university may be required to have their credentials evaluated by any credentialing agency listed on the National Association of Credential Evaluation Services web site (www.naces.org). Please check the website of the specific program to determine if this evaluation is required.

- **Health Certificate:** Within 30 days from the first day of classes, each international student must submit a certificate from a licensed U.S. physician or other qualified U.S. medical authority verifying freedom from tuberculosis. Failure to do so shall result in denial of enrollment. In the event that a student either has tuberculosis or has potential tuberculosis requiring medical treatment, continued enrollment will be conditional upon the determination by a licensed U.S. physician that such enrollment does not present a risk to others and upon the student's compliance with any medical treatment program.

- **Health Insurance:** All international students must purchase health insurance before they are allowed to enroll. Click here for more information.
Affidavit of Support and Financial Statement: An applicant who holds or will require an "F-1" student visa must supply, on the form provided by the University, sufficient evidence of financial support for the applicant and all members of his/her family who will accompany the applicant to Memphis. This requires that the applicant certify that his/her intent is to attend the University full-time and that no employment, other than assistantships, will be required. An affidavit of support and financial statement are not required for admission; however, international students (F-1) requiring issuance of Form I-20 must supply sufficient evidence of financial support for the applicant and all members of his/her family requiring issuance of dependent Form I-20.

Please contact academic departments for information on additional requirements and graduate assistantships.

Advisors for graduate students are typically department based. Often, departments will assign advisors to students upon admission based on areas of interest. After students have matriculated and enrolled in coursework under various faculty members, students may select a different advisor. To inquire about your academic advisor, please contact the graduate coordinator or department chair for your program.

MASTER'S DEGREE PROGRAMS

The following admissions requirements are minimum standards that identify the pool of master's level applicants from which each academic unit makes its selection. Prospective students should check with the appropriate degree program for specific deadlines. For admission to a degree program, applicants should allow a reasonable amount of time for necessary documents to be processed by the appropriate department and Graduate Admissions.

- **Baccalaureate Degree:** The applicant must provide an official transcript showing that a bachelor's degree was awarded by an accredited college or university. The applicant must have earned an acceptable grade point average. In addition, transcripts from any other college or university attended must be requested. (Students who received bachelor's degrees from The University of Memphis may disregard this requirement.) Only transcripts received directly from an issuing institution are considered official. Signed and sealed transcripts that have been in the applicant's possession can be used for admission purposes; however, official transcripts must later be requested. Personal copies are not acceptable as official documents.

- **Entrance Examinations:** New applicants to the Graduate School (except to the MALS program) must have taken an appropriate entrance examination within five years of the application date. Contact the appropriate program for information on which tests and what scores are acceptable. Scores on MAT exams written in less than 2 month intervals are not acceptable. Test scores must be sent directly to Graduate Admissions from the testing agency. The University of Memphis institution code number for reporting ETS scores is R-1459. See program descriptions for more information on requirements. Some programs may waive the entrance examination requirement for applicants with exceptional credentials, extensive professional experience, or a prior graduate degree from an accredited institution. These waivers are at the discretion of the academic program. Check individual program descriptions for details.

- **Program Requirements:** Many academic units have separate departmental applications and/or additional requirements for admission. Check program descriptions for more information on
EDUCATION SPECIALIST (ED.S.) PROGRAM

The Education Specialist degree is designed for the educator-practitioner who desires post-masters training but who does not wish to earn a doctorate. This program is administered by the College of Education, Health and Human Sciences; please refer to the College of Education, Health and Human Sciences section of the Graduate Catalog for a more complete description or contact the dean's office in the College of Education, Health and Human Sciences for additional details.

DOCTORAL DEGREE PROGRAMS

The following Graduate School admissions requirements are minimum standards that identify the pool of doctoral level applicants from which each academic area make their selections.

- **A Baccalaureate or Master’s Degree as specified by the program**: The applicant must provide an official transcript showing an earned bachelor's or master's degree, depending on program requirements. The degree must have been awarded by an accredited college or university. Only transcripts received directly from an issuing institution are considered official. Personal copies are not acceptable as official documents.

- **Entrance Examinations**: New applications to the Graduate School require submission of an appropriate entrance examination test score that is not more than five years old. Contact your program for information on which tests and what scores are acceptable. Test scores must be sent directly to Graduate Admissions by the testing agency. The University of Memphis institution code number for reporting ETS scores is R-1459. Some programs may waive the entrance examination requirement for applicants with exceptional credentials, extensive professional experience, or a prior doctoral degree from an accredited institution. See individual program descriptions for details.

- **Program Requirements**: Some academic units may have separate departmental applications and/or additional requirements, such as portfolios, proficiency examinations, auditions, etc. Refer to the appropriate program description in the Graduate Catalog for details.
Full sitemap
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Course Numbering System

Only non-degree and fully admitted graduate students may enroll in and receive graduate credit for courses numbered according to the following system:

6000-6999: Courses equivalent to 4000 level senior courses for which a limited amount of graduate credit may be earned. Students will be expected to do more work, such as an additional paper or additional higher level readings,
to receive graduate credit.

- Students may not receive credit for a 6000 level course if they have credit at the 4000 level.
- 6000 level courses must be taught by members of the Graduate Faculty.
- No more than 15 post-baccalaureate hours of 6000 level courses may be applied to a doctoral degree.

7000-7999: Courses open primarily to master's students and taught by members of the Graduate Faculty

8000-8999: Courses open primarily to post-master's students and taught by members of the Graduate Faculty

9000: Dissertation, directed by a full member of the Graduate Faculty
Course Load Limitations

Fifteen semester hours of coursework is the maximum load for students devoting full time to graduate study during regular sessions. The maximum total number of hours of graduate course work for which a graduate student may enroll during the Summer Session is 9. Those who register for 9 or more hours per semester in the academic year will be considered full-time students.
Requests for overloads must be approved by the director of graduate studies in the student's college or school. Students in the School of Communication Sciences and Disorders must obtain the approval of the director of graduate studies in that school.
Audit Courses

Students who are admitted to the University of Memphis may register to audit a course with the prior approval of the instructor and the head of the academic unit or designate. Students enrolling on an audit basis do not receive academic credit for that course. Particularly in high-demand courses, academic units should make sure that students who need these courses for degree credit can be accommodated before they issue permits for audits. Audits should not be used simply as a vehicle for obtaining access to laboratory or studio facilities.
Auditors are not required to take examinations and do not receive a regular letter grade. The student and the instructor should reach a precise agreement as to the extent and nature of the students participation in the course, including class discussion, projects, and readings. Students auditing a course will receive "audit" (AU) on the transcript only if they have attended regularly and participated according to the prior agreement with the instructor.

A student may not change from a grade point basis to audit or from audit to a grade point basis after the last day to add classes for that session. Any questions concerning this policy should be referred to the colleges.

Fees for audits will be assessed on the same basis as fees for credit courses.
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Requirements for attendance in any graduate course will be determined by the instructor and will be communicated in writing to students in the first class meeting.
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Change of Major or Advancing from a Master's to a Doctoral Program

Graduate students who have previously declared a major but desire to make a change or who wish to advance from a master's program to a doctoral program should apply to Graduate Admissions to begin the process by completing a Change of Status form.

A Change of Major/Program is considered the equivalent of reapplying for admission. All admission requirements
of the new major or program must be satisfied before a change can be granted; admission to the new program is never automatic.
Courses may be added or dropped after initial registration for a limited time only. Refer to the Student Calendar at [www.memphis.edu/registrar/calendars/semester](http://www.memphis.edu/registrar/calendars/semester) for appropriate deadlines. Courses may be added late only upon approval of the instructor and the director of graduate studies in the student's college. Students in the School of Communication Sciences and Disorders or University College must obtain the approval of the director of graduate studies in those units.
Courses may be dropped after the drop date only when circumstances beyond the student's control make it impossible to complete the semester. Late drops must be approved by the director of graduate studies in the student's college. Students enrolled on a non-degree basis must obtain the approval of the Dean of the Graduate School or designee. VA benefits and Title IV funds for enrollment fees are subject to cancellation and immediate repayment if the recipient stops attending, whether or not he/she has dropped a course.
Withdrawal from Graduate School

A graduate student may withdraw from the University after the specified drop date only when circumstances beyond the student's control make it impossible to complete the semester. Late withdrawals must be approved by the Director of Graduate Studies in the student's college and submitted to the Graduate School.

Students enrolled on a non-degree basis must obtain the approval of the Dean of the Graduate School or approved
designee. VA benefits and Title IV funds for enrollment fees are subject to cancellation and immediate repayment if the recipient stops attending, whether or not he/she has withdrawn.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
In rare circumstances a student may need to petition for a leave of absence when, due to hardships beyond their control, they cannot be continuously enrolled. Such circumstances can be related to military duty, medical or sudden job relocation. A petition form, with instructions, can be found here.
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Grading System

The table below shows the grades that may be awarded with their quality points:

**PLUS/MINUS GRADING SCALE**

<table>
<thead>
<tr>
<th>GRADE</th>
<th>QUALITY POINTS</th>
<th>GRADE</th>
<th>QUALITY POINTS</th>
</tr>
</thead>
</table>
Grading System - Graduate Catalog - University of Memphis

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.84</td>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Grades used to postpone or suspend course completion include "I" (incomplete), "IP" (in progress), and "W" (withdrawn).

Independent studies or problems courses, directed readings, student teaching, workshops, practica, internships, theses, and dissertations should be graded "A-F, IP" or "S","U", IP." A grade of "S,""U," or "IP," does not carry any quality points and is not included in computing GPA.

**Incomplete:** The grade "I" (Incomplete) may be assigned by the faculty member in any course other than those with “IP” grading in which the student is unable to complete the work due to extraordinary events beyond the individual's control that are acceptable to the faculty member. The "I" may not be used to extend the term for students who complete the course with an unsatisfactory grade. Unless the student completes the requirements for removal of the "I" within 90 days from the end of the semester or summer session in which it was received (see University Calendar), the "I" will change to an "F," whether or not the student is enrolled. The faculty member may grant up to a 45-day extension if sufficient extenuating circumstances exist. At the end of the extension period, the "I" grade will automatically revert to "F" if the student has not completed the requirements. The student will be certified for graduation only when all requirements are met, including the removal of "I" grades. If a student has an "I" in a course necessary to fulfill degree requirements in the semester in which he or she expects to graduate, the certification process and graduation will automatically be deferred to the next term.

**In Progress:** In some courses with "IP" (In Progress) grading, faculty members may assign "IP" to extend the time permitted for the completion of research or course requirements. A student awarded an "IP" grade must re-enroll in the course for the same number of hours to complete the work. Students must continuously re-enroll in thesis or dissertation courses but the hours may vary. The final grade will be submitted by the faculty member at the end of the term in which the work is completed.
Thesis/Dissertation Grading: The use of S, U, IP grading for theses and dissertations is different from its use for other courses. The grade of “S” is ONLY awarded when the student successfully defends the thesis or dissertation; the grade of “U” is awarded ONLY when the student fails to defend successfully. Otherwise, the grade of “IP” is awarded to indicate that the student is progressing in a timely manner. Students must enroll for at least 1 thesis or dissertation hour for each semester (except for summer sessions) that they are working on the thesis or dissertation.

Grade Point Average: Graduate students must maintain a 3.0 GPA (“B”). Grades of "D" and "F" will not apply toward any graduate degree, but will be computed in the GPA. No more than 7 hours of "C-," "C" or "C+" will be applied towards meeting degree requirements. Grades earned at another university will not be computed in the cumulative GPA. Grades in courses that are older than the time limitation for degree will be shown on the transcript but will not be included in the computation of the GPA used for graduation. Only courses that have been validated will count toward the degree (see below for validation policy). The overall GPA required for graduation, computed on all graduate level courses completed whether or not they are listed on the candidacy form, must also be 3.0.

Repetition of Courses: A graduate student may repeat a course to earn a higher grade only if the earned grade was a "U" or lower than a "B" (3.0). No course may be repeated more than once to improve the grade. Only the grade earned in the second attempt will be included in the computation of the cumulative grade point average. A maximum of two courses may be repeated during the student's total graduate career to improve a grade. However, if a student advances to a doctoral program and wishes to repeat a third course at the doctoral level, the student must seek approval from the college director of graduate studies. Students should always check with their advisors before enrolling in a course a second time.

Grade Changes: Grades properly issued in a course by the faculty member of record will not be altered except when an error was made in computation or reporting or as a result of a formal grade appeal. A grade other than "I" or "IP" may not be changed as a result of additional work after a grade has been submitted to the Office of the Registrar.
Full sitemap
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Credit by Exam

In cases where the student has knowledge, but has not taken the appropriate course, the academic units, with approval from the Dean of the Graduate School or designee, may offer graduate courses for credit by examination. Total credit-by-examination applied to a student's degree program may not exceed nine (9) semester hours. The necessary form is available on the Graduate School web site.
The following regulations govern the granting of credit by examination:

A student enrolled in a degree program (full-time or part-time) who is in good academic standing may make application to take an examination for credit. The student must follow these steps to obtain credit by examination:

- Fill out the top of the form and obtain the signatures of the major advisor, department chair, and college director of graduate studies.
- Pay the fee and attach the receipt to the form.
- Take the form to the department chair, who will sign it after the exam has been taken and a satisfactory grade earned.
- When the department chair returns the completed form to the Graduate School, the Vice Provost for Graduate Studies or designee will authorize the posting of the credit to the student's record.
- The form of the examination, the method of administering it, and the time of examination are left to the discretion of colleges and academic units.
- To receive credit, the student's examination grade should be equivalent to at least a "B" (3.0). Credit is indicated on the student's record as "S" but is not figured in the GPA.

The only remedy to an unsuccessful credit-by-examination grade is to enroll in and complete the course.

**MAXIMUM COMBINED CREDIT HOURS TO FULFILL DEGREE REQUIREMENTS**

For Master's students, the maximum amount of combined hours of transfer credit, credit by examination, course validation and experiential learning credit that can be used to fulfill degree requirements is two-thirds the number of hours required for the degree.

For doctoral students, the maximum amount of combined hours of transfer credit, credit-by-examination, course validation and experiential learning credit that can be used to fulfill degree requirements two-thirds the number of hours required for the degree.

The Graduate School sets minimum standards to which all the diverse graduate programs across the university must adhere. Individual colleges, schools, and graduate programs are encouraged to set more stringent requirements as necessary to meet their accreditation and student needs.

For additional information about credit by examination procedures, contact the Graduate School Graduation Analyst, Michelle Stout, or the Graduate School Office at 901.678.4212.
Graduate School

2015-2016 Academic Calendar

Full sitemap
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Course Validation

The University sets time limits on students to ensure that they have reasonably current knowledge in those courses that comprise the graduate program and for which a graduate degree is awarded. When coursework taken at the University of Memphis is too old to be included in a graduate program, the academic unit may allow the student to validate that coursework by examination, subject to the following regulations: The necessary form is available online.
Only students fully admitted to graduate programs and who are in good standing are eligible.
Not more than 9 hours of the total credits in a master's program may be validated. Not more than one-third of the total credits in a doctoral program may be validated.
Only courses with fixed content are eligible for validation. (Independent study, research, special topics courses, and workshops are ineligible.)
Only those courses still being taught are eligible for validation.

MAXIMUM COMBINED CREDIT HOURS TO FULFILL DEGREE REQUIREMENTS

For Master's students, the maximum amount of combined hours of transfer credit, credit by examination, course validation and experiential learning that can be used to fulfill degree requirements is no more than two-thirds the number of hours required for the degree.

For doctoral students, the maximum amount of combined hours of transfer credit, credit-by-examination, course validation and experiential learning that can be used to fulfill degree requirements is no more than two-thirds the number of hours required for the degree.

The Graduate School sets minimum standards to which all the diverse graduate programs across the university must adhere. Individual colleges, schools, and graduate programs are encouraged to set more stringent requirements as necessary to meet their accreditation and student needs.

The student must follow these steps to validate a course by examination:

- Fill out the top of the form and obtain the signatures of the major advisor, department chair, and college director of graduate studies.
- Pay the fee and attach the receipt to the form.
- Take the form to the department chair, who will sign it after the exam has been taken and a satisfactory grade earned.
- When the department chair returns the completed form to the Graduate School, the Dean of the Graduate School or designee will authorize the posting of the credit to the student's record.
- The form of the examination, the method of administering it, and the time of examination are left to the discretion of colleges and academic units.
- To receive credit, the student's validation grade should be equivalent to at least a "B" (3.0). Credit is indicated on the student's record as "S" but is not figured in the GPA.

The only remedy of an unsuccessful validation is to repeat the course.

For additional information about course validation procedures, contact the Graduate School Graduate Analyst, Michelle Stout, or the Graduate School Office at 901.678.4212.
Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar

Dreamers. Thinkers. Doers.
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Transfer Credit

Credit towards a graduate degree does not transfer automatically. In general, however, graduate work completed at another institution in a program accredited at the graduate level may be accepted in a graduate degree program at the University, with the following provisions. (1) They relate to the content of the graduate program and/or are comparable to those offered at the University. (2) They do not exceed time limitations set for master's and doctoral programs.
Credit previously earned at another institution must be presented for evaluation no later than the end of the student's second semester of enrollment. Forms are available on-line or from the Graduate School Graduation Analyst, Michelle Stout. Only transcripts received directly from an issuing institution are considered official.

Approved transfer credit may be accepted for one-half the number of semester hours of course credit toward a master's or doctoral degree. Individual academic units may set more stringent limitations. For students completing a graduate certificate program, only six hours may be accepted for transfer.

Credit will be transferred to apply toward a doctoral program upon approval of the student's advisory committee.

Courses proposed for transfer credit must meet the following two requirements. (1) The Tennessee Board of Regents requires a minimum of 750 contact minutes for each semester credit (2250 for a 3-hour course). (2) The Tennessee Conference of Graduate Schools requires a minimum of 3 hours of class work per week for 3 hours of credit.

Grades earned at another institution will not be computed in the University cumulative grade point average, nor will they be accepted for transfer, unless they are "B" (3.0) or better. No credit will be transferred unless it meets with the approval of the major advisor or program graduate coordinator.

If the student is transferring credit from a completed degree, up to 15 credit hours may be transferred.

**MAXIMUM COMBINED CREDIT HOURS TO FULFILL DEGREE REQUIREMENTS**

For Master's students, the maximum amount of combined hours of transfer credit, credit by examination, course validation and experiential learning that can be used to fulfill degree requirements is two-thirds the number of hours required for the degree.

For doctoral students, the maximum amount of combined hours of transfer credit, credit-by-examination, course validation and experiential learning that can be used to fulfill degree requirements is two-thirds the number of hours required for the degree.

The Graduate School sets minimum standards to which all the diverse graduate programs across the university must adhere. Individual colleges, schools, and graduate programs are encouraged to set more stringent requirements as necessary to meet their accreditation and student needs.
Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
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Appeals Procedures

Any graduate student has the right to appeal decisions made by University officials in the implementation of University policy. If a student feels that individual circumstances warrant an appeal, the request for appeal must be filed in the University office responsible for the administration of that policy or the office specified in the policy statement.
NOTES: 1) "Class days" excludes Saturday, Sunday, and holidays. 2) The summer sessions are considered as one term for grade appeal purposes; i.e., the period for appealing is 30 class days from the end of the last summer term.

- Grade Appeals
- Retention Appeals

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**Graduate Catalog**

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Graduate students at the University of Memphis are expected to observe the regulations and policies that govern the behavior of students as members of this academic community. These regulations and policies are published in the Student Handbook. In particular, graduate students should become familiar with the University's policies on plagiarism in its various forms. Furthermore, term papers may not be used to meet the requirements of more than one course unless approved in advance by both instructors.
The University of Memphis Code of Student Conduct defines academic misconduct as all acts of cheating, plagiarism, forgery, and falsification.

The term "cheating" includes, but is not limited to:

- Using any unauthorized assistance in taking quizzes or tests
- Using sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments
- Acquiring tests or other academic material before such material is revealed or distributed by the instructor
- Misrepresenting papers, reports, assignments or other materials as the product of a student's sole independent effort
- Failing to abide by the instructions of the proctor concerning test-taking procedures
- Influencing, or attempting to influence, any University employee in order to affect a student's grade or evaluation
- Any forgery, alteration, unauthorized possession, or misuse of University documents

The term plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgement. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Academic misconduct also includes furnishing false information to a University official, faculty member, or office; or the forgery, alteration, or misuse of any University document, record, or instrument of identification. The Academic Discipline Committee, a standing University committee appointed by the President, addresses allegations of academic misconduct.

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**Graduate Catalog**

Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
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Graduate Catalog

Academic Probation

A graduate student whose cumulative grade point average drops below 3.00 will be placed on probation. A second consecutive semester on probation can result in suspension. Conditions under which continuation in the Graduate School beyond two consecutive semesters on probation will be granted must be recommended by the academic unit and approved by the director of graduate studies in the student's college and the Vice Provost for Graduate Programs.
If, in the opinion of the director of graduate studies, the academic unit, and the Graduate School, a degree-seeking student is not making satisfactory progress toward degree completion, the student will be dismissed from the degree program. If, in the opinion of the director of graduate studies, the academic unit in which the student is enrolled in coursework, and the Graduate School, a non-degree-seeking student is not making satisfactory progress toward licensure, certification, or program admission, the student will be dismissed from the University.
Graduate Students may be terminated from a program for a second failure on comprehensive examination, unsuccessful defense of thesis or dissertation, a second consecutive semester on academic probation, or an action of a program retention committee.

Procedures for notifying students of termination:
1. The Advisor informs the student of intended recommendation to terminate.
2. The student's Advisor consults the Graduate Coordinator of the program.
3. The Advisor, Graduate Coordinator, and/or Department Chair review the recommendation. If approved the Advisor, Graduate coordinator, and/or Department Chair sign and submit the termination form for review to the Associate Dean for Graduate Studies for the student's College or School. The Associate Dean will consult all relevant parties.
4. If approved, the Associate Dean for Graduate Studies signs and submits termination form to the Graduate School.
5. The Dean of the Graduate School reviews the recommended request for termination. If the request is approved, the Dean sends a letter of termination to the student and copies all parties.

The appeals process for termination is articulated in the Graduate Catalog, located here: www.memphis.edu/gradcatalog/academic_regulations/ret_appeal.

The Termination Form can be found on the Graduate School's website, located here: http://www.memphis.edu/gradschool/resources/forms_index.php
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Graduate Faculty

The University of Memphis maintains five levels of graduate faculty: full, associate, affiliate, adjunct, and teaching adjunct. Only full graduate faculty members may chair doctoral committees. Full or associate graduate faculty may chair master's committees. Full members of the Graduate Faculty may direct dissertations and associate members may direct theses in an academic unit other than their own at the discretion of the graduate coordinator and/or the chair of that department. Affiliate or adjunct graduate faculty may be members of doctoral and master's
committees in their areas of expertise, but may not chair them.

In extraordinary circumstances, a qualified scholar from another institution may apply for Graduate Faculty status as an Adjunct Research Co-Mentor in order to co-chair a student's committee. No more than one adjunct or affiliate graduate faculty member may serve as a voting member of a student's committee. Teaching adjuncts may not serve on graduate committees. Membership in the Graduate faculty is required in order to teach 6000 level graduate courses or above.

The Southern Association of Colleges and Schools requires that faculty teaching graduate and post-baccalaureate course work have an earned a doctoral or terminal degree in the teaching discipline or a related discipline. All departmental graduate coordinators should be members of the Graduate Faculty.

Additional information pertaining to application for graduate faculty status, including the Guidelines and Procedures for Graduate Faculty Status, is available on-line or can be obtained from the Graduate School.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Human Subjects: All University of Memphis faculty, staff, or students who propose to engage in any research activity involving the use of human subjects must have prior approval from the Institutional Review Board (IRB). The IRB is responsible for safeguarding rights and welfare of all persons participating in research projects, whether funded or non-funded. Human subjects means a living individual about whom an investigator (whether professional or student) conducting research obtains: (1) data through intervention or interaction with the individual, or (2)
identifiable private information. Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. For further information, contact the IRB coordinator in the Office of Research Support Services.

**Vertebrate Animals**: All uses of vertebrate animals must receive prior approval from the Institutional Animal Care and Use Committee (IACUC).

**Biohazards**: Research involving recombinant DNA, radioisotopes, or other hazardous material must receive prior approval by the Institutional Biosafety Committee.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity(expression), disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Privacy Rights of Parents and Students

The University complies fully with the Family Educational Rights and Privacy Act (FERPA) of 1974. This act is designed to protect the privacy of educational records, to establish the right of students to inspect and review their educational records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings. Students also have the right to file complaints with the FERPA Office concerning alleged failures by the institution to comply with the Act.
Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell parents and eligible students about directory information and allow parents and eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify parents and eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, student handbook, or newspaper article) is left to the discretion of each school.

For additional information, you may call 1-800-USA-LEARN (1-800-872-5327) (voice). Individuals who use TDD may call 1-800-437-0833.

Or you may contact us at the following address:

Family Policy Compliance Office

U.S. Department of Education

400 Maryland Avenue, SW

Washington, D.C. 20202-8520

The provisions for the release of information about students and the rights of students and others to have access to the University of Memphis education records are published each semester in the online class listing. A copy of the Act and the University of Memphis Procedure may be reviewed in the offices of the Registrar or University Counsel.

**Graduate Catalog**

Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
# Dean

**ROGER KREUZ, PhD**  
Associate Dean for Graduate Studies & Research  
and Director of Graduate Programs

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<td>(2) Globalization, Development, and Culture</td>
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Cognitive Science | Graduate Certificate
---|---
Women's and Gender Studies | (1) Cultural Studies | Graduate Certificate
(2) Inequality & Social Policy

*These academic units are part of the School of Urban Affairs and Public Policy.*

The College of Arts and Sciences, which includes the School of Urban Affairs and Public Policy, contains fifteen departments and three divisions, each of which offers graduate degrees. The College also offers three interdisciplinary degree programs and several graduate certificate programs. Candidates for each of these degrees must pursue a curriculum plan that has the approval of their major advisor, the department chair or division director, and the Graduate Dean. All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued (see departmental or divisional listings in this section).

Individual program requirements described in the Graduate School Issue of the 2014-2015 Graduate Catalog of The University of Memphis are subject to change. Please consult your department or the Office of the Graduate School for changes that may occur before publication of the next issue of this Catalog; or consult the Graduate School Web site at: [http://www.memphis.edu/gradschool](http://www.memphis.edu/gradschool) for annual updates.

**MASTER’S DEGREES:**

The programs for the **MASTER OF ARTS** degree are generally open to those who have completed the Bachelor of Arts degree. Those with a Bachelor of Science degree may enroll in these programs if undergraduate prerequisites are met. Students majoring in the following areas may pursue the Master of Arts degree: Anthropology, Criminal Justice, Earth Sciences, English, History, Philosophy, Political Science, Psychology, Romance Languages, and Sociology (see departmental listings).

The **MASTER OF FINE ARTS IN CREATIVE WRITING** is a 48-semester-hour program for students who plan to pursue a career in fiction writing or poetry. Admission to the program is based primarily on a portfolio of work in the student’s chosen genre. The course work includes both literature and writing classes, and culminates with submission of a publishable collection of fiction or poetry as the thesis.

The program for the **MASTER OF PUBLIC ADMINISTRATION** is generally open to students with preparation in the social sciences or in business courses. Students working toward this interdisciplinary degree complete a core curriculum in public and non-profit administration courses and a concentration in one of the following areas: General Public Administration or Nonprofit Administration.

The programs for the **MASTER OF SCIENCE** degree are generally open to students with a science background.
Students enrolled in the following areas may pursue the Master of Science degree: Biological Sciences, Chemistry, Computer Science, Earth Sciences, Mathematical Sciences, Physics, and Psychology (see departmental listings).

The **MASTER OF CITY AND REGIONAL PLANNING** is a professional degree for students interested in government and business careers. Students complete the following: a core curriculum of 30 semester hours; a 15-hour elective curriculum with possible subjects in economic development planning, urban design, land use and transportation planning, planning information systems, housing and community development, planning law, and environmental planning; and a 3-hour Capstone Project that integrates one or more elective subjects with the core curriculum.

The mission of the **MASTER OF SOCIAL WORK** program is to educate advanced professional social workers for practice with at-risk populations, particularly children and families. Housed within the School of Urban Affairs and Public Policy (SUAPP), the Department of Social Work is dedicated to (a) educating social workers with knowledge, values and skills for evidence-based practice with children and families, (b) advancing the knowledge base of the social work profession and (c) providing regional leadership in the development and implementation of policies, programs and services for at-risk populations, particularly children and families.

**DOCTOR OF PHILOSOPHY DEGREE**

The Doctor of Philosophy Degree is offered in the following departments within the College of Arts and Sciences: Biological Sciences, Chemistry, Computer Science, Earth Sciences, English, History, Mathematical Sciences, Philosophy, and Psychology. General requirements for the PhD Degree are outlined in these departmental listings. More detailed information about prerequisites, course work, research requirements, etc., may be obtained from the chair or graduate coordinator of the respective departments. Any of these departments may choose to admit a student to doctoral study without requiring the master’s degree as a prerequisite.

**GRADUATE CERTIFICATES**

Graduate certificates are offered in African American Literature (Department of English), Cognitive Science (Interdisciplinary), Geographic Information Systems (Department of Earth Sciences), Information Assurance (Department of Computer Science), Local Government Management (Public and Nonprofit Administration), Museum Studies (Departments of Anthropology and Art), Philanthropy and Nonprofit Leadership (Public and Nonprofit Administration), Teaching English as a Second Language (Department of English), and Women's and Gender Studies (Center for Interdisciplinary Studies).
Graduate School

2015-2016 Academic Calendar

Full sitemap
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I. The Department of Anthropology offers a Master of Arts degree in Anthropology with the purpose of training students as competent practicing anthropologists.

Concentrations are available in either Medical Anthropology or Globalization, Development, and Culture. The concentration in Medical Anthropology involves the application of theories and methods in medical anthropology to better understand and address health disparities, health risks, and healthcare systems. The concentration in Globalization, Development, and Culture includes three focus areas: a) Community Development: the application of theories and methods in the anthropology of development in order to understand socio-economic inequalities and strategies of community building through engagement in community-based projects in local, national and international settings; b) Cultural Heritage and Identity: the application of theories and methods in cultural anthropology, applied archaeology, and museum studies to better understand the role of cultural heritage as a source for community engagement, empowerment, development, and sustainability; and c) Environmental Justice and Sustainability: the application of theories and methods in environmental anthropology to better understand local and global environmental problems and to build models for cultural and ecological sustainability and environmental justice. Each student will plan his or her program in consultation with his or her major advisor.

Program objectives are: (1) competence in the holistic theoretical and methodological foundations of anthropology; (2) enhanced and applied critical analysis and independent thought; (3) practical experience in applying learned anthropological knowledge and methodology, and ethical principles; (4) enhanced written and oral communication skills; (5) implementation of professional training and career opportunities in Anthropology through graduate study and participation in professional activities.

Students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program
A. Program Admission

Admission to both the Graduate School and the department is required. To meet departmental requirements for admission, students must submit a letter of intent, three letters of recommendation, and complete the GRE. All applicants are encouraged to submit a writing sample and those applying for a Graduate Assistantship are required to submit a writing sample. In addition to their undergraduate academic record, applicants will be considered on the basis of their GRE scores, recommendation letters, work experience and career plans as described in the letter of intent. Except in exceptional circumstances, students should have a 3.0 undergraduate record.

Admission to the program is not automatic upon meeting minimum departmental admission requirements. Students are selected from the pool of qualified applicants and the number selected depends on the availability of financial aid and adequate faculty supervision. NOTE: Deadline for completion of submission is January 31 for the following fall semester and November 13 for the following spring semester. Summer school admission must be completed by May 1 for entrance into the Graduate School and the departmental program. Late submissions may, in exceptional circumstances, be considered on an individual basis, but will normally be deferred to the following semester.

B. Program Requirements

1. A total of 30 semester hours course-work plus satisfactory performance in a practicum (Anthropology 7985—6 hours credit) and a practicum proseminar (Anthropology 7984-1 hour credit) for a total of 36 semester hours.
2. Satisfactory completion of the core curriculum (14 hours).
3. Satisfactory completion of concentration-specific requirements (6 hours).
   1. Medical Anthropology
      1. ANTH 6511 Medical Anthropology
      2. ANTH 7511 Medical Anthropology Theory and Practice
   2. Globalization, Development and Culture
      1. ANTH 7400 Globalization, Development, and Culture
      2. And one course (3 hours) from one of the three focus areas, determined in consultation with faculty advisor:
         1. Community Development: ANTH 6051, 6120, 6253, 6412, 6415, or 7411
         2. Cultural Heritage and Identity: ANTH 6414, 6660, 6661, 6680, 7661, or 7662
         3. Environmental Justice and Sustainability: ANTH 6111, 6220, 6414, 6431, or 6510
4. At least 70% of the program (i.e. 26 hours) must be taken at the 7000 level.
5. Satisfactory performance on a comprehensive exam.
6. The Master’s Degree in Anthropology is an interdisciplinary degree and students are encouraged to take up to 9 semester hours of their work outside of the Department of Anthropology, depending upon their area of interest and the nature of previous work experience.

III. Interdisciplinary Graduate Certificate Program in Museum Studies (administered jointly by the Departments of Anthropology and Art)
A. Program Admission

1. Students currently admitted to a graduate program at the U of M or another university or students holding a graduate degree may apply for admission. For students enrolled in a graduate program, a minimum GPA of 3.0 is required for admission. In rare instances, a student who has completed an undergraduate degree program but who has not completed a graduate degree nor been admitted to a graduate program may apply and will be considered on an individual basis. All students not currently admitted to a graduate degree program at the U of M must also apply to the Graduate School for admission as a non-degree student. In order to continue in the program, students must maintain at least a 3.0 GPA.

2. To apply, students submit:
   1. transcript of undergraduate degree program and transcripts of prior and current graduate study;
   2. three letters of recommendation; and
   3. a letter describing reasons for wishing to take a graduate certificate in the area of museum studies and how the program corresponds with prior experience and anticipated career plans.

Inquiries can be directed to Dr. Leslie Luebbers, Director of the Art Museum (lluebbrs@memphis.edu), or Dr. Linda Bennett, Associate Dean, College of Arts and Sciences (lbennett@memphis.edu).

B. Program Requirements

A minimum of 18 credit hours is required.

1. Six of the 18 hours will be met by completion of two core courses: ANTH/ARTH 7661 Museum Practices and ANTH/ARTH 7662 Museums and Committees.

2. Six elective hours will be selected in consultation with the Admissions and Advisory Committee. Except for unique circumstances, students in the Anthropology and Art History graduate programs must take at least three elective hours outside their major department.

3. Two three-hour internships (ANTH/ARTH 7669 Museum Internship) are required. Each internship site will be chosen in consultation with the Admissions and Advisory Committee. For those students working in a museum or other appropriate community site, three of the internship hours may be replaced by a third elective course.

Click here for course descriptions
2015-2016 Academic Calendar

Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Bioinformatics

RAMIN HOMAYOUNI, PhD
I. Master of Science in Bioinformatics

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

Bioinformatics is an emerging multidisciplinary field which combines mathematical and computer science approaches to solve biological problems. The Master’s in Bioinformatics is designed to train highly skilled individuals with fundamental understanding of computer programming and data structures, statistical analysis of data, as well as genomics and systems biology.

A. Admission Requirements

1. GRE scores are required and are an important factor for admission;
2. Two letters of recommendation;
3. A minimum score of 550 on the paper-based TOEFL, or 80 on the internet-based TOEFL (for students whose native language is not English);
4. Undergraduate degree in biology, computer science, or related field with a minimum GPA of 3.0 on a 4.0 scale.

B. Prerequisites

Satisfactory completion of at least two undergraduate level courses in each of the following disciplines: biology, mathematics and computer science. Students should have some background in computer programming, data structures, statistics, and molecular biology. Students deficient in prerequisite courses will be considered on a case-by-case basis.

C. Program Requirements:

Candidates must satisfactorily complete 36 credit hours of graduate course work, 26 hours of which must be 7000 level or higher) as approved by the Program Advisor and distributed as follows:
1. Major Field Core (14 credit hours):
   - BINF 7970 Curr Lit Bioinformatics (1 semesters required)
   - BINF 7980 Research Seminar in Bioinformatics (1 semesters required)
   - COMP 6030 Introduction to Algorithms or COMP 7712 Algorithms Implementation and Problem Solving
   - COMP 7295 Introduction to Bioinformatics
   - MATH 6635 Introduction to Probability Theory
   - MATH 7643 Least/Sq/Regr Analysis

2. Biology: 6 credit hours chosen from:
   - BIOL 7131 Cell and Molecular Biology
   - BIOL 7701 Introduction to Genomics & Bioinformatics
   - BIOL 7440 Molecular Biology of Cancer
   - BIOM 7004 Life Sciences for Biomedical Engineering I

3. Electives: 6-12 credit hours chosen from:
   - BIOL 6470 Molecular Genetics
   - BIOL 6480 Cellular and Molecular Pharmacology
   - BIOL 7704 Problems Genome Science
   - BIOM 7110 Biostatistics
   - COMP 6014 Intro to Java Programming
   - COMP 6081 Software Engineering
   - COMP 6262 Programming in UNIX
   - COMP 6601 Models of Computation
   - COMP 7012 Foundations of Software Engineering
   - COMP 7115 Database Systems
   - COMP 7116 Advanced Database Systems
   - COMP 7118 Data Mining
   - COMP 7212 Operating and Distributed Systems
   - COMP 7282 Evolutionary Computations
   - COMP 7612 Foundations of Computing
   - COMP 7740 Neural Networks
   - COMP 7780 Natural Language Processing
   - MATH 6607 Introduction to SAS Programming
   - MATH 6636 Intro Statistical Theory
   - MATH 7221 Stat Gene Expression
   - MATH 7607 Advanced Programming in SAS
   - MATH 7608 Statistical Programming with R
   - MATH 7641 Analysis of Variance
   - MATH 7642 Design of Experiments
   - MATH 7643 Regression Analysis
   - MATH 7647 Nonparametric Methods
   - MATH 7657 Multivariate Methods
   - MATH 7660 Applied Time Series Analysis
   - MATH 7680 Bayesian Inference
   - MATH 7685 Statistical Computing and Simulation
II. Graduate Certificate in Bioinformatics

The Certificate in Bioinformatics will provide training in genomics, statistics and computer science to students with a background in other scientific disciplines. The goals of the program are to provide:

1. Knowledge of probability and statistics, statistical tools, and application of statistical methods to genomics and health related areas.
2. Knowledge of computer programming, data structures and algorithm design.
3. Knowledge of genomic technologies and analysis of genomic data.

A. Admission Requirements:

To apply for admission, students must fill out the University of Memphis online application. Applicants must have a bachelor's degree in science or engineering with a minimum GPA of 2.75. International students must have a TOEFL score of 550 (paper-based), 213 (computer-based), or 79 (internet-based).

Applicants must also submit the following documents to the Bioinformatics program coordinator (bioinformatics@memphis.edu):

1. A one page personal statement about their research interests, prior preparation and experience related to the objectives of the program, and long-range career/professional plans.
2. Two letters of recommendation.

Students who are currently enrolled in a Master's or Doctoral program at the University of Memphis or other universities will be eligible for admission into the Bioinformatics Certificate Program based on the recommendation from their graduate advisor.

B. Program Requirements:
Completion of 15 semester hours distributed as follows:

- COMP 6001 Computer Programming (3 hr)
- COMP 6030 Design and Analysis of Algorithms (3 hr)
- BINF 7701 Introduction to Genomics and Bioinformatics (3 hr)
- PUBH 7150 Biostatistical Methods I (3 hr)
- PUBH 7153 Biostatistics in Bioinformatics (3 hr)
- PUBH 7152 Biostatistical Methods II (3 hr)
- PUBH 7150 Biostatistical Methods I (3 hr)

C. Graduation Requirements:
1. Student must complete all five required courses with an average grade of B (3.0) or higher, for a total of 15 credit hours.

2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

Click here for course descriptions

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
Biological Sciences

RANDALL BAYER, PhD
I. The Department of Biological Sciences offers programs that lead to the Master of Science (MS thesis and non-thesis) and the Doctor of Philosophy degrees. Graduate faculty members in the department have diverse interests covering most of the major fields of biology and taxa of organisms. Details about admission and degree requirements are presented in the sections that follow. Applicants must apply to both The University of Memphis Graduate School (http://apply.memphis.edu/) and the Department of Biological Sciences (http://www.memphis.edu/biology/graduate/). All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

The Department of Biological Sciences prefers that students begin their graduate program in the fall; however, they may be accepted for the spring term. The deadline for receiving all application materials for admission in the fall semester is February 1 and September 15 for admission in the spring semester. Applications received after the deadlines may be considered at the discretion of the departmental Graduate Studies Committee, but priority will be given to applications received by the deadlines. Students wishing to be considered for a Graduate Teaching Assistantship (GTA) should apply by February 1. Generally, assistantships will not be available to students applying for spring admission. Admission to our graduate program is competitive and is not automatic by meeting minimum departmental admission requirements.

II. MS Degree Program

Program objectives are: (1) understand biological principles, concepts, and theories, and in-depth knowledge in a chosen specialty; (2) develop expertise in experimental design, data analysis, and oral and written presentation of research results; and (3) become competitive for professional positions in the biological sciences.

A. Program Admission
1. Application to The University of Memphis Graduate School. Application can be made on-line (http://apply.memphis.edu/ and http://www.memphis.edu/biology/graduate/).

2. Official transcripts of all previous academic coursework must be sent directly to The University of Memphis Graduate Admissions from the issuing institution. An overall minimum grade point average of 2.75 (on a 4.0 scale) at the undergraduate level is usually competitive. Applicants whose highest degree is from a foreign institution must have their credentials evaluated by any credentialing agency listed on the National Association of Credential Evaluation Services' website. The course-by-course report is required.
   a. Applicants must have satisfactorily completed ("C" or better) three upper division courses within the following six areas: Ecology, Genetics, Cell Biology, Microbiology, Physiology, and Evolution.
   b. Students must have satisfactorily completed ("C" or better) five courses within the following nine areas: General Chemistry I, General Chemistry II, Organic Chemistry I, Organic Chemistry II, Biochemistry, Physics I, Physics II, Calculus, and Statistics. Other courses in the sciences may substitute for these requirements.

3. The Graduate Record Exam (GRE) is required and scores for the Verbal, Quantitative, and Analytical Writing sections are an important factor in the admission process. GRE scores should be submitted directly to The University of Memphis Graduate Admissions by the testing agency.

4. Department of Biological Sciences Graduate Student Application, to be submitted in an online fillable form (http://www.memphis.edu/biology/graduate/graduate-application.php).

5. A written letter from a prospective advisor within the Department of Biological Sciences that states that he/she will accept the applicant and how the student will be funded while in the program must be submitted to the Department of Biological Sciences. Applicants for the Master's degree are expected to have made prior contact with potential research advisors in the department's graduate program. This is a critical first step; no applicants will be accepted without an advisor. Faculty research interests are listed on the departmental website; applicants are encouraged to interact directly with those faculty members who have research interests that match their own interests.

6. Two letters of recommendation from persons capable of assessing the applicant's suitability for graduate work in biology must be submitted to the Department of Biological Sciences.

7. International students for whom English is not their native language must submit proof that they have taken the Test of English as a Foreign Language (TOEFL); acceptable minimums are 550 for paper-based (PBT) and 79 for internet-based (IBT) exams. International applicants for Graduate Teaching Assistantships in the Department of Biological Sciences must obtain a score of 26 or higher on the spoken English component of the TOEFL iBT. Alternatively, applicants must take the SPEAK test (Speaking Proficiency English Assessment Kit) and obtain a score of 50 or higher in order to be appointed as a Teaching Assistant. The SPEAK test is The University of Memphis version of the TSE (Test of Spoken English), which was produced by Educational Testing Service.

B. Program Requirements (Thesis)

1. A minimum of 30 semester hours is required beyond the baccalaureate degree, of which 21 must be at the 7000 level.

2. A grade point average of 3.0 must be maintained. A student whose grade point average drops below 3.0 will have one semester to raise his or her GPA to 3.0 or better. Continuation of a student who fails to reach a 3.0 overall GPA during two semesters while in the graduate program is at the discretion of
the Graduate Studies Committee (in consultation with the student's advisory committee).

3. BIOL 7000, 7004, 7102, 7200, 7600, and 7996. Attendance at departmental seminars is mandatory. BIOL 7000 must be completed during the first year of residence and BIOL 7600 in the last semester.

4. All students are required to take and pass a written and oral Comprehensive Examination administered by the student's advisory committee usually before the end of their fifth semester in residence. The scope of this examination is broad and includes a review of general biological principles. This exam must be taken at least one semester prior to graduation.

5. Presentation of research (7600) and a thesis (7996) as approved by the student's Advisory Committee. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

6. Pass a final oral examination administered by the student's advisory committee. This exam is a defense of the thesis research and is usually taken in the student's final semester.

C. Program Requirements (Non-Thesis)

1. A minimum of 36 semester hours of graduate courses is required, of which 26 must be at the 7000 level. The total number of semester hours required for graduation will be determined by the student's advisory committee based on academic background. No more than 3 semester hours can be satisfied by BIOL 7092.

2. BIOL 7000, 7004, and 7200. BIOL 7000 must be completed during the first year of residence. Attendance at departmental seminars is mandatory. Though students will not present in BIOL 7200, their participation is expected.

3. A grade point average of 3.0 must be maintained. A student whose grade point average drops below 3.0 will have one semester to raise his or her GPA to 3.0 or better. Continuation of a student who fails to reach a 3.0 overall GPA during two semesters while in the graduate program is at the discretion of the Graduate Studies Committee (in consultation with the student's Advisory Committee).

4. All students are required to take and pass a written and oral Comprehensive Examination, administered by the student's advisory committee usually before the end of their fifth semester in residence. The scope of this examination is broad and includes a review of general biological principles.

III. PhD Degree Program

Program objectives are: (1) understand biological principles, concepts, and theories, and in-depth knowledge in a chosen specialty; (2) develop expertise in experimental design, data analysis, and oral and written presentation of research results; and (3) become competitive for professional positions in the biological sciences.

A. Program Admission

1. Application to The University of Memphis Graduate School. Application can be made on-line (http://apply.memphis.edu/ and http://www.memphis.edu/biology/graduate/).

2. Official transcripts of all previous academic coursework must be sent directly to The University of Memphis Graduate Admissions from the issuing institution. Prospective doctoral students must hold either an MS or a BS from an accredited institution. An overall minimum grade point average of 3.00
(on a 4.0 scale) for students with a BS or MS degree is usually competitive. Applicants whose highest degree is from a foreign institution must have their credentials evaluated by any credentialing agency listed on the National Association of Credential Evaluation Services' website. The course-by-course report is required.

a. Applicants must have satisfactorily completed ("C" or better) four upper division courses within the following six areas: Ecology, Genetics, Cell Biology, Microbiology, Physiology, and Evolution.

b. Applicants must also have satisfactorily completed ("C" or better) seven courses within the following nine areas: General Chemistry I, General Chemistry II, Organic Chemistry I, Organic Chemistry II, Biochemistry, Physics I, Physics II, Calculus, and Statistics. Other courses in the sciences may substitute for these requirements.

3. The Graduate Record Exam (GRE) is required and scores for the Verbal, Quantitative, and Analytical Writing sections are an important factor in the admission process. GRE scores should be submitted directly to The University of Memphis Graduate Admissions by the testing agency.

4. Department of Biological Sciences Graduate School Application, to be submitted in an online fillable form (http://www.memphis.edu/biology/graduate/graduate-application.php).

5. A written letter from a prospective advisor within the Department of Biological Sciences that states that he/she will accept the applicant and how the student will be funded while in the program must be submitted to the Department of Biological Sciences. Applicants for the doctoral degree are expected to have made prior contact with potential research advisors in the department's graduate program. This is a critical first step; no applicants will be accepted to the Department without an advisor. Faculty research interests are listed on the departmental website; applicants are encouraged to interact directly with those faculty members who have research interests that match their own interests.

6. Two letters of recommendation from persons capable of assessing the applicant's suitability for graduate work in biology must be submitted to the Department of Biological Sciences.

7. International students for whom English is not their native language must submit proof that they have taken the Test of English as a Foreign Language (TOEFL); acceptable minimums are 550 for paper-based (PBT) and 79 for internet-based (IBT) exams. International applicants for Graduate Teaching Assistantships in the Department of Biological Sciences must obtain a score of 26 or higher on the spoken English component of the TOEFL IBT. Alternatively, applicants must take the SPEAK test (Speaking Proficiency English Assessment Kit) and obtain a score of 50 or higher in order to be appointed as a Teaching Assistant. The SPEAK test is The University of Memphis version of the TSE (Test of Spoken English), which was produced by Educational Testing Service.

B. Program Requirements

1. A minimum of three academic years (72 credit hours) beyond the baccalaureate degree is required. A student entering the PhD program with a MS degree may be awarded 30 semester hours toward the 72 hours requirement. A minimum of 30 semester hours must be taken in residence.

2. BIOL 8000, 8004, 8092, 8103, 8200, 8600, and 9000. BIOL 8000 must be completed during the first year of residence. Attendance at departmental seminars is mandatory. Up to nine hours of BIOL 8092, and five hours of BIOL 8200 can be counted toward the degree requirements. Eighteen credit hours of BIOL 9000 must be completed during the program; no more than 18 hours will be counted toward the degree.
3. Foreign Language and Research - Students are required to demonstrate competence in a foreign language or research tool, or both. Completion of this requirement will be determined by each student's advisory committee.

4. Becoming a Ph.D. Candidate is a two-step process that is usually completed by the end of the third year.

   a. A written and oral presentation of the student's Research Prospectus will be made. Details of the plan of research must be approved by the advisory committee prior to collection of data.

   b. All students are required to take and pass a written and oral Comprehensive Examination administered by the student's advisory committee before the end of their sixth semester in residence. The scope of the examination is broad and includes a review of general biological principles.

5. A dissertation will be required of all candidates for the doctoral degree. The dissertation must show a mastery of the techniques of scientific research, and it must be a distinct and new contribution to the body of scientific knowledge. The student's Advisory Committee must approve the topic, prospectus, and the final dissertation. At least 18 hours of research and dissertation credit (BIOL 9000) must be completed during the graduate program; no more than 18 hours will be counted toward the degree. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

6. A minimum of one published or fully accepted paper in a national or international peer reviewed scientific journal approved by the advisory committee is required.

7. Dissertation Defense and Final Examination - The final examination will be conducted by the student's advisory committee. The committee will consist, insofar as possible, of the same persons involved in the specialized knowledge examination. The final examination will be an oral defense of the dissertation and will be announced and open to the public. Upon successful completion of the examination and all degree requirements, the committee will recommend awarding the PhD.

IV. Accelerated B.S./M.S. Program in Biology

This program allows outstanding undergraduates to begin coursework for the Master of Science with thesis in Biology during their senior year. Students are encouraged to begin planning to enter the accelerated B.S./M.S. program early in their undergraduate career, in consultation with their advisor in the Department of Biological Sciences. Undergraduates selected into this program begin a carefully tailored course of study allowing them to complete their B.S. degree while beginning research and coursework toward their M.S. To apply, students must have a minimum 3.25 grade point average and must submit two letters of recommendation and a copy of their transcript to the Department of Biological Sciences. Applications must be submitted by the middle of the junior year and must be sponsored by a graduate faculty member. Students must also apply to the Graduate School for combination senior status (nondegree), which allows them to take graduate courses in biology. To continue in the program past the B.S. students must apply for full admission into the Graduate School and into the Department of
Biological Sciences M.S. program. Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs. Detailed program and application information is available in the Biology Advising and Resource Center.

Click here for course descriptions

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Center for Earthquake Research and Information

Charles A. Langston, PhD
I. The Center for Earthquake Research and Information (CERI) offers graduate programs leading to the Master of Science degree in Earth Sciences with a Concentration in Geophysics and the Doctor of Philosophy in Earth Sciences with a Concentration in Geophysics.

All graduate students must comply with the general requirements of the Graduate School (see Admission Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MS Degree Program

Program objectives are: (1) competence in a common core of material in geophysics that provides the basis for original research; (2) experience in data acquisition and analysis methods, and oral and written presentation of research results; (3) preparation for professional employment in geophysics or for entering a doctoral program.

A. Program Admission and Prerequisites

Applicants must apply to both The University of Memphis Graduate School (http://apply.memphis.edu/) and CERI (http://www.memphis.edu/ceri/study/admission.php). Prospective students, in addition to meeting the requirements for admission to the Graduate School, are required to present as a prerequisite for admission, a satisfactory record of undergraduate work in geophysics or a related field such as physics, engineering, mathematics, geology, or computer science. Normally, mathematics through differential equations will be required. Please see the CERI website for specific admission instructions.

B. Program Requirements

1. Course Work Requirements - Thirty two credit hours of graduate credit are required and subject to the following restrictions:
   1. No more than 9 credit hours at the 6000 level may be counted toward the degree.
2. A minimum of 12 credit hours must be in courses numbered CERI 7104-7603
3. A minimum of one seminar selected from CERI 7701 or CERI 7702
4. 6 credit hours of CERI 7996 (Thesis) also the maximum that can be applied to the 32 hour total
5. No more than 6 credit hours of Independent Study (CERI 7621) can be counted toward the degree

2. Comprehensive Examination - A written comprehensive examination will be administered by the student’s graduate committee covering course work taken within the program just before the start of the third semester of residence. If the examination is not passed, it may be taken again after one additional semester of residence.

3. Thesis Option - A thesis must be submitted that is acceptable to the student’s graduate committee. The Thesis can be based upon work done for CERI 7996 (Thesis), for which a maximum of 6 credit hours can be applied to the degree requirement.

4. Non-Thesis Option - If a non-thesis program is selected, a student must take two additional CERI 7000 level courses. Thesis is replaced by submission of a paper for publication in a refereed journal, earning 3 credit hours in Independent Study (CERI 7621). Thesis credits (CERI 7996) do not count toward the non-thesis degree.

5. The Advisory Committee – Upon admission, the student will be assigned a temporary committee consisting of three faculty members based upon research interests expressed in the application documents. A permanent advisor and committee must be selected at the start of the first Spring Break for students entering in the fall semester and the start of the first fall semester for students entering in the spring semester.

6. Final Oral Examination for the Thesis Option - The student’s graduate committee will administer a final oral examination based upon the student’s thesis after completion of all other requirements. This examination will be held two weeks after the student has distributed the thesis to the graduate committee and must occur at least one week before the deadline for submission of material to the Graduate School for review. If the oral examination is unsatisfactory, it must be repeated within one year and may not be repeated more than once.

7. Retention - A student pursuing the Master’s degree may be terminated for any of the following reasons:
   1. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. The Dean of the Graduate School must approve continuation in graduate school. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies.
   2. Failure to complete the degree requirements within six years of initial enrollment in the graduate program.
   3. Failure to pass the Comprehensive Examination.
   4. Failure to satisfy the graduate committee on the final oral examination.

III. PhD Degree Program

Program objectives are: (1) understanding geophysical concepts and theories and in-depth knowledge in a chosen branch of geophysics; (2) experience formulating and conducting original research projects; (3) experience in data acquisition and analysis methods, and oral and written presentation of research results; (4) become competitive for professional positions in geophysics.
A. Program Admission

See MS Degree Program requirements

B. Program Requirements

1. Course Work Requirements - The doctoral degree program includes the requirement of the satisfactory completion of a minimum of 72 hours of graduate credit beyond the Bachelor’s degree. The 72 credit hour total is subject to the following restrictions:
   1. No more than 12 credit hours at the 6000 level may be counted toward the Ph.D. degree.
   2. At least 12 credit hours must be in courses numbered CERI 7104-7702.
   3. A maximum of 36 credit hours for CERI 9000 (Dissertation) may be counted toward the Ph.D. degree. A minimum of 6 credit hours of CERI 9000 is required.
   4. A maximum of 6 credit hours of CERI 7621/8621 (Independent Study) may be counted toward the Ph.D. degree.
   5. A maximum of 32 hours of graduate course credit completed at the University of Memphis or another accredited institution (including credit applied to a MS degree) may be applied to the 72 credit hour requirement subject to the approval of the students graduate committee. A minimum of 9 hours other than CERI 7621, 7701, 7702, 9000 must be completed at the University of Memphis.
   6. The last 30 hours of credit must be earned at the University of Memphis.

2. Residency – A student must commit to full-time study for a minimum of two successive semesters after admission to the degree program to fulfill the residency requirement. The purpose of the residency requirement is to provide students with significant time for sustained participation with peers and faculty in scholarly and creative activities. Summer terms will count toward residency.

3. Qualifying Examination – The purpose of the qualifying examination is to determine if a student has the appropriate aptitude and background to be retained in the Ph.D. program. The student is required to write an abstract identifying an original research proposition. The subject of the proposition may or may not become part of the dissertation. The examination will begin by the student giving a brief presentation of the material in the abstract. An oral examination, not to exceed two hours, will follow covering the topic described in the abstract but the questions can and should broaden to other areas. The qualifying examination will be given just prior to the start of the third semester of residence. If the student does not pass on the first attempt, the examination can be taken a second time at the beginning of the fourth semester.

4. Comprehensive Examination - A comprehensive examination will be administered by the student’s graduate committee covering course work taken within the program just before the start of the fifth semester of residence. The student will take a one day, 6 hour written examination. This will be followed by a two-hour oral examination scheduled no later than two days following the written examination. The oral examination will be broad in nature. The graduate committee members will grade the written exam and discuss the overall performance of the student. In general, a student will have to receive a grade of 60% or higher on the written portion of the exam to pass. If a majority of the committee members vote pass, recommendations may be made to remove deficiencies in background by coursework or reading. In the event of a tie, the outcome is a failure and the committee may
recommend completion of a M.S. thesis followed by a reexamination, or a second examination at the option of the student. A second failure of the comprehensive exam results in termination.

5. The Advisory Committee – upon admission, a student will be assigned a temporary committee consisting of 5 faculty members based upon research interests expressed in the application documentation. A permanent advisor and committee must be selected at the start of the first Spring Break for students entering in the fall semester and the start of the first fall semester for students entering in the spring semester. One member of the permanent committee must be external to CERI. External members from other universities/institutions/agencies may serve on the Ph.D. committee but must obtain adjunct faculty status through the University of Memphis and must agree to be present for the dissertation defense.

6. Submission of Manuscripts to Refereed Journals - Each student is required to be an author on two manuscripts submitted to refereed journals. The student does not have to be first author on either manuscript to fulfill this requirement but must be first author on any manuscript included in his/her dissertation. Both manuscripts must be submitted prior to filing for candidacy.

7. Doctoral Research and Dissertation – A minimum of six semester hours of CERI 9000 (Dissertation) is required for the doctoral degree. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

8. Final Oral Examination - The student’s graduate committee will administer a final oral examination based upon the student’s dissertation after completion of all other requirements. This examination will be held two weeks after the student has distributed the dissertation to the graduate committee and must occur at least one week before the deadline for submission of material to the Graduate School for review. If the oral examination is unsatisfactory, it must be repeated within one year and may not be repeated more than once.

9. Retention – A student pursuing the doctoral degree may be terminated for any of the following reasons:

1. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. The Dean of the Graduate School must approve continuation in graduate school. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies.

2. Failure to pass the Qualifying exam.

3. Failure to pass the Comprehensive Examination.

4. Failure to make satisfactory progress towards completion of the degree in a timely manner, as determined by the student’s graduate committee.

5. Failure to satisfy the graduate committee on the final oral examination.

Click here for course descriptions
2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Chemistry - Graduate Catalog - University of Memphis

GARY L. EMMERT, PhD
I. The Department of Chemistry offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees with a major in chemistry. Concentrations are available in analytical, computational, inorganic, organic, and physical chemistry. Related courses may be taken in other departments including physics, mathematics, geology, biology, and engineering and in fields other than the student's major within the Department of Chemistry.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MS Degree Program

Program objectives are: (1) competence in a common core of material in the major area of specialization; (2) experience in experimental design, data analysis, and oral and written presentation of research results; (3) competitive for professional positions in the chemical sciences.

A. Program Admission and Prerequisites

Prospective students, in addition to meeting the requirements for admission to The Graduate School, are required to present as a prerequisite for admission a satisfactory record of undergraduate work in chemistry; normally 32 semester hours of chemistry will be required, including quantitative analysis, organic, inorganic, and physical chemistry (biochemistry may also be taken). Students who are deficient in undergraduate work may be admitted and the deficiencies removed without graduate credit. Submission of GRE scores is required for admission, but permission for a waiver may be requested from the department for extraordinary circumstances.

B. Program Requirements
1. Diagnostic Examinations — Before registering for the first time, incoming graduate students will take a series of six standardized examinations, in general, analytical, biochemistry, inorganic, organic, and physical chemistry. The examinations are at a level equivalent to completion of the following undergraduate courses at the University of Memphis: CHEM 4111 (inorganic), 4211 (analytical), 3310 and 3511 (organic), 4411 (physical), and 4512 (biochemistry). A candidate for the Master of Science degree must make at least 50th percentile on the general chemistry test to remain in the program. A candidate for the Master of Science degree must make at least 50th percentile on the analytical and organic tests plus one of the remaining three or take the equivalent classes (CHEM 6111, 6211, 6311, 6411, 6511). Students should note that a score of 75th percentile on the test or a "B" or better in the course is prerequisite to higher level graduate courses in each area.

2. Course Work Requirements — The thirty semester-hour total required is subject to the following restrictions:
   1. No more than 9 hours of credit at the 6000 level may be counted towards the Master of Science degree. At least 9 hours must be in courses numbered CHEM 7100-7899, with at least two areas of chemistry represented.
   2. A maximum of 6 semester hours of Chemistry 7996 (Thesis) can be applied to the 30 semester hour requirement.
   3. A maximum of 3 semester hours of CHEM 7910/8910 (Special Problems in Chemistry) may be counted toward the 30 semester hour requirement.
   4. Presentation (CHEM 7911) is required of all graduate students. A maximum of 4 semester hours from some combination of CHEM 7911 and 7/8913 (Seminar) may be used to meet the 30 semester hours required.
   5. A maximum of 6 semester-hours credit can be granted for graduate courses successfully completed at other regionally accredited institutions. Credit previously earned at another institution must be presented for evaluation not later than the end of the student’s second semester of enrollment.
   6. No more than 6 semester hours of CHEM 7001 (Directed Research) and CHEM 7996 (Thesis) combined may be counted toward the 30 semester-hour requirement.

3. Comprehensive Examinations — The student must begin the written part of the comprehensive examinations by the beginning of the third semester and take up to eight consecutive tests. These are described in the summary of the administration of the graduate program. A student pursuing the master’s degree must obtain a total of at least six points. Any student who has not amassed six points at the completion of eight tests is automatically terminated from the Master’s degree program. Written permission from the student’s Advisory Committee and the Graduate Studies Committee is required to delay beginning the tests or to delay continuing once the student has begun taking tests. Within six months of obtaining the required six points, students must complete the oral part of the comprehensive examinations. The student will prepare a Research Prospectus on his or her thesis research problem, to be presented orally to the Advisory Committee in an open meeting and in a written form to the Graduate Studies Committee. The oral comprehensive examination can be repeated only once.

4. Seminar — Participation in seminar is required during each semester of residence (excluding summer terms).

5. The Advisory Committee — Upon admission to the Graduate School, the student will be advised by the Department’s Graduate Studies Committee. A student must choose a major professor before the
end of the first semester following enrollment. The major professor, in consultation with the student, will recommend the faculty members to be appointed to the student’s Advisory Committee. This committee, which is appointed before the student’s First Year Conference, must be composed of at least three members, with the major professor serving as chair. Upon appointment, the committee will review the student’s progress to date and outline an appropriate program tailored to the student’s individual interests to permit fulfillment of the degree requirements. The student will be regularly evaluated by their Advisor and Advisory Committee. In the unlikely event that a student changes major professors, a new Advisory Committee must be appointed.

6. Thesis Option — Each student must submit a thesis acceptable to the student’s Advisory Committee. The thesis can be based on work done for CHEM 7996, for which a maximum of six credit-hours can be applied to the degree requirement. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

7. Non-Thesis Option — If a non-thesis program is selected, a student must 1) take two additional 7/8000-level course and 2) prepare a detailed report in the form of a review or proposal (which can be based on literature research). Three hours credit for CHEM 7910 will be earned. A minimum of three semester-hours from one credit of CHEM 7911 and two credits of 7/8913 (Seminar) must be earned. Thesis credits (Chem 7996) do not count toward the non-thesis degree. No more than four credits of Chem 7001 and Chem 7910 together may be counted toward the non-thesis MS. For the non-thesis option, a maximum of 9 hours of course work may be included in a field related to chemistry (physical or biological sciences, mathematical sciences, or engineering).

8. Final Oral Examination — A final oral examination on the student’s thesis or report and related material will be administered by the student’s Advisory Committee after completion of all other requirements. This examination will be held seven or more days after the student has distributed copies of the thesis or report to the members of the Advisory Committee, which must be done at least one month before the end of the semester in which the student expects to graduate. If the final oral examination is unsatisfactory it must be repeated within one year; it may not be repeated more than once.

9. Retention — A student pursuing the Master’s degree program may be terminated for any of the following reasons:
   1. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. Continuation in graduate school must be approved by the Vice Provost for Graduate Studies. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies.
   2. Failure to accumulate the requisite number of points on the departmental comprehensive examinations (See Section 3).
   3. Failure to complete the degree requirements within six years of initial enrollment in the graduate program.
   4. Failure to make satisfactory progress towards the degree in a timely fashion, as determined by the Departmental Program Retention Committee.
   5. Failure to satisfy the Advisory Committee on the final oral examination (See Section 8).

III. PhD Degree Program

Program objectives are: (1) competence in a common core of material in the major area of specialization; (2) proficiency in a minor area of specialization outside of the major; (3) development of expertise in experimental
design, data analysis, and oral and written presentation of research results; (4) competitive for professional positions in the chemical sciences.

A. Program Admission

See MS admission requirements.

B. Program Requirements

1. Diagnostic Examinations — Before registering for the first time, incoming graduate students will take a series of six standardized examinations, chosen from general, analytical, biochemistry, inorganic, organic, and physical chemistry. The examinations are at a level equivalent to completion of the following undergraduate courses at The University of Memphis: CHEM 4111 (inorganic), 4211 (analytical), 3310 and 3511 (organic), 4411 (physical), and 4512 (biochemistry). A doctoral candidate must make at least 50th percentile on four of the upper-level tests (analytical, biochemistry, inorganic, organic, and physical tests) or must take four of the equivalent classes (CHEM 6111, 6211, 6311, 6411, 6511). A candidate for the PhD degree must make at least 70th percentile on the general chemistry test to remain in the program. Students should note that a score of 75th percentile on the test or a "B" or better in the course is prerequisite to higher level graduate courses in each area.

2. Course Work Requirements — The doctoral degree program includes the requirement of the satisfactory completion of a minimum of 72 semester hours of graduate credit beyond the BS degree. The 72-hour total is subject to the following restrictions:
   1. No more than 12 hours of credit at the 6000 level may be counted towards the doctoral degree. At least 12 hours must be in courses numbered CHEM 7100-7899 (8100-8899; however, a maximum of 1 hour of Presentation (CHEM 7911) may be combined into this total), with at least two areas of chemistry represented.
   2. A maximum of 32 hours credit for CHEM 8001 (Directed Research) and CHEM 9000 (Dissertation) combined can be applied toward the 72-hour total.
   3. A maximum of 12 hours of CHEM 7/8910 (Special Problems in Chemistry) may be credited toward the total hour requirement.
   4. A maximum of 12 hours of course work may be included in a field related to chemistry (physical or biological sciences, mathematical sciences, or engineering). Courses taken in related areas must be numbered 6000 or above. However, these related courses cannot substitute for the more than six of the twelve hours of required CHEM 7/8000-level courses for the PhD Degree.
   5. Presentation (CHEM 7911) and Advanced Presentation (CHEM 8911) are required. A maximum of 4 semester hours from some combination of CHEM 7911, 8911, and 7/8913 may be used to meet the 72 semester-hour requirement.
   6. A maximum of 30 hours of graduate course credit completed at the University or other accredited institution (including credit applied on an MS degree) may be applied to the 72-hour requirement subject to the approval of the student’s Advisory Committee and the Department’s Graduate Studies Committee. Considering all other requirements are met, a minimum of 9 hours in graduate courses other than CHEM 7/8910, CHEM 7/8911, CHEM 7/8913, and CHEM 8001/9000 must be completed at the university.
3. Residence — Of the total semester-hour requirement, a minimum of 24 hours must be earned while the student is at The University of Memphis. This requirement cannot be met wholly by attendance at Summer Sessions and must include at least one academic year of full-time student status.

4. Comprehensive Examinations — The student must begin the written part of the comprehensive examinations in the third semester and take up to eight consecutive tests. These are described in the summary of the administration of the graduate program. A student pursuing the doctoral degree must obtain a total of at least twelve points. Any student who has not amassed twelve points at the completion of eight tests is automatically terminated from the doctoral degree program. Written permission from the student’s Advisory Committee is required to delay beginning the tests or to delay continuing once the student has begun taking tests. Within one year of obtaining the required twelve points, students should complete the oral part of the comprehensive examinations. The student will prepare a Research Prospectus on his or her thesis research problem, to be presented orally to the Advisory Committee in an open meeting and in a written form to the Advisory Committee and the Graduate Studies Committee. The oral comprehensive examination can be repeated only once. A student who changes major professors must present a new Research Prospectus within one semester after the change is made.

5. Students who enter the PhD program and already hold the MS degree in chemistry should begin taking the cumulative examinations at the first opportunity after initial enrollment if a satisfactory score is made on the diagnostic examinations.

6. Seminar — Participation in Seminar is required during each semester of residence (excluding summer terms).

7. The Advisory Committee — Upon admission to the Graduate School, the student will be advised by the Department’s Graduate Studies Committee. A student must choose a major professor from the graduate faculty before the end of the first semester following enrollment. The major professor, in consultation with the student, will recommend faculty members to be appointed to the student’s Advisory Committee. This committee, which is appointed after the student’s First Year Conference, must be composed of at least five members, with the major professor serving as chair. Of the members of this committee, at least one is to be from a different area of specialization from that in which the student intends to work. Upon appointment, the committee will review the student’s progress to date and outline an appropriate program tailored to the student’s interests to enable fulfillment of the degree requirements. The student will be regularly evaluated by their Advisor and Advisory Committee. In the unlikely event that a student changes major professors, a new Advisory Committee must be appointed.

8. Admission to Candidacy — In order to apply for candidacy, the student must have an Advisory Committee and must have successfully completed the departmental comprehensive examination requirement. The written and oral portions of the comprehensive examinations (the oral exam replaces the research prospectus) collectively satisfy the comprehensive examination requirement of the Graduate School. The test scores, transcripts, and other pertinent data will be examined by the student’s Advisory Committee, and their recommendation, with the approval of the Graduate Studies Committee and the Department Chair, will be forwarded to the Graduate School.

9. Doctoral Research and Dissertation — A minimum of six hours of CHEM 9000 is required for the doctoral degree. Registration for nine semester hours of CHEM 9000 and CHEM 8001 combined is required of all doctoral candidates before the dissertation will be considered. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
10. Final Examination — The student’s Advisory Committee will administer a final oral examination on the student’s dissertation and related material after completion of all course requirements and the dissertation. This examination will be held two weeks or more after the student has distributed copies of the dissertation to the members of the Advisory Committee; which must be done at least five weeks before the end of the semester in which the student expects to graduate. If the final oral examination is unsatisfactory, it must be repeated within one year. It may not be repeated more than once.

11. Retention — A student pursuing the doctoral degree program may be terminated for any of the following reasons:

1. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. The Assistant Vice Provost for Graduate Studies must approve continuation in graduate school. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies.

2. Accumulation of more than six hours of graduate credit with grades of C or below.

3. Failure to accumulate the requisite number of points on the departmental comprehensive examinations. (See Section 4).

4. Failure to make satisfactory progress towards the degree in a timely fashion, as determined by the Departmental Program Retention Committee.

5. Failure to satisfy the Advisory Committee on the final oral examination. (See Section 10).

Click here for course descriptions
Computer Science

SAJJAN G. SHIVA, PhD
I. The Department of Computer Science offers the Master of Science in Computer Science and in Applied Computer Science, as well as the PhD degree in Computer Science. It also offers a Graduate Certificate in Information Assurance.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. Master of Science in Computer Science

1. Admission Requirements
   1. GRE scores are required and are an important factor for admission;
   2. Two letters of recommendation;
   3. An undergraduate degree with a minimum GPA of 2.5 on a 4.0 scale;
   4. A minimum score of 550 on the paper-based TOEFL, or 79 on the internet-based TOEFL (for students whose native language is not English).

2. Prerequisites
   1. One year (8 credit hours) of calculus and one semester (3 credit hours) of linear algebra (Students without the calculus and/or linear algebra prerequisites will be considered on an individual basis and if admitted must correct the deficiency within the first semester.)
   2. Satisfactory completion of the following courses (or their equivalents): COMP 1900, 2150, 3410, 4030, 4040, 4270; MATH 2701. (None of these courses may be used to fulfill degree requirements.)

3. Program Requirements
   1. Satisfactory completion of 34 credit hours of graduate course work approved by the department,
as follows:

1. At least 28 credit hours must be from the 7/8000 level, including:
   1. Core Requirement: COMP 7012, 7212, 7612, 7712. At least three of these courses
      must be completed with a grade of B- or better prior to completion of 18 hours of
      credit in the program, unless approved by the student's advisor.
   2. Project/Thesis: COMP 7996 or COMP 7980. NOTE: Students choosing the thesis
      option should familiarize themselves with the Thesis/Dissertation Preparation Guide
      before starting to write.

2. At most 6 credit hours of any combination of COMP 6901, 6911, 7/8901, 7980 and/or 7996
   can be used toward the 34 hours of course work.

3. COMP 6601 is not accepted toward the degree.

2. Obtain a passing grade on a comprehensive examination approved by the department.

III. PhD Degree in Computer Science

1. Admission Requirements
   1. GRE scores are required and are an important factor for admission;
   2. Three letters of recommendation;
   3. An undergraduate degree in an appropriate discipline with a minimum GPA of 2.5 (on a 4.0
      scale) or equivalent preparation;
   4. A score of at least 550 on the paper-based TOEFL, or 79 on the internet-based TOEFL (for
      students whose native language is not English).

2. Program Requirements
   1. Satisfactory completion of coursework requirements as follows:
      1. Students with an approved Masters Degree must complete at least 36 credit hours, subject
         to the following rules:
         1. Between 9-15 credit hours of Dissertation (COMP 9000). NOTE: Students should
            familiarize themselves with the Thesis/Dissertation Preparation Guide before starting
            to write.
         2. All other credit must be completed at the 8000-level
         3. At most 15 credits of Independent Studies (COMP 8901) can be included
      2. Students without an approved Masters Degree must complete at least 72 credit hours,
         which must satisfy the following rules:
         1. The following coursework must be completed:
            1. Core Requirements: COMP 7012, 7212, 7612,and 7712. The student must
               obtain a grade of B or better in each of these courses. The courses must be
               completed within the 36 credits the student earns in the program.
            2. Research Methods in Computer Science (COMP 7950) to be completed by the
               end of the second semester.
               should familiarize themselves with the Thesis/Dissertation Preparation Guide
               before starting to write.
            4. At least 12 credit hours must be completed in courses at the 8000-level other
               than COMP 8901.
2. At most 6 credit hours can be completed in 6000-level courses.
3. At most 18 credit hours of Independent Studies (COMP 7/8901) can be included.

Students who are requesting transfer from another graduate program will be evaluated by the Graduate Programs Committee and/or its designee (upon submitting an application during the student's first semester in the program) to determine the number of credits that can be transferred towards completion of these requirements. The number of credit hours transferred may be limited by the Graduate School.

2. Satisfactory completion of the following examinations:
   1. Qualifying examination: Satisfactory completion of the core requirement is deemed as passing the qualifying examination. Students with an approved Masters Degree may satisfy a core requirement by taking the final exam of the core course and obtaining a passing mark as equivalent to obtaining a B or better grade of the course. A maximum of two attempts are allowed for each core course, and they must be made within the first 39 credit hours of entering the program (24 for students with an approved Masters Degree).
   2. Comprehensive Examination: Given and evaluated by a committee composed of departmental and university representatives upon presentation of an acceptable dissertation proposal.
   3. Final Examination: Given and evaluated by a committee composed of departmental and university representatives upon completion of an acceptable dissertation.

Detailed information can be obtained by contacting the graduate coordinator of the department. Details of the format of the examinations can be found on the Computer Science Department Web site (http://www.cs.memphis.edu).

IV. Graduate Certificate in Information Assurance (GCIA)

This certificate program highlights important aspects of information security and assurance technologies. The University of Memphis is designated by DHS and NSA as a National Center of Academic Excellence in Information Assurance, and its IA courses are accredited by the Committee for National Security Systems for Computer Security standards 4011, 4012, and 4013. These security standards specify the minimum knowledge, skills, and abilities required to fulfill the duties, respectively, of an Information Systems Security Professional, Senior System Manager, and System Administrator. The IA certificate program is administered by the Computer Science Department, the courses are taught by different departments and colleges, and any graduate student meeting admission requirements will be eligible to join the certificate program. Click here to view corresponding gainful employment data.

The objectives of the certificate program are as follows:

- Provide knowledge of contemporary and historical trusted computing systems from an operational, theoretical, and design standpoint.
- Detailed discussion on security-specific hardware, software, and methodologies.
A certificate program meeting national standards that will prepare students to serve the state and the country in a critical area of vulnerability in information infrastructure.

- Educate students on ethical, management, policies and legal issues, and requirements in the field of information assurance

1. Admission Requirements
The certificate program in Information Assurance may be pursued concurrently with other graduate programs at the university. In particular, students currently admitted to a graduate program at the U of M may join this certificate program. To apply, students must submit the application form (http://www.memphis.edu/cs/pdfs/application_info_assurance.pdf) and transcripts of prior graduate study.

Non-degree graduate students may also pursue this certificate program of study. For example, professionals who have a BS in computer science, computer engineering, or a closely related field, or who have a bachelor's degree in another field and have been working in the Information Technology (IT) field for at least three years, can apply to the program. These applicants are required to submit a brief (one- to two-page) statement of educational and work experience in the computing field, including their background in computer security, in addition to the requirements above. Students must apply both to the program and to the University.

GRE scores are not required for non-degree students' admission into the IA certificate program. Acceptance to the certificate program is not an implied acceptance into the MS program in Computer Science.

2. Program Requirements
The certificate program requires completion of 12 semester credit hours: 6 from the list of major IA courses and 6 from the list of electives.

1. Major IA Courses
   - COMP 6410. Computer Security
   - COMP 7120-8120 (Same as MIS 7670). Cryptography and Data Security
   - COMP 7327-8327. Network and Internet Security

   Note: Non-computer science students must take the prerequisite COMP 3825 (Networking and Information Assurance) or equivalent before taking any of the above COMP courses.

2. IA Electives
   - COMP 6272. System Administration and UNIX Programming
   - COMP 7900. Cyber Ethics
   - COMP 7125. Computer Forensics (New)
   - LAW 386. Cyber Law
   - CJUS 6180. Corporate & White Collar Crime
3. Retention
In order to continue in the program, students must maintain at least a 3.0 GPA.

4. Graduation
To obtain the certificate a student must complete four above-mentioned courses (2 major courses and 2 electives), with an average grade of 3.0 (B) or higher, for a total of 12 credits.

**Note:** No more than 6 credit hours of this certificate program can be applied to the MS/PhD degree in computer science.

V. Accelerated B.S./M.S. Program in Computer Science

This program is designed for outstanding undergraduate students to complete both their B.S. and M.S. program in Computer Science. Students admitted into the program will begin a carefully tailored program which allows them to begin coursework for the M.S. program while completing their B.S. degree. With careful planning and working with the undergraduate and graduate coordinators, they will be able to graduate with both B.S. and M.S. degrees within five years.

To apply, students must have finished 19 COMP credits by the end of the semester of the application; and they should maintain an overall GPA of 3.00 as well as a GPA of 3.60 in the COMP courses. Applicants must submit 2 letters of reference and a copy of their transcript to the Computer Science Department.

Students must also apply to the Graduate School for the “combination senior” status, which allows them to take graduate courses in Computer Science. To continue in the program past the B.S., students must apply for full admission to the Graduate School and be admitted to the Computer Science Master’s Program.

Up to 9 hours of graduate coursework may be applied to both programs. The list of courses that can be applied will be available in the Computer Science Department.

**Click here for course descriptions**
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Earth Sciences

DANIEL LARSEN, PhD
I. The Department of Earth Sciences offers graduate programs leading to the Master of Arts degree with a major in Earth Sciences and the Master of Science degrees with a major in Earth Sciences and concentrations in Archaeology, Geography, Geology, Geophysics, or Interdisciplinary Studies; the Doctor of Philosophy degree with a major in Earth Sciences; and a Graduate Certificate in Geographic Information Systems.

A. Program Admission

Admission to both the Graduate School and the department is required. To meet departmental requirements for admission, students must submit a letter of intent stating research interests and previous research experience, three letters of recommendation, and complete the GRE. Applicants are expected to have a bachelor's degree in geography; geological sciences; geophysics; some branch of the social, natural or physical sciences; computer science; engineering; or mathematics. Admission will be based upon a number of factors including academic records, GRE scores, work or research experience, and career plans as described in the letter of intent. Applicants to the PhD program should make direct contact with one or more faculty members to discuss mutual research interests.

Admission to the program is not automatic upon meeting minimum departmental admission requirements. Students are selected from the pool of qualified applicants and the number selected depends on several factors including adequate faculty supervision, the availability of financial aid if requested, and the needs of the program. NOTE: Deadline for completion of submission is January 15 for the following fall semester and November 1 for the following spring semester. Summer school admission must be completed by April 1 for entrance into the Graduate School and the departmental program. Late submissions may be considered on an individual basis, but will normally be deferred to the following semester.

Students seeking a PhD degree are placed at the time of their admission into either the masters or PhD program by the faculty, based upon careful examination of their academic background, demonstrated abilities, and stated
preferences on bypassing the masters. If a student is admitted to the masters degree program, the degree must be obtained before proceeding to the PhD unless a bypass petition is submitted to the Graduate Coordinator and approved by the DES Graduate Program Committee prior to the end of the student's first year of graduate study.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program in Earth Sciences

Program objectives are the attainment and development of depth of the Earth Sciences knowledge, and the ability to apply this knowledge to student's career development, in at least one of the following areas: (1) geography; (2) geology; (3) archaeology; (4) environmental sciences; (5) interdisciplinary studies. Students pursuing an MS degree may not apply to switch to the MA degree until their third year in the Earth Sciences program.

A. Program Requirements

1. Students may be required to make up deficiencies as determined by the student's graduate committee.
2. Completion of ESCI 7000, and at least one of the following: ESCI 7301, 7310, 7701, 7800, and 7801. Additionally, other courses within Earth Sciences and/or outside the department as approved by the advisory committee to total a minimum of 36 graduate credits.
3. Satisfactory completion of 3 credit hours of ESCI 6700 (Earth Sciences Internship) or ESCI 7990 (research in Earth Sciences).
4. A minimum of 70% of the total required hours must be 7000 courses. No more than a total of 12 hours of workshop courses and independent study courses may be applied to a Master's degree.
5. Successful completion of a written Comprehensive Examination. A written examination will be administered by the student's graduate committee after successful completion of 18 graduate credit hours of coursework, as determined by the student’s graduate committee. The examination will not exceed three hours in length and will cover basic material presented in courses taken since the student's enrollment in the DES graduate program.
6. Successful completion of a public oral presentation regarding professional experience or internship as it links to the earth sciences.

III. MS Degree Program in Earth Sciences

Program objectives are: (1) ability to solve advanced Earth Science problems involving observations and measurements in the field and the laboratory; (2) attainment of advanced knowledge of Earth Science concepts and their application in one or more subdisciplines; and (3) preparation for professional employment or for entering a doctoral program in an Earth Science or a related field.

A. Program Requirements
1. A student may be required to make up deficiencies as determined by the student's graduate committee.
2. Completion of at least 3 semester hours of graduate seminar coursework.
3. Completion and successful defense of a thesis (ESCI 7996): at least 6 semester hours. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
4. Completion of ESCI 7000 and at least 1 of the following courses: ESCI 7310, ESCI 6515, ESCI 6521, ESCI 7801, ESCI 7301, or ESCI 6101.
5. At least 22 hours of coursework at or above the 7000-level (including thesis).
6. Successful completion of a written Comprehensive Examination. A written examination will be administered by the student's graduate committee after the end of the second semester and before the end of the third semester, as determined by the student's graduate committee. The student must have completed 18 graduate credit hours prior to taking the comprehensive examination. The examination will not exceed three hours in length and will cover basic material presented in courses taken since the student's enrollment in the DES graduate program.
7. Concentration requirements:
   1. Archaeology concentration:
      1. Completion of 12 semester hours of archeology graduate coursework. It is recommended that these 12 hours include courses in archaeological theory, methods, and fieldwork.
      2. Completion of elective graduate coursework, in consultation with the student's graduate committee, to obtain a minimum total of 32 semester hours.
   2. Geography concentration:
      1. Completion of 12 semester hours of geography graduate coursework. It is recommended that these 12 hours include courses in: environmental and earth sciences; human-economic geography, and geographic techniques. Students not submitting acceptable undergraduate credit in quantitative methods or statistics will be required to take a quantitative methods or statistics course.
      2. Completion of elective graduate coursework, in consultation with the student's graduate committee, to obtain a minimum total of 32 semester hours.
   3. Geology concentration:
      1. Completion of 12 semester hours of geology graduate coursework
      2. Completion of elective graduate coursework, in consultation with the student's graduate committee, to obtain a minimum total of 32 semester hours.
   4. Geophysics concentration:
      1. Completion of 12 semester hours of geophysics graduate coursework.
      2. Completion of elective graduate coursework, in consultation with the student's graduate committee, to obtain a minimum total of 32 semester hours.
   5. Interdisciplinary Studies concentration:
      1. Completion of 12 semester hours of archaeology, geography, geology or geophysics coursework.
      2. Completion of elective graduate coursework, in consultation with the student's graduate committee, to obtain a minimum total of 32 semester hours.

IV. PhD Degree Program in Earth Sciences
Program objectives are: (1) understanding in at least one of the major disciplines of earth science and principles and concepts of that discipline with a more in-depth knowledge in the chosen research focus or foci; (2) expertise in experimental design, data analysis, and oral and written presentation of research results; and (3) competitive for professional positions in the field earth sciences.

A. Nature of the Program

The doctorate prepares the student for a research career, primarily by establishing a broad knowledge of one of the basic areas of geography, geology, or geophysics, and through the experience of successfully completing a dissertation of original research. The prescribed examinations will permit the student to demonstrate mastery of his or her chosen fields of expertise. The individual curriculum will reflect the student's preparation and the demands of the dissertation topic selected, and will assure a strong general knowledge of Earth Sciences.

B. Program Requirements

1. Completion of a minimum of 72 semester hours beyond the bachelor's degree or a minimum of 40 semester hours beyond the masters degree. The courses to be completed shall be determined in consultation with the student's graduate committee.

2. Satisfactory performance on the Qualifying Examination. The Qualifying Examination will be given at the beginning of the third semester of residence, on or before a date set by the discipline Graduate Coordinator. At least one week prior to the examination date, a PhD student will present to his/her committee an abstract describing a topic that involves original research. The abstract should be no longer than one page and must describe an original concept or approach to a research problem with a suspected positive outcome deduced by the student. The subject may or may not become part of the dissertation. The exam will begin by the student giving a 15 to 20 minute presentation of the material in the abstract. An oral exam, not to exceed two hours, will follow covering (primarily) the topic described in the abstract but the questions can and should broaden to other areas.

3. Satisfactory completion of a Comprehensive Examination. The Comprehensive Examination will be given at the beginning of the fifth semester of residence, on a date set by the Graduate Coordinator. The purpose of the comprehensive examination is to determine the student's understanding of the chosen field of specialization ("depth") as well as general knowledge in earth sciences ("breadth"). The comprehensive examination will consist of a two-day (12 hours maximum) written examination followed no more than two days later by a two-hour oral examination. The oral examination will be used to clarify any points left in question by the written responses. A student should consult his or her dissertation advisor and graduate committee regarding the areas in which comprehension is expected.

4. Submission of two manuscripts for publication in peer-reviewed journals or books.

5. Completion and successful defense of a dissertation: (ESCI 9000) at least 9 hours. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

V. Graduate Certificate Program in Geographic Information Systems

The Graduate Certificate Program in Geographic Information Systems is an interdisciplinary program open to
students from departments in all colleges at the University of Memphis. The program draws on the expertise of faculty from different departments and colleges and includes elective courses from a wide variety of departments. The academic program for each student will be individually crafted by the student in consultation with members of the GIS Certificate Program Committee. The program is intended for students currently admitted to a graduate program at the U of M or another university or students holding a graduate degree with an interest in using GIS as a spatial problem-solving tool.

A. Admission to the Program

1. Students currently admitted to a graduate program at the U of M or other university or students already holding a graduate degree may apply for admission to the Graduate Certificate Program in Geographic Information Systems.
2. For students enrolled in a graduate program, a minimum GPA of 3.0 is required for admission.
3. In rare instances, students who have completed an undergraduate degree program but who have neither completed a graduate degree nor been admitted to a graduate program must apply to the Graduate School for admission as Non-Degree Seeking students; they will be considered for admission on an individual basis.
4. Students must apply to both the certificate program and the graduate school. To apply, students submit:
   1. transcript of undergraduate degree program and transcripts of prior and current graduate study;
   2. two letters of recommendation;
   3. A letter describing reasons why the student is interested in pursuing a graduate certificate in the area of geographic information systems and how the program corresponds with prior experience and anticipated career plans.
   4. GRE scores are required and are an important factor in admission.
   5. A minimum score of 550 on the TOEFL or 210 on the computer-based TOEFL and a minimum score of 50 on the Test of Spoken English (for students whose native language is not English)

B. Program Requirements

1. The proposed program requires completion of 12 semester credit hours.
2. Nine of the 12 hours must be met by satisfactory completion of three core courses:
   1. ESCI 6515 Geographic Information Science,
   2. ESCI 6525 Analytical Geographic Information Science,
   3. ESCI 7998 Capstone GIS project
3. Three credit hours of electives, selected per student's interest, with the approval of the GIS Certificate Advisory Committee
4. In order to continue in the program, students must maintain at least a 3.0 GPA.

**Click here for course descriptions**
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
I. The Department of English offers programs of study leading to the Master of Arts degree, the Master of Fine Arts degree, and the Doctor of Philosophy degree. Entering students will consult with a departmental advisor to plan their course of study. Students in the MA program will choose one concentration from the five offered: Composition Studies, Language and Linguistics, Literature, Professional Writing, or English as a Second Language. Students in the PhD program will choose one of four concentrations: Composition Studies, Professional Writing, Applied Linguistics, or Literary and Cultural Studies.

Program objectives are: (1) development of skills to engage in original research or original creative writing for publication or for positions in education or industry; (2) development of advanced competencies in teaching language or literature and presentation of works to others; and (3) understanding and contributing to contemporary issues and debates in the chosen concentration.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

PPI STATEMENT
All college transcripts and test score information should be sent directly to Graduate Admissions. Beginning with Summer and Fall 2013 admittance, the Master of Arts, Master of Fine Arts, and Doctoral programs in the Department of English require the ETS® Personal Potential Index (PPI) Evaluation Report containing a minimum of three (3) evaluations from separate evaluators in order to consider your application complete. The PPI is a third-party evaluative tool administered by the ETS (Educational Testing Service) organization. There is no fee to submit the PPI report to the University of Memphis.

You can create an ETS PPI account and review the ETS PPI Information Bulletin, which explains the service, at http://www.ets.org/ppi/applicants/start/.

PPI - Steps At A Glance

- Create an ETS PPI account to begin the process.
- Provide contact information for the evaluators you would like to complete an ETS PPI evaluation.
- ETS sends an email to each evaluator inviting them to access the ETS PPI system and complete your
evaluation.

- Each evaluator logs in to the ETS PPI system to rate you on six personal attributes and provide an overall evaluation. Evaluators also may provide optional comments for each attribute as well as for the overall rating.
- You are notified via e-mail when each time that one of your evaluators completes their PPI.
- **THE MOST IMPORTANT STEP** After all of your evaluators have completed their PPI reports, you must log back into your PPI account, designate the University of Memphis Office of Graduate Admissions to receive an ETS PPI Evaluation Report and select the evaluations that are to be included in the report. Our office cannot access your PPI recommendations until you complete this step.
- Once you designate the University of Memphis to receive an ETS PPI Evaluation Report, ETS creates an evaluation report and sends it electronically to the University of Memphis, Office of Graduate Admissions. Allow up to 5 days for the report to be processed and sent to the University of Memphis. View a sample PPI Report.

The evaluators/faculty members who you choose should be individuals that you believe are best able to objectively comment on your intellectual and professional achievements and potential.

We may call or write your recommenders for more information.

II. MA in English Degree Program

A. Admission

1. An overall minimum grade point average of 3.00 at the undergraduate level is expected.
2. A competitive score on the Graduate Record Examination.
3. An official undergraduate and if applicable graduate transcript to Graduate Admissions.
4. A statement of purpose outlining the student’s proposed course of study and career goals
5. Two letters of recommendation, preferably from college/university professors of English or comparable disciplines.

B. Program Prerequisites

An undergraduate degree with a major in English. A student who does not have an undergraduate major in English or appropriate background may be required to complete a maximum of 12 upper division hours in English with a grade of B or higher in each course.

C. Program Requirements

1. a. Students in Literature, ESL, or Linguistics must complete a total of thirty (30) semester hours of course work plus a three-hour thesis, or a total of thirty-three (33) semester hours of course work. All students must complete a four-hour comprehensive written examination.
   b. Students in Professional Writing must complete a required four-hour comprehensive exam and produce either a thesis or project or portfolio. The exam must be passed before the student can
register for thesis hours.

2. Students in ESL, Linguistics, Professional Writing and Composition Studies must complete two graduate courses (six semester hours) outside their area of concentration.

3. Students must complete the following minimum course work, beyond the requirement in section 2, in at least one of these concentrations:

   1. Composition Studies—18 hours;
      1. MA students pursuing an emphasis in Composition Studies must complete a 15-hour core consisting of ENGL 7001, 7003, 7805, 7806, and 7822 and one course from the following: 7350, 7432, 7621, 7801, 7804, 7811, 7812, 7813, 7815, 7816, 7817, 7818, 7820, 7823.
   2. Language and Linguistics—18 hours including ENGL 7511 or equivalent graduate or undergraduate introduction to linguistics approved by student's advisor;
   3. Professional Writing—18 hours
      1. The Professional Writing concentration requires a 3-hour thesis, project, or portfolio.
      2. Professional Writing students will complete their 18 hours as follows: 7001, 7805, 7806 and 7809, and two courses selected from the following: 6618, 6619, 7013, 7014, 7807, 7808, and 7818.
   4. Literature—18 hours, including 7000 (excluding 7100); Students must take at least one literature course from before 1800 and one literature course from after 1800, and at least one Literary Theory class, which may be chosen from any designated theory class, including 7/8477, 7/8478, 7/8701, 7/8702, and 7/8480. All students must take a four-hour written comprehensive examination. Literature students should take ENGL 7000 in the first year of graduate study.
   5. English as a Second Language—18 hours, including ENGL 7531.

NOTE: Courses numbered 7004, 7005, 7006, 7812, and 7813 require approval of the Chair of the Department and Coordinator of Graduate Studies in order to be applied toward any concentration.

4. Students in Composition Studies will take a written comprehensive exam and complete either a thesis or professional portfolio. Students should contact the English Graduate Office for examination format and dates.

5. Reading knowledge of a foreign language for students in Literature and Linguistics. Proficiency may be demonstrated in a variety of ways (inquire in English Graduate Office for options). Students intending to pursue a PhD are advised to develop a reading competency in at least one of the following: French, German, Latin, or Greek.

   NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

7. An average of 3.00 in all graduate English courses.

8. Each graduate teaching assistant in the Department of English must enroll in English 7003-8003 before or concurrent with first teaching assignment.

D. Retention Requirements

Students who are on academic probation for two consecutive semesters will not be allowed to continue in the program.
Upon entering the MA program, a student chooses an advisor in his or her concentration. The advisor will monitor the student's progress toward completion of the degree. Each semester the Graduate Studies Committee will examine the academic progress of all students for retention in the program.

If a student receives either two C's, one D, or one F grade in any English graduate level course, that student will be subject to review and could be dismissed from the program. In order to remain in good standing, all graduate students must maintain a 3.0 average in English Department courses.

III. Accelerated B.A./M.A. Program in English

This program allows outstanding undergraduates to begin the coursework for the Master of Arts in English during their senior year. Students are encouraged to begin planning to enter the Accelerated B.A./M.A. program early in their undergraduate career, in consultation with their advisor in the Department of English.

Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program begin a carefully tailored course of study that will allow them to complete their B.A. degree while also begin the coursework toward their M.A.

To apply, students should have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the English department. *Exceptions to the minimum GPA will be considered on a case-by-case basis.* Each applicant will complete an interview with the graduate coordinator in English.

Students must also apply to the Graduate School for “combination senior” status, which allows them to take graduate courses in English. To continue in the program past the B.A., students must apply for admission into the Graduate School.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs.

IV. MFA in Creative Writing Degree Program

The Master of Fine Arts in Creative Writing provides studies in poetry, fiction, and nonfiction, along with a variety of options for either a studio degree in Creative Writing, or a degree combining work in either the Department of English or other departments in which course work, or independent study, seems particularly pertinent to the student's creative thesis. A book-length thesis of publishable quality is required; it will be directed by a member of the MFA faculty. The MFA requires 48 graduate semester hours, with a 3.00 grade point average in all graduate courses.

A. Admission

1. An overall minimum grade point average of 2.75 at the undergraduate level.
2. An official undergraduate and if applicable graduate transcript sent to Graduate Admissions.
3. A portfolio of published or unpublished writing samples in the applicant's chosen genre (at least 20-25 pages of fiction, 10 poems, or 25 pages of nonfiction), demonstrating a potential for development to a professional standard of writing, should be submitted to the English Graduate Office along with two letters of recommendation and a cover letter stating the candidate's choice of genre and reasons for pursuing the degree. The writing sample will be evaluated by a committee of MFA faculty. The committee will recommend admission of those applicants with the highest demonstrated talent.
4. Students who wish to change genres after being accepted in one genre, even if they are already registered and enrolled in the program, must submit a new portfolio of work in the new genre and be approved by the MFA faculty for admission in the new genre.
5. Baccalaureate degree in English or if baccalaureate is in another field, twelve (12) semester hours in upper division literature or creative writing courses with a minimum grade point average of 2.75 in these courses.
6. Graduate Record General Examination (a competitive score on the verbal section is expected).
7. Deadlines: for best consideration apply by January 15 for the following fall semester admission and October 15 for following spring semester. Applications may be considered later but prospective students applying by those dates have first priority.

B. MA Credit

Any applicant who holds an MA degree in English may apply up to a maximum of twenty-four (24) semester hours in English earned for that degree toward the MFA degree, with the approval of the graduate coordinator. A student's advisor will insure that the combination of MA credits and courses taken in the program has appropriate breadth. Credit previously earned at another institution must be presented for evaluation not later than the end of the student's second semester of enrollment.

C. Program Requirements

All students must fulfill the 48-hour degree requirement from the Core Requirements in section 1 in combination with one area of specialization under the Additional Requirements in section 2: the Studio Option, the Literary Studies Option, The Creative/Professional Option, the TESL/TEFL Option, or the Cross-Disciplinary Option.

1. Core Requirements
   1. Writing Workshops and Forms Courses — A total of six courses, of at least 3 hours each, required:
      four courses from 7601, 7602, 7603, 7605, 7606, and 7607, at least 3 of which must be in chosen genre;
      one forms class (7470, 7471, or 7472) in chosen genre;
      and one cross-genre course: (6610, 7470, 7471, 7601, or 7602 for poets), (6610, 7472 or 7603 for fiction writers and creative nonfiction writers). 6610 may serve as a cross-genre course if the focus was on a cross-genre, but the student must submit a portfolio of cross-genre work from the course and get written approval from the Creative Writing Coordinator.
   2. Creative Writing Colloquium ENGL 7900. At least two sections of 7900 must be taken, each for at
least 3 hours.
3. Thesis (ENGL 7996), three (3) semester hours. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
4. A Comprehensive Exam based on a reading list formed by the student and the student's thesis director.

NOTE: Although it is not a core requirement for the degree, all students receiving a Teaching Assistantship must take ENGL 7003 either before they become a teaching assistant or during their first semester of teaching. It is included as an alternative course in each of the options for additional requirements below.

2. Additional Requirements: 7 courses, of at least 3 hours each, chosen from one of the following options:

1. **Studio Option:** twenty-one (21) hours chosen from the following:
   6610, 7470, 7471, 7472, 7475, 7485, 7601, 7602, 7603, 7604, 7605, 7606, and 7607.
   Students may take, as an alternative to replace up to 3 of these courses, an equivalent number of other courses (of 3 hours or more each) from other disciplines within the Department of English (this includes ENGL 7003, which is a requirement if the student receives a Teaching Assistantship). Note: as stated in the course descriptions, 7475 and 7485 can only be counted for a maximum of 6 hours each toward the degree requirements.

2. **Literary Studies Option:** twenty-one (21) hours made up of the following:
   at least 9 hours of Literature Courses;
   at least 3 hours of Theory of Writing and English Language/Linguistics Courses (selected from ENGL 7020-29, 7003, 7501, 7511 through 7517, 7531 through 7537, 7590, 7801, 7802, 7803, and 7805);
   up to 6 hours of ENGL 7475 Literary Editing;
   up to 6 hours of ENGL 7485 Literary Arts Programming;
   up to 9 hours of Forms Courses: ENGL 6610, 7470, 7471, 7472.

3. **Creative/Professional Writing Option:** twenty-one (21) hours selected from the following:
   Professional Writing Courses (6618, 6619, 7013, 7014, 7805, 7806, 7807, 7808, 7809, 7816, 7818, and 7890);
   ENGL 7003;
   up to 6 hours each of Literary Editing or Arts Programming Courses (ENGL 7475, 7485);
   up to 6 hours of internship, ENGL 7811. NOTE: all internships must be pre-approved by the coordinator of the Creative Writing program along with another professor in the student’s primary genre.

4. **TESL/TEFL Option:** MFA students may fulfill the 21 optional hours beyond the core by taking 6 elective graduate hours in any area of English, Creative Writing, or Foreign Languages and by completing in addition the 15 hours required for the Certificate Program in Teaching English as a Second/Foreign Language (TESL/TEFFL). (see section VI for additional details)

Program Requirements:
1. The certificate program requires completion of fifteen (15) semester credit hours.
2. Twelve (12) credit hours must be met by satisfactory completion of the following courses:
   1. ENGL 7531 Theory and History of ESL (3 Hours)
2. ENGL 7532 Principles of Skills Assessment (3 Hours)
3. ENGL 7535 ESL Grammar (3 Hours)
4. ENGL 7530 Field Experience and Practicum in ESL (3 Hours)
3. Three (3) elective hours may be selected from:
   1. ENGL 7533 Methods and Techniques of ESL in K-12 (3 Hours)
   2. ENGL 7536 Issues in Second Language Writing (3 Hours)
   3. ENGL 7537 Issues in Second Language Reading (3 Hours)
   4. ENGL 7538 Cultural Issues in ESL (3 Hours)
   5. ENGL 6533 Issues and Techniques in English as a Foreign Language (3 Hours)
4. Note: Those also seeking ESL add-on endorsement must complete ENGL 7533 and ENGL7538. Praxis II for ESL is also required for the add-on endorsement.
5. Cross-Disciplinary Option: twenty-one (21) hours selected from the following: up to 3 English graduate courses from any discipline (includes ENGL 7003); and at least 12 hours of graduate courses from another department: Art, History, Journalism, Theater, Foreign Languages, or other department in which course work, or independent study, seems particularly pertinent to the student’s creative thesis.
   Up to 9 of the 21 hours may be fulfilled by independent study in another department and/or internship hours, but all cross-disciplinary courses/independent studies/internships must be pre-approved by the coordinator of the Creative Writing program along with another professor in the student’s primary genre. Internships must be of a nature that will allow the student to participate in research that will form the basis of the student’s thesis.
   Note: Although taking all 12 hours of the cross-disciplinary minimum in only one other department is not required, it is recommended that the student focus primarily on one area or else have a clear rationale for fulfilling the 12-hour minimum in more than one cross-disciplinary area.

D. Retention Requirements

Upon entering the MFA program, a student chooses an advisor in his or her concentration. The advisor will monitor the student's progress toward completion of the degree. Each semester the Graduate Studies Committee will examine the academic progress of all students for retention in the program. If a student receives either two C's, one D, or one F grade in any English graduate level course, that student will be subject to review and could be dismissed from the program. In order to remain in good standing, all graduate students must maintain a 3.0 average in all courses. Students who are on academic probation for two consecutive semesters will not be allowed to continue in the program.

V. PhD in English: Writing and Language Studies Degree Program

The PhD in English is designed to prepare scholars in widely recognized fields of English, as well as to prepare advanced writing specialists in the fields of business and industry. The structure of the program provides for four related concentrations (Composition Studies, Professional Writing, Applied Linguistics, Literary and Cultural Studies) that offer students the professional flexibility that comes with competencies acquired through preparation in a broadly integrative discipline.
A. Admission

The following are required for admission to the PhD program in English for all applicants, whether applying with a bachelor’s or master’s degree.

1. Fulfillment of University requirements for admission to the Graduate School.
2. Official undergraduate and graduate transcript(s) sent to Graduate Admissions.
3. A competitive GRE verbal score. In addition, international students for whom English is not their first language typically submit a score of 575 or above on paper (or computer equivalent) on the TOEFL exam.
4. A bachelor’s or master’s degree from an accredited college or university in the United States, usually with a major or a strong minor in English, or the equivalent of one of these degrees in another country.
5. Minimum undergraduate and graduate grade point average of 3.25 is expected.
6. Evidence of competence in writing in English as evidenced by a statement of purpose and a sample of the applicant’s best work.
7. Three letters of recommendation, preferably from college/university professors of English or comparable disciplines.
8. Program Admission: We normally evaluate applicants for the PhD program once each year in January for admission in the Fall semester. Although the Graduate Studies Committee may consider the application of a promising student at other times, January 15 is the deadline by which we must receive all the application materials of anyone who wishes to be considered for an assistantship for the following academic year.

B. Retention Requirements

Upon entering the PhD program, a student chooses an advisor in his or her concentration. The advisor will monitor the student’s progress towards completion of the degree. Each semester, the Graduate Studies Committee will examine the academic progress of all students for retention in the program. If a student receives either two C’s, one D, or one F grade in any English graduate level course, that student will be subject to review and could be dismissed from the program. In order to remain in good standing, all graduate students must maintain a 3.0 average in English Department courses. Students who are on academic probation for two consecutive semesters will not be allowed to continue in the program.

C. Graduation Requirements

1. General Requirements
   1. A minimum of 72 hours of graduate credit beyond the bachelor’s degree is required. At least 60 hours of credit must be equivalent to 7000-level coursework or higher.
   2. Students entering the PhD program with a master’s degree may count up to 33 hours of graduate credit toward the 72 hours needed for the PhD. Only graduate hours that were not used for a previous graduate degree and that do not exceed university time restrictions can be transferred. Credit previously earned at another institution must be presented for evaluation not
later than the end of the student’s second semester of enrollment.
3. Master’s level courses will be examined on an individual basis for applicability to the program. Students with a master’s degree must complete at least 39 hours of graduate coursework beyond that master’s degree.
4. No more than 9 hours granted for dissertation work may be used to attain the required 72 hours for the PhD.

2. Residency Requirements. The student must complete two successive terms full-time (excluding summer sessions) to fulfill residency requirements.
3. Core Requirements. Students must take 12 hours in English courses outside of their concentration or focus area, plus 3 hours in English Studies Colloquium (ENGL 8900).
4. Concentration Requirements (beyond Core Requirements)
   1. PhD students pursuing a concentration in Composition Studies must complete a 12-hour breadth requirement consisting of ENGL 7/8003, 7/8801, 7/8806, and 7/8822; and 21 hours in Composition.
   2. PhD students pursuing a concentration in Professional Writing Studies must complete a 12-hour breadth requirement consisting of ENGL 7/8805, 7/8806, 7/8809, 7/8350; and 21 hours in Professional Writing.
   3. PhD students pursuing a concentration in Applied Linguistics must complete a 12-hour breadth requirement consisting of ENGL 7531/8531, ENGL 7511/8511, ENGL 7501/8501 and 3 hours in an approved research course; and 21 hours of courses in Applied Linguistics.
   4. PhD students pursuing a concentration in Literary and Cultural Studies will choose a focus area from the following:
      • Medieval and Early Modern Literature and Culture;
      • 18th c. and 19th c. Literature and Culture;
      • Modern and Contemporary Literature and Culture;
      • African-American Literature and Culture;
      • Individual Option (defined by student in consultation with advisor)

Students must complete a 12-hour breadth requirement consisting of 3 hours of course work in each of the first four focal areas; 9 hours in theory and methodology (including 3 hours in 7000/8000, and 6 hours from: 7/8336, 7/8477, 7/8478, 7/8480, 7/8701, 7/8702); 15 hours in the focus area (not counting course taken for breadth requirement.

5. Electives. PhD students in Literary and Cultural Studies are required to take 12 hours of electives; PhD students in other concentrations are required to take 15 hours; courses may be taken outside the department in consultation with advisor.

6. Examination Requirements
   1. Qualifying Examinations—Students entering without a master’s degree in English or 30 hours of appropriate graduate work, as determined by the Graduate Coordinator, must take a qualifying examination the semester after accumulating 30 hours of graduate work through graduate transfer credit and/or graduate courses completed at The University of Memphis. Qualifying examinations are designed to ascertain that the range of knowledge is appropriate at this level. These written exams will be tailored to the individual student’s course of study. The Graduate Coordinator will appoint an appropriate committee with expertise in the course of study. The
The MA comprehensive exams are equivalent to the MA comprehensive exams. The MA comprehensive exams test the student's course work; however, the MA comprehensive exams in Composition Studies and Professional Writing also include a reading list. Examinations are graded high pass, pass, or fail. Students who pass the exam will be allowed to advance to doctoral-level study. However, a student who fails one section of the qualifying examination will be given one opportunity during the same semester or not later than the following semester to retake that section with a different question. A student who fails more than one exam question will be given an opportunity to take a different exam no later than the following semester.

2. MA en route- Students entering without a master's degree in English will be awarded an MA degree at the completion of the qualifying exam and 33 hours of appropriate work.

3. Comprehensive Examinations—After completing the rest of their required courses, after satisfying their language and/or research requirement, and before they begin writing their dissertations, students must pass comprehensive examinations in accordance with concentration guidelines. The student must first form a comprehensive exam committee. The Ph.D. comprehensive exam committee for both the written and oral exams will consist of a minimum of four faculty members. The student will choose an advisor from his / her concentration who will be the chair of the committee.

There will be three written comprehensive exams and one oral exam.

1. One four-hour proctored written exam will cover the Ph.D. student’s concentration. The objective of this exam is to demonstrate that the student has a command of 75-100 seminal texts, in his or her concentration, that are not, for the most part, included in the reading list for exam # 2. This list will be determined by each committee.

2. A second proctored four-hour written exam will allow students to demonstrate that they have enough background / reading knowledge to qualify them to teach upper division and graduate courses in the student’s chosen area of specialization within the concentration. This area will be determined by the student in conjunction with his or her committee. The student will develop the reading list in conjunction with his or her advisor and / or committee, and the reading list for this portion of this exam will consist of between 50-75 texts (i.e., books, book chapters, and / or articles).

3. A third written exam, a take-home exam, must consist of 3,500-5,000 words that test the student’s command of his or her knowledge of his or her proposed dissertation area. The objective of this exam is for the student to demonstrate that he or she has enough background / reading knowledge and an ability to write a sophisticated essay concerning a literature review of the student’s prospective dissertation area. This essay will cite at least 20-25 texts. The take-home exam should take no more than seven (7) days to complete. To allow time to study for the exams, students should take their first written exam within two semesters after completing all Ph.D. coursework (including the foreign language requirements). Students could then take one exam per week over three weeks. A student will have a maximum of two months to complete all of the comprehensive exams.

4. After the written exams have been completed and graded, there will be a two-hour oral exam based upon the written exams.

5. A student who fails one section of the comprehensive examination will be given one opportunity during the same semester or not later than the following semester to retake that section. A student who fails more than one section of the exam will be given an opportunity to take a different exam no later than the following semester.
opportunity to take a different exam (with all new questions) no later than the following semester. A student who fails the second comprehensive exam will be dismissed from the program.

7. Language Requirements

1. Students in Applied Linguistics and Literary and Cultural Studies must demonstrate a reading knowledge of two foreign languages or fluency in one foreign language. Appropriate languages must be approved by the student's advisor and the graduate coordinator as relevant to the student's course of study.

2. Students in Composition and Professional Writing must demonstrate competency with two research tools or analytic specialties, both of which must be directly relevant to the individual student's dissertation work and projected short-term professional goals. These tools or analytical specialties include a demonstrated level of competency in two foreign languages, fluency in one foreign language, or competency in one foreign language plus mastery of qualitative, quantitative, or historical research methodologies, or demonstrated competency with appropriate computer programs. See "Options for Fulfilling the Foreign Language Requirement," available from the department.

8. Dissertation Requirements

1. Advisory Committee—The student is responsible for choosing an advisory committee composed of at least four members of the graduate faculty best qualified to help him or her conduct research for the dissertation. If the student’s research requires expertise in a discipline outside the Department of English, the student, in consultation with his or her advisory committee chair, may ask up to one faculty member outside the Department of English to be part of the committee.

2. Research Proposal—When the student has passed the comprehensive examinations and has done extensive preliminary research, he or she must present and defend a research proposal before the advisory committee. That defense will be open to the entire academic community. The student must give a copy of the proposal to all committee members at least two weeks before the scheduled meeting. The advisory committee must approve the proposal before the student may proceed with the dissertation. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

3. Defense—The dissertation committee will schedule a defense of the completed dissertation. Both the chair of the advisory committee and the candidate must ensure adequate consultation with members of the dissertation committee well in advance of the defense date.

VI. Certificate Program in Teaching English as a Second/Foreign Language (TESL/TEFL)

The TESL/TEFL Graduate Certificate provides training to those interested in teaching English as a Second/Foreign Language. The certificate is given for to those who complete the practical preparation needed to teach English both within and outside the United States to post-secondary students and adults. The specific courses for the certificate include the specific knowledge and skills specified for ESL teachers and identified by TESOL, Teachers of English to Speakers of Other Languages, Inc. Students have the option of completing the program online. Click here to view corresponding gainful employment data.

Note: The Certificate in Teaching of English as a Second/Foreign Language is not a program to prepare K-12 ESL
teachers. Pre-service and in-service teachers seeking an ESL certificate and an add-on endorsement in ESL for K-12 should contact the College of Education, Health and Human Sciences for details.

A. Admission Requirements

1. Applicants should hold either an MA degree in any field or a BA degree in any field with a GPA of at least 2.75.
2. International students must have a TOEFL score of 550 (paper-based), 213 (computer-based), or 79 (internet-based).
3. Applicants must submit a one-page personal statement and two letters of recommendation to the English Department.
4. Since 12 credit hours in the certificate program may also count toward the MA degree, it is expected that many fully-admitted students will earn the certificate on their way to the MA degree. Certificate students wishing to earn the MA must make formal application for the master’s program following all guidelines specified by the English Department and the University.

B. Program Requirements

1. The certificate program requires completion of fifteen (15) semester credit hours.
2. Twelve (12) credit hours must be met by satisfactory completion of the following core courses:
   1. ENGL 7531 Theory and History of ESL (3 hours)
   2. ENGL 7532 Principles of Skills Assessment (3 hours)
   3. ENGL 7535 ESL Grammar (3 hours)
   4. ENGL 7530 Field Experience and Practicum in ESL (3 hours)
3. Three (3) elective hours may be selected from:
   1. ENGL 7533 Method/Techniques of ESL in K-12 (3 hours)
   2. ENGL 7536 Issues in Second Language Writing (3 hours)
   3. ENGL 7537 Issues in Second Language Reading (3 hours)
   4. ENGL 7538 Cultural Issues in ESL (3 hours)
   5. ENGL 6533 Issues and Techniques in English as a Foreign Language (3 hours)
4. Note: Those also seeking ESL add-on endorsement must complete ENGL 7533 and ENGL 7538. Praxis II for ESL is also required for the add-on endorsement.

C. Retention Requirements

Same as retention policies applicable to Department of English graduate degree programs.

D. Graduation Requirements

Relatively early in the semester in which they intend to graduate, certificate candidates must file an Apply to Graduate Card with the Graduate School and a Candidacy form with the Graduate Coordinator for English.

VII. Certificate Program in African American Literature

The African American Literature certificate provides training to students interested in teaching African American
Literature. The goal of the training is to 1) provide students with the preparation they need to teach African American Literature, and 2) give official recognition of preparation to help students qualify for jobs both within and outside the United States.

A. Admission Requirements

1. Students eligible to take courses as non-degree seeking students at the University of Memphis can complete the certificate requirements.
2. Applicants should send a letter of intent and two letters of recommendation to the Department of English Graduate Office. Applicants need to apply to both the University of Memphis Graduate School and the Department of English Graduate Office.
3. An overall minimum grade point average of 2.75 in English or a related area is recommended at the undergraduate level.
4. Since up to 12 credit hours from the certificate program may count toward the M.A., M.F.A., or Ph.D. degrees, it is expected that many already-admitted students will earn the certificate on their way to the M.A., M.F.A., or Ph.D. degree. Such students wishing to earn the Certificate must notify the Department of English Graduate Coordinator in writing.

B. Program Requirements

1. The certificate program requires completion of fifteen (15) semester credit hours.
2. Twelve (12) credit hours must be met by satisfactory completion of any four (4) of the following core courses:
   1. ENGL 7325 African American Literature, 1930-1960 (3 hours)
   2. ENGL 7326 African American Literature of Memphis and the Mid-South (3 hours)
   3. ENGL 7327 Studies in Form and Genre: African American Literature (3 hours)
   4. ENGL 7328 Studies in Major Authors: African American Literature (3 hours)
   5. ENGL 7329 African American Literature, Beginnings to 1850 (3 hours)
   6. ENGL 7330 African American Literature, 1850-1900 (3 hours)
   7. ENGL 7331 Frederick Douglass (3 hours)
   8. ENGL 7332 Literature of the African Diaspora (3 hours)
   9. ENGL 7333 Amiri Baraka (3 hours)
  10. ENGL 7334 The Black Arts Movement (3 hours)
  11. ENGL 7335 African American Literature, 1989-Present (3 hours)
  12. ENGL 7336 African American Literary Theory (3 hours)
  13. ENGL 7465 African American Literature 1960 to 1988 (3 hours)
  14. ENGL 7468 Literature of the Harlem Renaissance (3 hours)
  15. ENGL 7469 African American Women Writers (3 hours)
3. Three (3) elective hours may be selected from one of the following courses, provided it has an African American Literature component:
   1. ENGL 7323 American Literature to 1865 (3 hours)
   2. ENGL 7324 American Literature, 1865-1914 (3 hours)
   3. ENGL 7391 Modern American Novel (3 hours)
   4. ENGL 7392 American Poetry (3 hours)
5. ENGL 7393 American Drama (3 hours)
6. ENGL 7464 Contemporary American Literature (3 hours)

C. Retention Requirements
Same as retention policies applicable to Department of English graduate degree programs.

D. Graduation Requirements
Relatively early in the semester in which they intend to graduate, certificate candidates must file an Apply to Graduate Card with the Graduate School and a Candidacy form with the Graduate Coordinator for English.

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Foreign Languages and Literature

WILLIAM THOMPSON, PhD
I. The Department of Foreign Languages and Literatures offers a program leading to the Master of Arts degree in Romance Languages with concentration in either French or Spanish. Program objectives: The MA program prepares students in the areas of literature, culture, education, grammar, and linguistics and is oriented toward the preparation of students who may be interested in teaching in public and private elementary and secondary education, teaching as a part-time or full-time instructor at the college level, pursuing a PhD in the field of concentration often at highly-ranked universities, or enhancing the student's skills for a career in law or business as well as in government agencies.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

A student entering the program will be assigned a major advisor, usually the respective graduate coordinator for French or Spanish. This advisor is to be consulted in all matters concerning the student’s program of study. It is the student’s responsibility to familiarize himself/herself with the detailed online description of the program concerning requirements, policies, and procedures including--but not limited to--the reading list, coursework requirements, course descriptions, comprehensive examination procedures, reading knowledge of a second language, independent studies, language proficiency, grade point average requirements, time limitation, academic misconduct policies, and other issues. It is also the student's responsibility to consult with his/her respective graduate coordinator and/or the chair for further clarification.

Teaching Assistantships carry a stipend and cover the cost of tuition for the entire program. The Department also
offers Research Assistantships which carry a stipend and half-tuition scholarship per academic semester. Both awards are offered on a competitive basis. Part-time students or students who have a full-time job or any other activities that may interfere with their academic responsibilities are not eligible. Students interested in obtaining a teaching or research assistantship must be officially admitted into the MA program in Romance Languages first and should submit a letter of intent, addressed to the Chairman, Department of Foreign Languages and Literatures with a copy to the Coordinator of Graduate Studies. Applicants are encouraged to visit the department web site at http://www.memphis.edu/fl/programs/ for a detailed description of the program and information about the stipend amount for teaching and research assistantships.

A. Program Prerequisites

1. The applicant must provide an official transcript showing that a bachelor's degree was awarded by an accredited college or university. Official transcripts should be sent to the Office of Graduate Admissions.
2. A minimum of a 3.0 quality point average on a scale of 4.0 is highly desirable. Students with less than a 3.0 quality point average may be admitted with the approval of the Department Chair and the Coordinator of Graduate Studies.
3. A minimum of 24 upper-division semester hours or the equivalent in French or Spanish. Examples of an equivalent preparation in French or Spanish include having native or near-native proficiency, university studies in a French/Spanish-speaking country, etc.
4. A reasonable proficiency in the language of concentration, to be determined by the Department prior to admission. An oral interview in French or Spanish is required. The applicant must contact the respective coordinator in French or Spanish early in the admission process to make arrangements for the interview.
5. A writing sample in French or Spanish depending on the concentration chosen must be submitted to the respective coordinator of French or Spanish. This documentation is intended to demonstrate the student's adequate command of writing skills in his/her field of concentration.
6. A letter of intent explaining the applicant's motivation and objectives in pursuing a graduate degree in French or Spanish.
7. Two letters of recommendation from professors who have taught the applicant.
8. A 3.0 GPA for upper-division courses in the field. A GPA below 3.0 requires the approval of the Department Chair and the Coordinator of Graduate Studies.
9. International students, i.e. applicants whose highest degree is from a foreign university, must have their credentials evaluated. The university will accept evaluations done by any credentialing agency listed on the National Association of Credential Evaluation Services web site http://www.naces.org. The course-by-course report is required. International students must therefore:
   1. score a minimum of 94 on the web-based TOEFL and a minimum of 26 on the speaking portion of the same exam.
   2. convert their educational credentials—grades and diploma—into their US equivalents with an appropriate agency listed on the National Association of Credential Evaluation services;
   3. Ask the same agency to submit the official transcript and diploma along with their respective conversion and translation to Graduate Admissions, University of Memphis.

B. Program Requirements
1. A total of thirty-three (33) semester hours.
2. The possibility of collateral hours — i.e. coursework in another discipline or department which is related to the field of concentration—are handled differently in French and Spanish. Students interested in taking collateral hours will need to consult with the respective coordinator in French and Spanish to see if these hours are available in their concentration and if they are eligible. At least 23 hours must be taken in 7000-level courses (eight [8] courses in all).
3. Satisfactory completion of minimum standards for eligibility to take the comprehensive exams. Students in the program must seek advice from the respective coordinator in French and Spanish to determine that the coursework they carry fulfills these minimum standards.
4. A reading knowledge of a foreign language other than that of the concentration. This may be demonstrated in the following ways:
   1. achieving a grade of B ("3.0") or better in a fourth-semester language course (e.g. FREN/GERM/ITAL/SPAN 2020),
   2. achieving a grade of B ("3.0") or better in a graduate reading course (FREN 7000 and GERM 7000 are the only two courses available for this option. They are usually offered in the summer)
   3. achieving a grade of B ("3.0") or better in upper-division courses at the 3000- or 4000-levels (e.g. FREN 3302/GERM 3790/ITAL 3311/PORT 3301/SPAN3303),
   4. achieving a grade of B ("3.0") or better in graduate courses taught in the target language at the 6000- or 7000 levels (e.g. FREN 6302/PORT 6024/SPAN 6307),
   5. students who provide evidence of knowledge of a foreign language other than that of the concentration equivalent to a fourth-semester language course or superior may arrange with the section head of the specific language for a written test to prove competency.
5. A comprehensive written and oral examination after completion of 33 hours and fulfillment of the reading knowledge requirement. These examinations will be conducted in the language of the concentration. For a full description of the comprehensive examination procedures, please visit the department website at http://www.memphis.edu/fl

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Graduate Catalog

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Graduate School

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History

ARAM GOUDSOUZIAN, PhD
I. The Department of History offers programs of study leading to the Master of Arts degree and the Doctor of Philosophy degree with a major in History. We specialize in U.S. (especially African American) history and European history, with offerings in Asian, Latin American, Russian, African, women/gender, and global history; we also offer a concentration in Ancient Egyptian history.

Program objectives are: (1) development of the ability to think and write historically about contemporary and past problems and issues, to handle the evidentiary basis for historical arguments, to use primary and secondary sources; (2) acquisition of an appreciation of the diversity of human experience and a sympathetic understanding of at least one non-U.S. culture; (3) ability to make an evaluative presentation of historical material; (4) production of a publishable-quality piece of writing (Ph.D.); and (5) preparation for positions related to the discipline of history (e.g., teaching, librarian, researcher, etc.) for those graduates who seek such employment.

The Graduate Admissions Committee evaluates MA applications three times a year and PhD applications twice a year. All PhD and MA applications for Spring semester are due by September 15. All PhD applications for Summer and Fall and all MA applications from those seeking an assistantship are due by January 15, which is also the deadline for the separate assistantship application. We will also accept MA applications up to April 15 for the following summer and fall, but we do not consider such applications for assistantships. Only in exceptional circumstances will we renew an assistantship beyond two academic years for MA students, three academic years for PhD students who have not completed their Comprehensive Exams, or five years in total for PhD students.

For a full description of our graduate program, its requirements, and our faculty, see the History Department's Guide for Graduate Students at http://www.memphis.edu/history/graduate/guide.php.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program
The MA program of study in history is a flexible one that prepares students for a variety of careers. We expect full-time students to complete the degree in two academic years. Students who regard the MA as a terminal degree normally elect to fulfill its requirements by 33 hours of course enrollment without writing a thesis. Most of these students go on to teaching positions on the secondary and community college level; a smaller number enter government service at all levels; and some secure specialized positions in business, industry, and journalism. Those students preparing for teaching on the university level or related careers in research and writing should look upon the MA program as preparation for advanced graduate study. We thus urge them to write a thesis.

A. Program Admission

In making our decisions on admission we consider multiple factors, including transcripts and GPA, the nature of your coursework, recommendations, your writing sample and statement, your MAT or GRE scores (particularly the GRE Verbal and Analytical Writing sections), and the compatibility of our program and faculty with your interests.

In most cases, you will need 18 hours in history from an accredited institution with at least a 3.0 PGA (on a 4.0 scale) in all undergraduate history courses, although we may also consider coursework in related fields.

In addition to submitting your application and all transcripts to the Graduate School, you should submit the following, the first to the Graduate School and the rest to the History Department:

1. Official scores from the MAT or from the GRE (which should include the Analytical Writing section).
2. Two letters of recommendation evaluating your academic ability.
3. A writing sample, such as a paper from a course, that demonstrates your ability to write and think about history.
4. A letter from you explaining your major field(s) of interest in history (chosen from the list of PhD fields below), any particular interests, and your reasons for seeking the MA degree.

B. Program Requirements

1. A total of 33 hours. For the student electing to write a thesis, this includes 9 hours of thesis credit. No more than 9 hours of thesis credit may count toward the degree.
2. No more than 6 hours at the 6000 level.
3. At least one 7000-level historiography course in any field and at least one HIST 7070 seminar.
4. Only 3 hours can be History 7012, although we may accept 6 hours in special circumstances by petition to the Coordinator of Graduate Studies. HIST 7991 does not count toward the degree.
5. No more than 6 hours may be taken, with the approval of the Coordinator of Graduate Studies, in a field outside history. Under special circumstances students may petition for up to an additional 6 hours.
6. No more than 24 hours may be taken in United States History, European History, or any one field of history, such as Ancient History.
7. No grade of C+ or lower may count toward the required number of credits.
8. An oral Comprehensive Examination over course work given by a committee chosen by the Graduate Advisor and the student. Online only students take a written exam instead.
9. For those who elect to write a thesis, approval by a department committee headed by the faculty member who directed the thesis. All theses are based upon primary research and are typically between 16,000 and 25,000 words in length. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

C. Concentration in Ancient Egyptian History (Note: "Concentration" refers to a specific program in this area. It does not imply that this is our only area of specialization.)

Beyond the core requirements, students choosing this concentration must take 18 hours of MA level courses with a focus on ancient Egypt; this includes 9 hours of thesis credit for those writing a thesis. As part of the 18 credits, students must take two semesters of basic Middle Egyptian (ARTH 7115 and 7116), plus two more semesters of readings from ancient Egyptian texts. Courses in ancient art, archaeology, and language (taught in the Art, Earth Sciences, and/or Foreign Language departments) may count as being in field(s) separate from the field of ancient history. Admission into the graduate program in history does not automatically ensure admission into this concentration. The approval of the department's Egyptologists is also necessary, so students should contact them directly.

D. The Online M.A. Program

The History Department also offers an online MA degree program in which all the degree requirements may be completed online. Admission requirements are the same as for the on-campus MA program, but you must specify in your application and the required letter discussing your interests that you are applying for the online MA degree. Requirements for the online MA degree are also the same as for the on-campus MA with the following exceptions for those who take all their credits online: a) the thesis option is not normally available to online students; b) online students may apply up to 9 hours of 6000-level history courses to the degree; and c) online students take a written exam comprehensive exam.

III. PhD Degree Program

The Department of History also offers a program of study built upon the MA degree leading to the PhD degree. The program is designed to provide wide knowledge in two fields, more intensive preparation in a third field, and professional competence in original research and writing that will prepare the student for teaching and research in higher education or for a career in government, business, library service, and other research-related fields.

A. Program Admission

In making our decisions on admission we consider multiple factors, including transcripts and GPA, the nature of your coursework, recommendations, your writing sample and statement, your GRE scores (particularly the Verbal and Analytical Writing sections), the compatibility of our program with your interests, and availability of faculty to supervise your major field.
In most cases, you will need 24 graduate hours in history with at least a 3.25 GPA (on a 4.0 scale) from an accredited institution, or a M.A. in a related field that we judge as sufficient preparation for our PhD program. We strongly recommend an MA in history.

In addition to submitting your application and all transcripts to the Graduate School, you should submit the following, the first to the Graduate School and the rest to the History Department:

1. Official GRE scores, which should include the Analytical Writing section.
2. A 750-1000 work “Statement of Purpose,” in which you explain your educational goals, anticipated fields of study, and general research interests. In this statement, we expect you to demonstrate some familiarity with the history department’s program and faculty.
3. Three letters of recommendation commenting on your academic ability and suitability for PhD work.
4. A writing sample, consisting either of a MA thesis or a paper written for a graduate course in history (preferred) or a related field.

As part of the admission process, the Graduate Admissions Committee will seek input from department members in the applicant's field of interest.

B. Advising

The Coordinator of Graduate Studies will advise students when they first enroll. During the first school year enrolled, and whenever possible within the first semester, each student will choose an advisory committee to be composed of a major professor with full graduate faculty rank and at least two other faculty members. This committee assists the student in determining such matters as fields of study, the choice of courses, acceptance of transfer credit, and acceptance of credit from the master’s degree. The committee provides all of its decisions in writing with copies to the student and to the Coordinator of Graduate Studies.

C. Foreign Language

All students whose major field is not in U.S. history must demonstrate reading proficiency in one foreign language, whenever possible one directly related to the dissertation field. Proficiency consists of acceptably translating a selection from a historical work or source. The advisory committee may require the student to demonstrate reading knowledge in two or more foreign languages. It will be up to the advisory committee to determine whether students in U.S. history must demonstrate proficiency in a foreign language.

D. Fields of Study

1. The student will choose, in consultation with the advisor, three fields of study, one of which will be designated the dissertation field.
   1. The advisory committee will consult with the student and determine what and how many courses will be required in each field.
   2. In addition to the courses required in III.D.1., the student must take near the end of coursework 3
credit hours of “Reading for and Writing Comprehensives” (HIST 8990) in each field, each of which is devoted to intensive individual study of the historiography of the field as a whole, compiling a bibliography of the important literature, gaining familiarity with the key debates, and writing the comprehensive examinations. The student may take up to 6 credits of HIST 8990 in the major field. No more than these 12 credits of “Reading for and Writing Comprehensives” may count toward the degree.

2. Dissertation Fields
   1. United States before 1877
   2. United States after 1877
   3. Ancient World; normally a dissertation in Ancient History must be in the area of Egyptology.
   4. Modern Europe
   5. African American History
   6. Women and Gender History
   7. Global History

3. Minor fields (in addition to the above)
   1. Medieval-Renaissance Europe
   2. Early Modern Europe
   3. Latin America
   4. Africa
   5. China and Japan
   6. Russia
   7. Near East

4. The primary focus of at least one minor field must be on a geographical region different from that of the major field. With that restriction, a student may petition the Graduate Studies Committee for a field or fields not listed in the official list if the prospective field advisor agrees and the student’s advisory committee approves.

5. Furthermore, the student’s major field may be subdivided into two separate fields if it embraces separate regions or is conventionally divided into separate fields (such as Ancient or Medieval-Renaissance).

6. With the approval of the Graduate Studies Committee, one field may be taken in another department or may be interdisciplinary, including courses from at least two departments.

7. Upon approval of a petition to the Graduate Studies Committee from both the student and a prospective dissertation director, a dissertation may be completed in a field that is not normally a dissertation field.

E. Concentration in Ancient Egyptian History (Note: “Concentration” refers to a specific program in this area. It does not imply that this is our only area of specialization.)

We expect students choosing this concentration to deepen their proficiency in Middle Egyptian and they must have a reading knowledge of French and German before they may take research seminars or write the dissertation.
Admission into the graduate program in history does not automatically ensure admission into this concentration. The approval of the department’s Egyptologists is also necessary, so students should contact them directly.

F. Course Requirements
1. A minimum of 60 semester hours of graduate course work beyond the bachelor’s degree plus 12 hours of HIST 9000 (Doctoral Dissertation), for a minimum total of 72 graduate credits. No more than 12 hours of dissertation credits will be counted toward the degree.
2. The last 30 hours of course work (including 12 dissertation hours) must be from The University of Memphis.
3. At least 6 credit hours of research seminars (HIST 7/8070) or their equivalent. A master’s thesis in history will count as one of these seminars and, by petition to the Graduate Studies Committee, an article in a peer-reviewed journal may count as one, but neither reduces the total number of credit hours required.
4. Core requirements: One 7/8000-level course in the historiography of the major field and HIST 7/8011 (Philosophy and Theory of History). We recommend, but do not require, HIST 7/8100 (Global Historiography) and historiography courses in the minor fields; however, the advisory committee may require them. Whenever possible, students should take all the core courses in the first year.
5. At most 6 credit hours of History 8012 (Directed Readings), with an additional 6 hours permitted in special circumstances by petition to the Graduate Coordinator.
6. At most 6 credits of MA courses and 6 credits of PhD courses at the 6000-level. In special cases, the advisory committee may allow a total of 15 credits at the 6000-level.
7. With the approval of the advisory committee, up to 33 hours of course work from the master’s degree, as well as any other graduate coursework completed before admission to the PhD program, may be counted toward the 60 credits.
8. A student who makes a grade of B- or lower in 6 or more hours of course work will be dropped from the PhD program, except under exceptional circumstances. No grade of C+ or lower may count toward the required number of credits.
9. The following courses do not count toward the degree: HIST 8990 and HIST 8991 (except as described above in D.1.b).

G. Comprehensive Examination

The Advisory Committee will review the progress of each full-time Ph.D. student at the end of both the first and second year, and will give their findings to each student in writing. Full-time PhD students with a history MA are expected to pass their Comprehensive Examination before the first semester of their fourth academic year, and in any case within six months of finishing the required coursework.

Since the examination is designed to test knowledge of each field, it is not confined to material covered in classes and the books and articles read in them. We expect students to demonstrate an intellectual command of the subject matter, historiography, current scholarly controversies, bibliography, and whatever else is expected in each field. While reading lists for exams will vary in length and content, in most cases they will include at least 30–50 monographs in minor fields and 60–100 in the major field, or the equivalent in major articles.

Preparation for the Comprehensive Examination should begin with the first PhD class, and, for MA students anticipating continuing in the PhD program, with the first graduate class. See the departmental Guide for Graduate Students for a complete description of the exam.
Before scheduling the Reading for and Writing Comprehensives courses, the student must choose, in consultation with the advisory committee and with the approval of the Graduate Studies Committee, a Comprehensive Committee composed of at least one faculty member from each minor field and two faculty members from the dissertation field. Usually, this is the same as the advisory committee.

No sooner than the last semester of course work, in which the student will normally take only Reading for and Writing Comprehensives classes, and after satisfying the language requirement, if any, the Comprehensive Committee will administer a Comprehensive Examination over all fields. The committee, in consultation with the student, will decide whether the exam essays should be written simultaneously or not and may decide to spread them over not more than two semesters.

The written portion of the exam consists of essays of about thirty pages length in each minor field and two such essays (or one longer one) in the major field. Students and field advisors will work out the format of these essays, based upon the nature of the field, the content of their coursework, and the reading lists and bibliographies developed for the Readings courses. The essays will be based on a series of broad questions and, in many fields, be historiographical in nature. They will draw from, but not be a mere compilation of, the written documents, described in the departmental Guide to be done in each previous course.

After a student has completed all written parts of the Comprehensive Examination, the Comprehensive Committee will conduct an oral examination over all the fields, normally within two weeks, but if necessary the Comprehensive Committee may extend the time. After the oral exam, the committee will either pass the student or require the resubmitting of one or more written parts. After the student has resubmitted any required exams, the committee may choose to hold another oral examination, but it is not required to do so.

The student may not resubmit any written examination, which will necessarily involve a major reconceptualization and revision of an essay, sooner than one full semester after the first attempt. After the student has retaken all required parts, including a second oral examination, if required, the Comprehensive Committee will decide whether, with the approval of at least three of the four members, the student should be promoted to late doctoral status or dropped from the program. Upon successful completion of the Comprehensive Examination, the coordinator of graduate studies will notify the Graduate School of the student’s late doctoral status. The student may enroll in dissertation hours only after passing the Comprehensive Examination.

**H. Dissertation**

To complete the requirements for the PhD in History, the student must prepare a dissertation based on a substantial amount of original research and submitted in the acceptable form. The student determines the dissertation topic in consultation with a faculty member in the dissertation field who agrees to direct the research. NOTE: Students electing to write a dissertation should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
Each PhD student must, within one semester after passing the Comprehensive Examination, present a prospectus of the proposed dissertation in a colloquy supervised by the Dissertation Committee. All history faculty and graduate students are invited to this colloquy, and all other interested persons are welcome. This is not intended as an examination, but rather as a forum in which the candidate can discuss ideas and receive suggestions and criticisms.

The Dissertation Committee consists of at least four graduate faculty, chaired by the director, who, with at least two other members, must have full graduate faculty status. It is recommended that one member be outside the discipline, department, or university. Prospective committee members not on the University of Memphis faculty must apply for Adjunct Graduate Faculty status. All graduate committees, including this one, should normally consist of tenured and tenure-track faculty. Other instructors at University of Memphis, untenured or non-tenure track instructors from other institutions, and unaffiliated scholars, with appropriate graduate faculty status may serve, but only with the approval of the committee chair and by a formal petition to the Graduate Studies Committee providing a full explanation of the reasons for the request. The Coordinator of Graduate Studies may waive the departmental requirement that three of the required four members hold Full Graduate Faculty membership when an Adjunct/Affiliate member's credentials warrant it. In these instances, only two of the departmental faculty members will be required to hold full Graduate Faculty membership. Only one adjunct or affiliate graduate faculty member may serve as a voting member; the director must hold full membership.

Formal approval of the final dissertation will be given by the Dissertation Committee and the Graduate Studies Committee.

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- **2015-2016 Academic Calendar**
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Mathematical Sciences

IRENA LASIECKA, PhD
I. The Department of Mathematical Sciences offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees with a major in Mathematical Sciences.

The areas of concentration for the MS degree are Applied Mathematics, Mathematics, Teaching of Mathematics, and Statistics. Within the MS degree, students may complete up to twelve credit hours in a collateral area approved by their advisor.

The areas of concentration for the Doctor of Philosophy degree are Applied Statistics and Mathematics.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MS Degree Program, with concentrations in Applied Mathematics, Mathematics, Statistics, and Teaching of Mathematics.

Program objectives are (1) development of thorough background in mathematical sciences, including retention and integration of core knowledge; (2) development of research skills in mathematics; and (3) development of interdisciplinary opportunities and good oral and written communication skills.

A. General Program Prerequisites

1. An undergraduate degree with a major in mathematics or statistics is required. The minimum GPA is
2.5 on a 4.0 scale. Students whose major was not in mathematics or statistics will be considered on a case-by-case basis.

2. GRE scores are required and are an important factor for admission.
3. Two letters of recommendation are required.
4. TOEFL scores are required for students whose native language is not English.

B. General Program Requirements

1. Satisfactory completion of 33 credit hours of graduate course work in a program approved by the department is required. At least 24 credit hours of course work have to be at the 7000 level or higher. At least 21 credit hours of course work have to be earned from courses offered by the Department of Mathematical Sciences.
2. Not more than three credit hours from graduate level seminars can be used to satisfy degree requirements.
3. Courses designed for the “Teaching of Mathematics” concentration can only be used to satisfy degree requirements in this concentration.
4. A passing grade on a comprehensive examination is required. Students may choose a thesis or non-thesis option.
   1. Non-thesis Option – Each student must pass a final written four-hour comprehensive examination which may be broken into several parts at the department’s discretion. The written comprehensive examination covers topics from four courses, each consisting of at least three credit hours of course work.
   2. Thesis Option – Each student must identify a thesis advisor, enroll in at least three credit hours of MATH 7996 and submit a written thesis acceptable to the student’s advisory committee. A student must present and defend the thesis before the advisory committee. The oral defense of the thesis will encompass material contained in the thesis and learned during course work and will count as the comprehensive examination. Up to six credit hours of MATH 7996 can be used to satisfy degree requirements.
   NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

C. Specific Degree Requirements

1. Applied Mathematics Concentration
   1. The following courses are required: MATH 6242, 6391, and 7350.
   2. At least three of the following elective courses are required: MATH 6721, 7016, 7351, 7361, and 7504.
   3. The program must include at least 12 credit hours in the following broadly defined core categories: Calculus of Variations and Optimization, Control Theory, Differential Equations, Financial Mathematics, Mathematical Physics, Modeling, Numerical Analysis and Scientific Computation. At least 6 of these 12 credit hours must be taken in the same core category. MATH 7996 does not count towards the required credit hours in the core categories.
   4. The written comprehensive examination for students choosing the non-thesis option includes as topics: MATH 7350, six credit hours of course work in one of the core categories (see item c. above), plus an additional course approved by the department.
2. Mathematics Concentration
   1. The following courses are required: MATH 6242, 6411, 7261, and 7350.
   2. At least four of the following elective courses are required: MATH 7016, 7235, 7237, 7262, 7351, 7352, 7355, 7356, 7361, and 7411.
   3. The written comprehensive examination for students choosing the non-thesis option includes as topics: MATH 7261 and MATH 7350, plus two additional courses approved by the department.

3. Statistics Concentration
   1. The following courses are required: MATH 6636, 7642, 7643, 7647, 7654, 7685, and 7762.
   2. The following elective courses are required: Either MATH 7645 or MATH 7657, and either MATH 7660 or MATH 7670.
   3. Credit for both MATH 6637 and MATH 7643 is not permitted.
   4. The written comprehensive examination for students choosing the non-thesis option includes as topics: MATH 6636 and MATH 7654, plus two additional courses approved by the department.
   5. Students choosing the thesis option may replace either of the two electives (see b.) by three credit hours of MATH 7996.

4. Teaching of Mathematics Concentration
   1. The following courses are required: MATH 6151, 7171, 7174, 7281, 7282, 7381, 7382, 7681, and either ICL 7500 or ICL 7503.
   2. The written comprehensive examination for students choosing the non-thesis option includes as topics: MATH 7381 and MATH 7382, plus two additional courses approved by the department.

III. Accelerated BS/MS Degree Program, with concentrations in Applied Mathematics, Mathematics, and Statistics

This program allows outstanding undergraduates to complete both a Bachelor of Science degree in Mathematical Sciences and a Master of Science degree in Mathematical Sciences with concentration in Applied Mathematics, Mathematics or Statistics. Students admitted into the program will follow a carefully designed program of study which allows them to begin course work for the Master of Science program during their senior year. Interested students are encouraged to consult with their undergraduate advisor in the Department of Mathematical Sciences and to begin planning to enter the accelerated BS/MS degree program early in their undergraduate career. Through careful coordination with their undergraduate and graduate advisors students will be able to graduate with both a bachelor’s and master’s degree within a five year period.

To apply, students must have finished 18 credit hours of course work in mathematics by the end of the semester of their application. Applicants must have a cumulative GPA of 3.00 (on a 4.0 scale) as well as a GPA of 3.30 (on a 4.0 scale) in their mathematics courses. The initial application for the accelerated BS/MS degree program consists of the following two parts:

1. A letter of intent including two letters of reference and a copy of the applicant’s transcript to be submitted to the Department of Mathematical Sciences
2. Application with the Graduate School for “combination senior” status

To continue in the program beyond the bachelor’s degree, students must also apply for full admission into the
Graduate School and be accepted into the master's program by the Department of Mathematical Sciences.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs. Details on courses that can be applied will be available in the Department of Mathematical Sciences. However, any graduate course work will not be used to calculate the undergraduate GPA.

IV. PhD Degree Program

A. Admission Requirements

1. GRE scores are required and are an important factor for admission.
2. Three letters of recommendation
3. TOEFL scores are required for students whose native language is not English.
4. An undergraduate degree in an appropriate discipline with a minimum GPA of 2.5 (on a 4.0 scale) or equivalent preparation

B. Program Requirements

1. The doctoral degree program requires satisfactory completion of a minimum of 72 credit hours of graduate credit (a minimum of 36 hours for a student entering with an approved master’s degree). The 72 hours:
   1. may include a maximum of 12 hours of 6000 level coursework, but must include at least 18 hours of 8000 level course work;
   2. may include between 9 and 15 hours of dissertation (9000);
   3. cannot include courses designed for the “Teaching of Mathematics” concentration, and
   4. must include the satisfactory completion of one of the concentration requirements listed below.
2. Each student must:
   1. obtain a passing grade on a qualifying examination;
   2. obtain a passing grade on a comprehensive examination;
   3. complete an acceptable dissertation (Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.); and
   4. pass a final examination given by a committee composed of departmental and university representatives.

Detailed information can be obtained by contacting the graduate coordinator of the department.

3. Mathematics Concentration

1. The PhD concentration in mathematics is designed so that students may pursue a degree based on independent research or may choose a more broadly based program aimed toward a college teaching career. Students may contact the department for more detailed information.

4. Applied Statistics Concentration

1. Students must complete the following courses: MATH 7-8642, 7-8651, 7-8670, 7-8692, 7-8695, and two courses from MATH 7-8759, 7-8763, 7-8764, and 7-8765. In addition, students are required to give at least two formal presentations through taking MATH 7-8691
2. Presentation of an acceptable dissertation proposal within six months after passing the
comprehensive examination. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

Click here for course descriptions

**Graduate Catalog**
Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
I. The Department of Philosophy offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees with a major in Philosophy. The master’s program is designed to provide comprehensive training in philosophy for students seeking work beyond the bachelor’s level, whether for self-enrichment, background for other areas, or in preparation for doctoral work. The doctoral program provides students with the broad background necessary for effective teaching as well as the specialized research skills required for a career in philosophy at the college or university level.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

Program objectives are: (1) development of expertise in the discipline to teach introductory courses; (2) ability to write a research paper on a philosophical topic for formal presentation; and (3) ability to demonstrate knowledge and skills for advanced study.

A. Program Admission

The Philosophy Department admits students for the fall semester of each academic year. Information and application forms can be found on the department web site. Applications received after January 5 cannot be guaranteed consideration for an assistantship for the upcoming academic year.

B. Program Prerequisites

1. A bachelor’s degree from a recognized college or university. Official transcripts should be sent to the
Office of Graduate Admissions.
2. A minimum of a 2.5 quality point average on a scale of 4.0. Students with less than a 2.5 quality point average may, on occasion, be admitted.
3. An acceptable score on the general test of the Graduate Record Examination.
4. At least 18 semester hours in undergraduate philosophy courses including the following courses or their equivalent: introduction to philosophy, ethics, elementary logic, history of ancient philosophy, and history of modern philosophy. Students who lack one or more of these courses may be admitted to the program only on the condition that they take the appropriate course as soon as possible.
5. Three letters of recommendation from people qualified to judge the student’s ability to undertake graduate work.
6. A 10-20 page writing sample and a 1-2–page statement of purpose should be submitted to the Coordinator of Graduate Admissions in Philosophy.

C. Program Requirements

1. Thirty to thirty-three hours of class work, 24 of which must be at the 7000 level or above. Students who write a thesis are required to take 30 hours, 3 of which are credit for the thesis. Students who do not write a thesis are required to take 33 hours. Students who elect to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Students with approved collateral areas may take up to six hours outside the department if they are writing a thesis or nine hours if they are not.
2. A written comprehensive examination covering the history of philosophy.

III. PhD Degree Program

Program objectives are: (1) development of expertise in the subject matter to teach a variety of undergraduate courses in area of specialization; (2) development of ability to produce original research papers of sufficient quality for presentation at professional meetings and conferences and publication in professional journals, in addition to ability to impart research skills to students at all levels; (3) ability to contribute to philosophical discussions across the subdivisions of the field; and (4) preparation to assume the role of a philosophy faculty member.

A. Program Admission

The Philosophy Department admits students for the fall semester of each academic year. Information and application forms can be found on the department web site. Applications received after January 5 cannot be guaranteed consideration for an assistantship for the upcoming academic year.

1. Fulfillment of university requirements for admission to the Graduate School, including a score on the GRE acceptable to the department.
2. The equivalent of the BA degree, usually with a major in philosophy. This must include at least the following courses or their equivalents: intermediate logic, survey of ancient philosophy, survey of modern philosophy, and ethics. Students lacking one or more of these courses may be admitted to the program provisionally, on the condition that they make up the missing course work as soon as possible (graduate credit will not be granted for make-up work).
3. Three letters of recommendation, to be submitted by persons competent to judge the prospective student’s ability to undertake graduate work. (These letters are to be sent directly from the referee to the department’s coordinator of graduate admissions).

4. Transcripts of prior academic work. Official copies should be sent to the Office of Graduate Admissions. A minimum GPA of 3.00 (on a scale of 4.00) will be expected.

5. A 10-20 page writing sample and a 1-2–page statement of purpose should be submitted to the Coordinator of Graduate Admissions in Philosophy.

B. Retention Requirements

A student will be retained continuously in the program until completion of the degree providing the following conditions are met:

1. All students will be required to maintain a GPA of at least 3.5. Should the student’s GPA fall below that mark, a period of one semester will be allowed to correct the deficiency. At the discretion of the chair and the coordinator of graduate studies, this period may be extended one additional semester.

2. Students will be expected to demonstrate satisfactory progress in fulfilling the graduation requirements outlined below.

C. Graduation Requirements

1. General Requirements
   1. A minimum of 72 hours of graduate credit beyond the bachelor’s degree is required. At least 60 hours credit must be at the 7000 level or higher.
   2. At most 18 hours of graduate work may be transferred from graduate work elsewhere and applied towards the 72 hours needed for the PhD. Only graduate hours that were not used for a previous graduate degree, that relate in content to the graduate program, and that do not exceed university time restrictions can be transferred.
   3. For students who have attained a master’s degree, a minimum of 42 hours of graduate credit is required beyond that master’s degree. At least 36 hours of graduate credit must be at the 7000 level or higher. More hours may be required at the discretion of the department’s advisory committee.
   4. No more than 18 credit hours of dissertation (PHIL 9000) will count towards satisfying the total number of graduate hours required for the PhD. A minimum of 6 hours of dissertation is required for the PhD.

2. Residency Requirements:
   At least 24 credit hours must be earned while the student is in continuous residence in the program.

3. Distribution Requirements
   1. Core Requirements—Students must take a core of twelve hours in major figures in the history of philosophy (at least three in ancient and three in modern); six hours in theoretical philosophy (three hours in Continental Philosophy and three hours in Analytic Philosophy); and six hours in practical philosophy (three in Social and Political Philosophy; and three in Ethics).
   2. Additional Requirements—Students must take the Proseminar, normally during the first year of graduate work. At least one course must be a systematic study of a major figure. At least two
courses must be in the analytic tradition and two in the continental tradition; these will normally be courses in the twenty-four hour core.

4. Examination Requirements:
   1. Comprehensive Examinations—The Comprehensive Examinations must be taken and passed no later than the student's fourth semester in the program. There are two parts to the examination, one in the history of ancient philosophy and one in the history of modern philosophy. Each part consists in a four-hour written exam. A general reading list is provided for each area. Only students who pass both parts of the comprehensive examination may continue work for the PhD.
   NOTE: It is expected that the doctoral comprehensive examination will be coordinated with the master's comprehensive examination, so that those whose scores fail to qualify them for advanced doctoral study but are sufficient for the master's degree may then complete the requirements for a terminal master's degree.

5. Language Requirements:
   Students must demonstrate sufficient ability to translate philosophical texts by sitting for a two-hour translation examination in two of the following languages: French, German, Classical Greek, Latin. Other languages may be substituted if they are shown to be relevant to the student's course of study.

6. Dissertation Requirements
   1. Dissertation Committee—The student must select a dissertation director. The coordinator of graduate studies in consultation with the graduate faculty will select three additional readers.
   2. Dissertation Proposal Defense—The student will submit a proposal for the dissertation to the committee and defend the proposal before the graduate faculty. This defense will normally occur before the end of the sixth semester.
   3. Dissertation Defense—The dissertation committee will schedule a defense of the completed dissertation in coordination with the chair and the coordinator of graduate studies. Notice will be given, copies of the dissertation made available, and a public oral defense of the dissertation will be held. Upon approval of the dissertation committee and faculty, the dissertation will be submitted to the Graduate School and the degree awarded.
   4. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

Click here for course descriptions
Full sitemap
Physics and Materials Science

JINGBIAO CUI, PhD
I. The Department of Physics and Materials Science offers a major in Physics for the Master of Science degree with concentrations in General Physics, Computational Physics and Materials Science. Program objectives are: (1) development of an in-depth and specialized knowledge of physical phenomena; (2) ability to successfully demonstrate analytic cognitive knowledge in physics and communications skills through close interaction with other students and the physics faculty; and (3) preparation to continue studies in a PhD program, enter a professional school, or enter the workforce as a technical professional.

Graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MS Degree Program

A. Program Admission Requirements

1. For admission to the graduate program, a Bachelor's degree in Physics or a closely related area is required; no minimum undergraduate GPA is specified. Students are also required to present, as a prerequisite, 20 semester hours of undergraduate physics courses including upper division Mechanics, Electricity, and Magnetism, and approved Mathematics courses in Calculus and Differential Equations.

2. The GRE general test is recommended and may enhance an applicant's likelihood of admissions. The GRE subject test is not required.

3. Students from non-English speaking countries are required to demonstrate proficiency in English via the TOEFL examination. The minimum acceptable score is 550.

B. Program Requirements

1. After meeting the general degree requirements for admission to The Graduate School, students
selecting Physics as a major will be assigned to the Department Graduate Committee, which must approve and direct their course of study.

2. Core requirements (9 credit hours)*:
   1. PHYS 7200/8200, PHYS 7386, and PHYS 7520.
   2. Satisfactory completion of an oral comprehensive exam typically given during the final thesis oral presentation.

3. Concentration Requirements (Students may elect either a thesis or non-thesis program.)

   a. **General Physics Concentration, thesis option (30 credit hours)**
      (Physics Program core requirement*: 9 credit hours, Concentration requirement: 6 credit hours, Thesis: 6 credit hours, Additional courses: 9 credit hours)

      2. Sufficient additional courses, including 6 semester hours in PHYS 7996, Thesis, to satisfy a minimum of 30 semester hours (9 semester hours may be in a collateral field of study with course numbers 6000 or above). These courses must be approved by the graduate advisor. 21 semester hours must be taken in courses numbered 7000 or above.
      3. The student must present a research proposal to the graduate thesis committee at the end of the first semester of his/her study for the thesis approval.
      4. The student must complete a research project, submit a written thesis describing the research, orally present and defend the thesis before a faculty committee. Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](http://www.memphis.edu/gradcatalog/degree_planning/cas/phys.php) before beginning to write.

   b. **General Physics Concentration, non-thesis option (33 credit hours)**
      (Physics Program core requirement*: 9 credit hours, Concentration requirement: 6 credit hours, Additional courses: 18 credit hours)

      1. General Physics Concentration requirement (6 credit hours): PHYS 7100/8100 and PHYS 7300.
      2. Sufficient additional courses to satisfy a minimum of 33 semester hours, in which 9 may be in a collateral field of study. These courses must be approved by the graduate advisor. 23 semester hours must be taken in courses numbered 7000 or above.
      3. Complete a survey of an area of current research in fundamental or applied physics and make an oral and written presentation based on this survey before a faculty committee. The subject of this survey must be approved by the departmental graduate committee at least one semester prior to graduation.

   c. **Computational Physics, thesis program (30 credit hours)**
1. PHYS 7385, MATH 7721
2. PHYS 7996 Thesis; must contain a strong computational physics component. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.
3. The student must present a research proposal to the graduate thesis committee at the end of the first semester of his/her study for the thesis approval.
4. Additional courses to be taken from the following list: CHEM 6415, COMP 7721, MATH 6391, MATH 6393, MATH 7321, MATH 7393. These courses must be approved by the graduate advisor.

d. Computational Physics, non-thesis program (33 credit hours)
(Physics Program requirement*: 9 credit hours, Concentration requirement: 6 credit hours, Additional courses: 18 credit hours)

1. PHYS 7385, MATH 7721
2. Sufficient additional courses numbered 6000 and above, including PHYS 7100/8100 and PHYS 7300, to satisfy a minimum of 33 semester hours. These courses can be taken in a collateral field of study. CHEM 6415, COMP 7721, MATH 6391, MATH 6393, MATH 6721, MATH 7321, MATH 7393.

e. Materials Science Concentration, thesis program (30 credit hours)
(Physics Program requirement*: 9 credit hours, Concentration requirement: 12 credit hours, Thesis: 6 credit hours, Additional courses: 3 credit hours)

1. Materials Science Concentration requirement: PHYS 6610, PHYS 6810, MEC 7361/8361, PHYS 7390 and PHYS 7996.
2. Sufficient additional courses (in a collateral field of study with course numbers 6000 or above), including 6 semester hours in PHYS 7996, Thesis, to satisfy a minimum of 30 semester hours. These courses must be approved by the graduate advisor.
3. The student must present a research proposal to the graduate thesis committee at the end of the first semester of his/her study for the thesis approval.
4. The student must complete a research project, submit a written thesis describing the research, orally present and defend the thesis before a faculty committee. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.
f. Materials Science Concentration, non-thesis program (33 credit hours)

(Physics Program requirement*: 9 credit hours, Concentration requirement: 12 credit hours, Additional courses: 12 credit hours)

1. Materials Science Concentration requirement: PHYS 6610, PHYS 6810, MEC 7361/8361, and PHYS 7390.

2. Sufficient additional courses (12 credit hours in collateral field of study with course numbers 6000 or above), to satisfy a minimum of 33 semester hours. These courses must be approved by the graduate advisor.

3. Complete a survey of an area of current research in fundamental or applied materials physics and make an oral and written presentation based on this survey before a faculty committee. The subject of this survey must be approved by the departmental graduate committee at least one semester prior to graduation.

III. Dual Degree BS-MS Accelerated Program

Highly motivated and talented students may pursue an undergraduate degree (B.S.) in Physics followed by a graduate (M.S.) in Physics in a special five-year program. This option requires serious commitment, careful planning with the student's advisor, and summer research work leading toward a Master's thesis. Carefully tailored course of study allow students in this program to complete their B.S. degree while they also begin the coursework towards their M.S. Students interested in pursuing this option should contact both the undergraduate and graduate advisors in the Department of Physics and Materials Science early in their undergraduate career.

To apply, students should have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcripts to the Chair of the Graduate Committee of the Department. Exceptions to the minimum GPA will be considered on a case-by-case basis. Each applicant will complete an interview with the graduate coordinator in the Department of Physics and Materials Science.

Students must apply to the Graduate School for “combination senior” status, which allows them to take graduate courses in Physics. To continue in the program past the B.S., students must apply for admission into the Graduate School.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs.

Click here for course descriptions
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Graduate School

2015-2016 Academic Calendar

Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Political Science

MATTHIAS KAELBERER, PhD
I. The Department of Political Science offers individually tailored programs leading to the Master of Arts in Political Science. This degree provides a broad foundation in politics and government for those intending further graduate study or careers in education and public service or private enterprise. Both thesis and non-thesis programs are available. Together with the Cecil C. Humphreys School of Law, the department offers a dual MA/JD program. Also, the study of Political Science may be combined with study in related areas.

Assistantships are available for qualified students in all programs. Applications are available in Clement Hall, Room 437.

All graduate students will consult with their advisor in the Department of Political Science as to the program of study they expect to follow. All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. The Department of Political Science offers a graduate program leading to the Masters of Arts with a major in Political Science. Special fields of study included in the Master of Arts in Political Science are: American Politics (National, State, and Urban); Public Law; Political Theory; Public Policy; Comparative Politics, and International Relations.

Program objectives are: (1) development of a broad understanding of the political science field; (2) understanding of the behavioral and humanist approaches to the study of politics; and (3) ability to engage in critical thinking and analysis, use of logic and evidence to construct and defend a position, and communicate argument in written and oral form.

III. MA Degree Program

A. Program Admission
1. Admission to the program will be based on selections from a pool of applicants who meet the University’s Graduate School admission requirements.

2. Significant weight is given to the following factors in determining admissions to the MA program:
   1. An undergraduate grade point average of 3.0 on a 4.0 scale from an accredited college or university.
   2. GRE or LSAT scores.
   3. Letters of recommendation from two persons (at least one academic) familiar with the applicant’s academic background or experience, specifying in detail the applicant’s capabilities for graduate study.
   4. A statement of approximately 1000 words indicating the applicant’s present interests and career goals, including why the applicant wants the MA degree.

B. Program Requirements

1. Students who write a thesis must complete 33 hours of graduate courses, including 3-6 hours of credit for POLS 7996, Thesis. Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Students who do not write a thesis must complete 36 hours of graduate courses.

2. All students must complete POLS 7100, Seminar in Scope and Methods of Political Science Research, and POLS 7401, Seminar in Political Theory, and 7101 Political Statistics, with grades of B or better in each course.

3. At least 27 semester hours of the courses (30 hours for the non-thesis option) must be taken at the 7000 level, at least 21 (24 for the non-thesis option) of which must be in Political Science.

4. No more than 6 semester hours of internship courses may be counted toward the 33 or 36 semester hour requirement. Without the approval of the graduate coordinator and chair, no more than 6 semester hours outside the department of Political Science may be counted toward the 33 or 36 semester-hour requirement.

5. Non-thesis students must pass a comprehensive examination and thesis students must pass an oral defense of their thesis. The oral defense of the thesis constitutes a comprehensive examination over all course-work.

6. Comprehensive examinations will consist of six questions total. Students will answer two exam questions on the core Theory and Methods (POLS 7401 and POLS 7100, and POLS 7101) and two exam questions from any two of the following fields: American Politics, Public Law, Comparative Politics, International Relations, Political Theory, Public Policy or a combination of International Relations and Comparative Politics. A student should take a minimum of nine hours in each of the two examination fields.

   1. With the approval of the academic coordinator and the chair, a student may substitute 9 hours in a collateral field for one of the two examination fields.
   2. The examination committee will consist of a chair and two other faculty, chosen by the student in consultation with the academic coordinator and the chair of the examining committee.
   3. Each of the three written exams will be graded by at least two faculty readers, at least one of whom is a member of the examination committee.
   4. Students receive a grade of “low pass,” “pass,” “high pass,” or “fail,” on each of the three exams.
If a student receives a grade of “high pass” on all three exams, the oral examination is waived. Otherwise, the student will, upon passing all three written exams, submit to an oral exam with the committee, to cover all three examination areas.

5. Students who fail any of the three written exams will not submit to an oral exam with the committee that semester. The student will be required to re-take the failed written exam(s) the following semester and then submit to an oral examination upon passage of said exams.

6. Should students earn a low pass on any portion of the written exam(s) and then fail to compensate for the written weaknesses during their oral examination, the members of the examination committee will allow the students one week to successfully rewrite the examination answers in question. If the student fails to sufficiently improve their answers, they must retake the exams the following semester.

IV. Dual MA-JD Program

A. Program Admission

Admission to the dual program will require separate admission to each program. However, for applications to the joint program, the Political Science Department will accept LSAT scores in lieu of the GRE. Students are admitted into each program separately; completion of one degree is not contingent upon completion of both.

B. Program Requirements

1. Dual Credit
   Students may earn up to a maximum of sixteen hours of dual credit for law courses taken at the law school. The following courses will qualify for both the JD and MA in Political Science:
   1. Law Courses Required at Law School:
      Constitutional Law 4 hours, Criminal Law 3 hours, Criminal Procedure I 3 hours
   2. Law School Electives:
      Administrative Law 3 hours, Criminal Procedure II 2 hours, Federal Courts A 2 hours, Federal Courts B 2 hours, Civil Rights 3 hours, Constitutional Law Seminar 2 hours, Tennessee Constitutional Law 2 hours, Jurisprudence 2 hours, International Law 3 hours, Comparative Law 3 hours, Immigration Law 3 hours, Environmental Law 3 hours

2. Other Requirements
   1. For students in the dual program, their first year of law school must include only classes that are part of the JD program.
   2. With the above exceptions, all the normal requirements for admission and graduation for a JD and for an MA in Political Science apply.
   3. See the Law School's Academic Regulations, pp. 14-16, for current JD requirements.

V. Accelerated B.A./M.A Program in Political Science

This program allows outstanding undergraduates to begin the coursework for the Master of Arts in Political Science during their senior year. Students are encouraged to begin planning to enter the Accelerated B.A./M.A. program early in their undergraduate career, in consultation with their advisor in the Department of Political Science.
Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program begin a carefully tailored course of study which will allow them to complete their B.A. degree while they also begin the coursework toward their M.A.

To apply, students should have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the Political Science department. *Exceptions to the minimum GPA will be considered on a case-by-case basis.* Each applicant will complete an interview with the graduate academic coordinator in political science.

Students must also apply to the Graduate School for "combination senior" status, which allows them to take graduate courses in political science. To continue in the program past the B.A., students must apply for admission into the Graduate School and into the Political Science department's MA program.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs.

**Click here for course descriptions**

**Graduate Catalog**

Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
Psychology

FRANK ANDRASIK, PhD
I. The Department of Psychology offers PhD programs in Clinical Psychology, Experimental Psychology, and School Psychology, an MA/EdS (non-thesis) program in School Psychology, and an MS (either thesis or non-thesis) program in General Psychology. Students admitted to one of the PhD programs complete the requirements for the MS (with thesis) as part of their PhD requirements. The EdS degree with a major in Education with an area of emphasis in School Psychology is also available (offered collaboratively with the College of Education, Health and Human Sciences). In addition, the MS in General Psychology program may be entered as a terminal program.

Admission to each graduate program in Psychology is handled separately. Each has its own admission criteria, and application must be made for a particular program before an applicant is considered for that program. Deadlines for submission of admission materials vary with program: MS/PhD program in Experimental Psychology - January 15; MS/PhD program in School Psychology - February 1; MS/PhD program in Clinical Psychology - December 5; MA and EdS program in School Psychology - June 15; and MS degree program in General Psychology - May 1. Any person admitted to one of these programs who desires to transfer to another program within the department must make formal application to that program and will be evaluated competitively against the same criteria and on the same time schedule as all other applicants for that program.

The departmental objective is to educate both experimentally sophisticated professional psychologists and professionally appreciative research psychologists. The department professes a strong research emphasis, with a very diverse array of theoretical models and frames of reference. Awarding a degree does not merely attest to the accumulation of the specified number of hours in the classroom but also to the acquisition of sophisticated professional and research skills. The faculty has the responsibility to both the public and the profession of psychology to award a degree only when the student has achieved a satisfactory level of professional and research competencies as judged by the graduate faculty of the department. Further, students must exhibit high integrity and moral character consistent with the standards of ethical principles set forth by the American...
Psychological Association and for School Psychology students, standards set forth by the National Association of School Psychologists.

For all of the following graduate programs, admission is not automatic by meeting minimal departmental admission requirements. Students are selected from a pool of qualified applicants to each program. Each year the number of students admitted to a program depends on availability of financial aid and adequate faculty supervision. Once admitted, students in these programs can obtain further details by reading the department's *Graduate Student Handbook*.

All graduate students must comply with the general requirements of the Graduate School (see *Admissions Regulations, Academic Regulations, and Minimum Degree Requirements*) as well as the program requirements of the degree being pursued.

II. MS/PhD Degree Program

There are three broad programs within the MS/PhD degree program: Clinical Psychology (APA accredited), School Psychology (APA accredited), and Experimental Psychology. Across these doctoral programs, faculty and students participate in five research areas: Clinical Health Psychology; Behavioral Neuroscience; Child and Family Studies; Cognitive Psychology; and Psychotherapy Research. Students interested in other areas should contact the department for further information.

In these programs the MS is preparatory to continuation in the program. In order to be advanced to doctoral study, a student must have satisfactorily completed all requirements for the MS (including a thesis that is empirical and psychological) at The University of Memphis, or have completed an equivalent degree, with empirical thesis, from another institution. Students possessing a master’s degree without a thesis will be required to complete a thesis before being advanced to doctoral study.

Across the Ms/PhD degree programs, the general training objectives are: (1) understanding of theoretical principles and practices of psychology; (2) development of expertise in experimental design, data analysis, and oral and written presentation of research results; and (3) being competitive for professional positions in psychology.

A. Program Admission and Prerequisites

Applications for each of the MS/PhD degree programs are reviewed once each year for admission in the following Fall semester. Applications for Spring admission are not considered. All application information must have been received by December 5 for an applicant to be considered for admission to the MS/PhD program in Clinical Psychology, by January 15 for an applicant to be considered for admission to the MS/PhD program in Experimental Psychology, and by February 1 for an applicant to be considered for admission to the MS/PhD program in School Psychology. The following items are required for admission:
1. A completed Departmental application form and completed University application form.
2. A grade point average of at least 2.75/4.0 in all undergraduate course work. Applicants with undergraduate records at this minimum level are not ordinarily admitted. An official transcript of all undergraduate and graduate coursework must be sent.
3. A minimum of 18 semester hours in undergraduate psychology courses, including courses in Quantitative Methods (Psychological Statistics), and Experimental Design. Students lacking some or all of these prerequisite courses, but presenting an exceptional undergraduate record, may nevertheless be granted graduate admission. However, students may be asked to remove such deficiencies before or during their first academic year.
4. GRE scores (Verbal, Quantitative, and Written Analytical)
5. Letters of recommendation from at least three persons familiar with the applicant’s academic background and aptitude for graduate work in psychology, specifying in detail the applicant’s capabilities for graduate study and for future performance as a psychologist.
6. A personal statement of 500-1,000 words indicating the specific graduate program area being applied for, and describing the applicant’s prior research and applied experience, current research and applied interests, and career goals. Prior research involvement is weighted heavily.
7. A willingness to be interviewed in person or by phone by members of the department faculty, should that be requested.

B. Program Requirements

1. Credit Hours: A minimum of 33 semester hours of graduate credit beyond the bachelor's degree is required for the MS degree in Psychology, and a minimum of 80 semester hours of graduate credit beyond the bachelor's degree is required for the PhD degree in Psychology. All work for graduate credit must be approved by, and must be completed at a level of performance satisfactory to, the graduate faculty of the department. Students also may take coursework for degree credit outside the department with program approval.
2. Transfer Credit: Students with graduate credits earned at another institution, upon matriculation at The University of Memphis, may petition to have these credits applied toward the total number of hours required to earn their degree at The University of Memphis. The student can then apply to the department to use transfer credits as substitutes for specific courses required for the degree; decisions about such substitutions are made by the department graduate coordinator. The number of transfer credits accepted as substitutions for specific courses varies by degree program; For example, no more than 12 hours of course credit may be transferred toward a master's or EdS degree. Substitutions are not granted for any of the Clinical Psychology program's core curriculum, listed below under II.B.9.a.
3. Enrollment: MS/PhD degree candidates are expected to carry a minimum of 9 credits per semester and to devote full time during their enrollment to pursuit of degree-related activities.
4. Research: All MS/PhD degree students are expected to be active in research collaboratively with members of the department faculty each semester they are enrolled.
5. Master's Thesis and Comprehensive Examination: Each PhD student is expected to complete an independent research project, culminating in a master's thesis. The thesis is intended to be a demonstration of the student's ability to plan, organize, conduct, and report a research/scholarly
project. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Only 3 hours of thesis credit (PSYC 7996) can count toward the degree. Upon completion of the thesis, the student takes an oral examination that assesses not only mastery of the thesis topic but also broader awareness of the theoretical and empirical issues in contemporary psychology. This oral examination serves as the MS comprehensive examination.

6. Second Milestone Project: After completing the requirements of the master's thesis, all PhD students will complete a second milestone, usually in the third year of graduate work. Students in the Clinical Psychology PhD program can satisfy this requirement with a Major Area Paper (MAP) or by any of the following: (a) submit an empirical manuscript for publication, (b) an applied clinical research project (e.g., consultation project or clinical case study) submitted for publication, or (c) submission of a grant with the student as Principal Investigator. Students in the Experimental Psychology PhD program can satisfy this requirement with a Specialty Examination, Major Area Paper (MAP), or submitting an empirical manuscript for publication. School Psychology PhD students must complete a written comprehensive examination to satisfy the Second Milestone requirement. All alternatives require committees (four faculty members), proposal defenses, and final defenses.

7. Comprehensive Educational Requirements: In order that all MS/PhD students obtain comprehensive training in the diverse areas of psychology, the following requirements must be met:

1. All MS/PhD students are required to complete 7301/8301, and 7302/8302 (two semesters) during the first two years. With permission of the Major Professor and Graduate Coordinator, students may substitute PSYC 7303/8303 for PSYC 7302/8302 as their required course. Clinical Psychology and School Psychology MS/PhD students are required to complete PSYC 7000/8000. Also, for both semesters in the first year, all MS/PhD students must attend weekly colloquium series to acquaint them with issues of research and professional ethics and research and professional opportunities in the department and in the discipline.

All MS/PhD students must complete two additional statistics/quantitative/methodology course from the following list (or a substituted course approved by the student's major professor and the Graduate Coordinator): PSYC 7303/8303, 7304/8304, 7305/8305, 7306/8306, 7307/8307, 7308/8308, 7310/8310, 7311/8311, 7312/8312.

2. All MS/PhD students must complete at least one course in each of the following areas (or a substituted course approved by the student's major professor and the Graduate Coordinator):
   1. Biological Bases of Behavior: PSYC 7441/8441, 7701/8701, or 7705/8705.
   5. For Clinical Psychology and School Psychology Students: Psychometric Theory: PSYC 7304/8304, EDPR 7511/8511, or EDPR 7512/8512.

8. Dissertation and Final Examination: The dissertation is viewed as the capstone of the student's academic training, reflecting the student's capacity for independent research. Dissertation credit hours (PSYC 9000) must be taken for a minimum of 6 hours and can be taken for a maximum of 9 credit hours.
hours. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Upon completion of an independent written dissertation research project acceptable to the faculty, each student will take a final oral examination oriented toward, but not exclusively on, the student’s dissertation research and major area of specialization.

9. Clinical Psychology: Students in the clinical psychology program must meet these additional requirements:

1. Additional Courses and Activities — PSYC 7407/8407, 7412/8412, 7428/8428, 7430/8430, 7432/8432, 7435/8435, 7705/8705, 8707 and 6 credit hours of PSYC 7434/8434 (two courses of 3 hours credit each, one course must focus on therapy with diverse populations). As part of their clinical training, students must also participate in the activities of the Psychological Services Center. To fulfill this requirement, students enroll in 7438/8438 for a minimum of 6 semesters.

2. During their time in the graduate program, clinical psychology students receiving department funding may be placed on a department assistantship, grant-funded assistantship, or clinical agency placement. The student is required to complete a minimum of 12 months of 20 hours per week (or the equivalent) in a clinical placement before graduation (i.e., 10 hours per week over 24 months).

3. Students are also required to complete a minimum of 12 months of 20 hours per week in a research assistantship after their first year in the doctoral program. The research assistantship may be served in a community research facility or in the psychology department.

4. Research Area Course Requirements: In addition to the general clinical requirements, clinical psychology program students in the following Research Areas must complete the courses listed below

   1. Clinical Psychology students in the Clinical Health Research area must complete two of the following courses: 7440/8440, 7441/8441, or sections of PSYC 7434/8434 focused on cognitive-behavior therapy, clinical health psychology (e.g., therapy with medical patients, changing health risk behaviors, and pediatric psychology). Further, a major portion of clinical practica, the master’s thesis, the doctoral dissertation, and the internship must pertain to clinical health.

   2. Clinical Psychology students in the Child and Family Studies Research area must complete PSYC 7416/8416, a section of 7434/8434 focused on children, adolescents, or families, and one other course focused on children or families (e.g., PSYC 7207/8207, 7219/8219, 7701/8701, 7705/8705, 7808/8808. They must also attend the Child and Family Colloquium. A major portion of practicum work must involve children, and the master’s thesis and doctoral dissertation must pertain to children or families.

   3. Clinical Psychology students in the Psychotherapy Research area must also complete PSYC 7516/8516. In addition, students must complete a third section of PSYC 7438/8438 and the student’s specialty exam and dissertation must relate to psychotherapy.

5. Clinical Internship: A full-time one-year internship, in an agency approved by the director of training in clinical psychology, is required. Permission from the clinical faculty must be secured before making application for internship. To be approved, the clinical faculty must judge the student to be academically and clinically ready for the internship. In addition, the
student must have successfully defended the specialty exam or MAP by July 31 and the
dissertation proposal by September 30 of the year in which they are applying for internship.
10. School Psychology: Students in the School Psychology doctoral program must meet these additional
requirements:
1. Additional Courses: Students must complete PSYC 7416/8416, 7800/8800, 7802/8802,
7803/8803, 7804/8804, 7805/8805, 7806/8806, and RDNG 7542/8542, COUN 7750/8750 or
PSYC 7434/8434 (Clinical Psychotherapies: Appreciating Our Differences), LEAD 6000, EDPR
7151/8151, and SPED 7000/8000.
2. Subspecialization: Students must complete up to 12 hours of elective courses in an area of
specialization determined in consultation with the major professor.
3. Practica: Students must complete PSYC 7614/8614 (6 hours) and PSYC 8809 (6 hours) while in
practicum placements.
4. Internship: Students must complete PSYC 8999 (6 hours) while engaged in a full-time, one-year
internship in an agency approved by the program director. Permission must be secured before
making application for internship. To be approved, the school psychology faculty must judge the
student to be academically and clinically ready for the internship. Students must successfully
defend the dissertation proposal by the end of the spring semester of the year in which they
intend to go on internship.

III. MA and EdS Degree Program in School Psychology

This program is offered collaboratively with the College of Education, Health and Human Sciences, and
coursework from both areas is required. Students entering the program must complete both the MA and the EdS
degrees, including an internship of one school year, in order to obtain an endorsement for licensure. The EdS
degree is an advanced sequence in the specialty and is to be pursued only by persons who have completed the
MA degree or comparable degree with a concentration in school psychology, or who already hold school
psychology credentials. The program is part of the College of Education, Health and Human Sciences, accredited
by the Council for the Accreditation of Educator Preparation (CAEP), and holds full approval from the National
Association of School Psychologists (NASP)/CAEP; it is also formally approved by the Tennessee State
Department of Education and leads to that agency’s license in school psychology.

Program objectives are: (1) understanding of the nature of educational settings and ability to work cooperatively
and effectively with parents, school personnel, and other professionals; (2) broad expertise in assessment and
intervention at the individual, group, and system level; and (3) development of research and evaluation skills,
including data analysis and oral and written communication of research.

A. Program Admission and Prerequisites

All application information must have been received by June 15 for an applicant to be considered for admission to
the MA and EdS program in School Psychology. The following items are required for consideration for admission:

1. An undergraduate overall grade point average of 3.00/4.00. Applicants with an undergraduate GPA
below this minimal level are admitted only if other supporting data are exceptional.
2. GRE scores (Verbal, Quantitative, and Written Analytical).
3. Letters of recommendation from at least three persons (professional educators, psychologists, and/or employers) familiar with the applicant’s academic background, aptitude for graduate work in school psychology, and interest in working with school-age children in school settings.
4. Undergraduate preparation in Psychology and/or Education. It is strongly recommended that applicants have at least 18 undergraduate hours in Psychology and/or Education, with preparation in the psychology of learning, psychological appraisal/measurement, human growth and development, and foundations of education.
5. Those admitted must take a minimum of 9 hours each semester, unless permitted by the program director to take fewer hours.

B. Program Requirements—MA Degree (37 credits)

1. Psychology courses (22 hours): PSYC 7800, PSYC 7207, PSYC 7802, PSYC 7803, PSYC 7804, PSYC 7805, and PSYC 7806.
2. Education courses (15 hours): EDPR 7151, EDPR 7511, and EDPR 7541; LEAD 6000; and SPED 7000 (or SPED elective if characteristics of exceptional children course was taken at the undergraduate level).
3. Written and oral examinations.
4. Participation in service experiences in the Psychological Services Center or other agency placements for training purposes.

C. Program Requirements—EdS Degree (30 credits)

1. Psychology courses (9 hours): PSYC 7614 (6 hours), and PSYC 7301 or research elective.
2. Education courses (9 hours): EDPR 7112, RDNG 7541, and COUN 7542.
3. School Psychology Internship (PSYC 8812, 12 hours) is taken at or near the completion of other work.
4. Written examination.

IV. MS Degree Program in General Psychology

A. Program Admission and Prerequisites

All application information must have been received by May 1 for a candidate to be considered for admission to the MS degree program in General Psychology. The following items are required for consideration for admission:

1. An undergraduate grade point average of 2.5/4.0 is required for admission without special permission.
2. GRE scores (Verbal, Quantitative, and Written Analytical).
3. Letters of recommendation from at least three persons familiar with the applicant’s academic background and aptitude for graduate work in Psychology.
4. It is strongly recommended that applicants have 12 undergraduate hours in psychology, including a course in statistics.
5. Applications to the MS in General Psychology program are considered once a year, to make decisions about enrollment for the following fall semester.
B. Program Requirements

Admission to the MS in General Psychology program does not require a student to take any minimum number of credits per semester. The only constraint upon the pace at which the student pursues the degree is that credits more than six years old may not be counted toward the degree.

1. All students in the MS in General Psychology program must be in good academic standing at the end of 15 credit hours of graduate work in order to continue in the program.
   1. PSYC 7301 or equivalent
   2. PSYC 7302 or equivalent
   3. At least two of the following: PSYC 7000, PSYC 7207, PSYC 7217, PSYC 7219, PSYC 7222, PSYC 7412, PSYC 7416, PSYC 7435, PSYC 7440, PSYC 7701, and PSYC 7800

2. During the first year in the program, it is expected that the student will, in consultation with the program director or major professor, have decided on goals and objectives for the remainder of the course of study. Courses that fit these goals and objectives may be in Psychology or other departments in the university. Students who are not in good academic standing at this time must institute an appeal with supporting letters to the program director and the MS in General Psychology committee for consideration of continuance in the program. Such cases will be considered on an individual basis. Also, for both semesters in the first year, all MS in General Psychology students must attend weekly colloquium series to acquaint them with issues of research and professional ethics and research and professional opportunities in the department and in the discipline.

3. A total approved program of 33 credit hours if the student elects to do a thesis, or 36 credit hours without a thesis. Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

4. For students not conducting a thesis, a specialty review and defense covering the student’s area(s) of focus will be completed during the last semester in the program.

Click here for course descriptions
Sociology

Jeni Loftus, PhD
I. The Department of Sociology offers the Master of Arts degree in Sociology. Program objectives are: (1) understanding of and competence in a broad range of substantive topics and in the major theories, statistical techniques, and methodological approaches that guide the sociology discipline; (2) development of independent research skills, including data analysis and oral and written communication of research; and (3) preparation for employment in a sociology-related field or doctoral level study.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

Graduate students who select sociology as a major should consult with the graduate coordinator.

A. Program Admission

Multiple criteria are taken into account when considering applicant admission, including, but not necessarily limited to, GPA for the last 60 hours of the undergraduate degree, letters of reference, GRE scores, the writing sample, and the availability of stipends. In addition, applicants must have satisfactorily completed courses in research methods, sociological theory, and statistics, or demonstrate equivalency.

B. Program Requirements

1. Students may choose one of two degree programs:
   1. The thesis program requires thirty (30) semester hours of graduate level work, which includes 3-6 hours of Sociology 7996 (Thesis). Students may not enroll for more than six hours of Sociology 7996 until they have successfully defended their thesis proposal to their thesis committee. 
      NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
      1. At least 24 semester hours of course work must be in sociology.
2. The oral defense of the thesis counts as a comprehensive examination.

2. The non-thesis program requires thirty-three (33) semester hours of graduate level work and the passing of both written and oral comprehensive examinations.
   1. At least 27 semester hours must be in sociology.
   2. The student must remove all grades of incomplete from his or her record before taking the comprehensive examination.

3. The successful completion of the following courses is required of all majors: SOCI 6312, SOCI 7210, SOCI 7320. A minimum grade of "3.0" is required in each.

4. No more than 6 semester hours of SOCI 7912, Directed Individual Study, may be counted toward the degree without permission from the graduate coordinator.

5. A graduate student whose cumulative grade point average in sociology drops below 3.00 will be placed on departmental review. Being on departmental review at the conclusion of a subsequent semester may result in suspension. Conditions under which continuation in the program beyond two or more semesters on departmental review will be granted must be recommended by the department's graduate committee and the department chair. If, in the opinion of the graduate committee, the chair, the College of Arts and Sciences' Associate Dean of Graduate Programs and Research, and the Vice Provost for Graduate Programs, the student is not making satisfactory progress toward degree completion, the student will be dismissed from the degree program. Students are ineligible for graduate assistantships while on departmental review, but may apply/reapply for an assistantship once their departmental review status has been removed.

6. According to Graduate School policy, students must complete the requirements to remove a grade of "I" (incomplete) within 90 days from the end of the semester or summer term in which it was received or the "I" changes to an "F." If unusual circumstances prevent the student from removing the "I" within 90 days, a 45-day extension may be granted. It is the student's responsibility to request an extension. The department will allow students who received a grade of "I" that changes to an "F" to submit a written request to the graduate committee for a grade change. The request must be made after the student has completed requirements for the course in which the "F" was received and must spell out the reasons why the student was unable to complete the requirements for the course prior to the "I" becoming an "F." In addition, the request must be made within one year of the beginning of the semester or term in which the student enrolled in the course. If the faculty member from which the student received the "I" and the graduate committee agree that extraordinary circumstances prevented the student from completing requirements for the course before the "I" changed to an "F," they will recommend to the department chair that the student's "F" be changed. If the chair agrees with the recommendation of the faculty member and the graduate committee, the chair will recommend to the Vice Provost for Graduate Studies that the student's grade be changed.

III. Accelerated B.A./M.A. Program in Sociology

This program allows outstanding undergraduates to begin the coursework for the Master of Arts in Sociology during their senior year. Students are encouraged to begin planning to enter the Accelerated B.A./M.A. program early in their undergraduate career, in consultation with their advisor in the Department of Sociology.

Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program
begin a carefully tailored course of study which will allow them to complete their B.A. degree while they also begin the coursework toward their M.A.

To apply, students should have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the Sociology department. *Exceptions to the minimum GPA will be considered on a case-by-case basis.* Each applicant will complete an interview with the graduate academic coordinator in sociology.

Students must also apply to the Graduate School for "combination senior" status, which allows them to take graduate courses in sociology. To continue in the program past the B.A., students must apply for full admission into the Graduate School and into the Sociology department's M.A. program.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs.

Students in the accelerated B.A./M.A. program in sociology may choose either the thesis or the non-thesis option for the M.A.

Click here for course descriptions
School of Urban Affairs and Public Policy

STANLEY HYLAND, PhD
The School of Urban Affairs and Public Policy (SUAPP) at the University of Memphis links existing units within the College of Arts and Sciences to create alliances that focus on urban and regional problems and creates an interdisciplinary body of knowledge. Students may earn a masters degree in any of the four graduate academic units. The Department of Criminal Justice offers the Master of Arts in Criminal Justice; the Department of City and Regional Planning offers the Master of City and Regional Planning degree; and the Department of Public and Nonprofit Administration offers the Masters of Public Administration. The Department of Social Work offers a program of study leading to the Master of Social Work degree. Please visit the individual academic units for details.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

Click here for course descriptions
Full sitemap
City and Regional Planning

CHARLES SANTO, PhD
I. The Department of City and Regional Planning in the School of Urban Affairs and Public Policy offers the Master’s in City and Regional Planning (MCRP) degree. Planning uses a multidisciplinary approach to solve urban and regional problems. As such, planning is concerned with the spatial arrangement and interaction of human activity systems in urbanized areas and enables the arrangement of facilities and programs in an optimal and comprehensive way. As a professional practice, planning is concerned with guiding the growth and development of cities and regions toward desired objectives. Planning increases the effectiveness of public and private decision-making by giving careful consideration to goal formulation, the collection and organization of information and knowledge, and the design of policies and programs. The curriculum is intended to provide the basic knowledge and skills in theory, techniques, methods, and practice. The program is a full member of the Association of Collegiate Schools of Planning, and its degree is accredited by the Planning Accreditation Board.

Program objectives are: (1) mastery of computing and written, oral, and graphical skills; (2) strong sense of professional ethical principles; (3) respect for and understanding of diverse viewpoints, needs, and ideologies, with particular attention to issues related to class, gender, race and ethnicity in urban society; (4) knowledge and skills for urban problem-solving including history and theory of planning processes and practices; administrative, legal, and political aspects of plan making and policy implementation; and synthesis and application of knowledge; (5) knowledge of the structure and function of urban settlements, and (6) knowledge and skills necessary for achieving status as a Certified Planner.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MCRP Degree Program

A. Program Admission

1. Applicants must satisfy the University’s Graduate School admission standards and receive favorable endorsement from the planning faculty.
2. Admission will be based on applicable test scores (GRE or MAT); undergraduate grade point average; previous education and/or experience; and ability to articulate career and education objectives.
3. In addition to completing the Graduate School application, applicants should also submit the following
material directly to the Graduate Program in City & Regional Planning:
  - A personal statement (500 words) describing related background, career objectives and interest in studying planning at the University of Memphis.
  - Current resume

4. In order to receive full consideration for Graduate Assistantships, application must be received by April 15.

B. Program Prerequisite

Students are accepted from all undergraduate disciplines and professional areas; however, the department determines if students must do remedial work. Some credit may be granted by the department for remedial work if obtained at the graduate level after entering the program.

C. Program Requirements

The student is required to complete a minimum of 48 semester hours. Twenty-seven (27) hours are taken in the core curriculum and 18 hours are electives that lead to a 3-hour Capstone Project. The eighteen (18) hours of electives allow the student to extend basic knowledge gained in the core curriculum and can include such subjects as economic development planning, urban design, land use and transportation planning, planning information systems, housing, community development planning, planning law, social justice, sustainability, and environmental planning.

The 3-hour Capstone Project, submitted as a written report and orally defended, is required of all majors as a terminal experience designed to demonstrate a student’s mastery of planning process and substance.

The comprehensive examination must be successfully completed at the end of the semester in which the student expects to graduate.

D. Transfer of Credits

The Director may recommend to the Graduate School credit for planning course-work successfully completed at other institutions but not to exceed 12 semester hours. For those students formerly enrolled in graduate planning programs accredited by the Planning Accreditation Board, a maximum of 24 hours in planning course-work may be approved. Credit previously earned at another institution must be presented for evaluation not later than the end of the student’s second semester of enrollment.

Click here for course descriptions

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
I. The graduate program in the Department of Criminology and Criminal Justice, which is part of the School of Urban Affairs and Public Policy, seeks to serve students who are working or who want to work in the criminal justice system as well as those who wish to conduct research and teach in this area. A significant focus of the graduate program is on developing partnerships between researchers, policymakers, program developers, agency personnel, and other community groups. Through these partnerships, faculty conduct basic and applied research, program development, and evaluation in the many different facets of crime, criminology, and justice.

The graduate program provides students with a solid foundation of knowledge about criminology, victimology, and the criminal justice system. The required course work emphasizes the study of research methods and statistics, providing students with the skills necessary for conducting and evaluating research. Graduate students have the opportunity to learn in both classroom and community settings and to work closely with faculty in all facets of research.

Program objectives are: (1) fundamental understanding of criminological principles, theories, and concepts; (2) development of independent research skills, including data analysis and oral and written communication of research; and (3) competitive for professional positions in the criminal justice field.

Students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

A. Program Admission

Admission to the program is competitive and is not automatic upon meeting minimum departmental admission requirements. Students are selected from the pool of qualified applicants for the program, and the number of students admitted to the program yearly depends on availability of financial aid and adequate faculty supervision.
Applicants admitted to the program typically have at least a grade point average of 3.0 on a 4.0 scale. GRE scores (verbal, quantitative, written analytical) are taken into account in the admissions process. All application material should be received by June 1 for a candidate to be considered for the fall semester and November 1 for the spring semester. Admission for the summer session is not considered.

To be considered for admission, the applicant must:

1. Possess a baccalaureate degree from an accredited college or university.
2. Have earned a grade point average of at least 3.00 on a scale of 4.00 and achieved an acceptable score on the GRE. The admissions committee reserves the right to make exceptions for candidates presenting special circumstances.
3. Submit a letter of purpose for graduate study to the Coordinator of Graduate Studies in Criminology and Criminal Justice that is no more than one typed single-spaced page in length.
4. Submit two letters of recommendation.

B. Program Requirements

1. A total of 30 semester hours of graduate work plus the completion and defense of a thesis, or 33 semester hours of graduate work without a thesis with courses taken in both Tool and Foundation Components. NOTE: Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
2. Satisfactory completion of the following core curriculum:
   Tool Component: (6 credit hours)
   CJUS 7128 Research Methods in Criminal Justice
   CJUS 7129 Advanced Statistical Methods in Criminal Justice
   Foundation Component: (9 credit hours)
   CJUS 7100 Criminal Justice Administration: Programs and Policies
   CJUS 7161 Intervention Strategies: Changing Organizations and Communities
   CJUS 7541 Criminological Theory: Causes of Crime
3. Students not previously having successfully completed a statistics course must register for a statistics course from a list approved by the department prior to registering for CJUS 7129, Advanced Statistical Methods in Criminal Justice.
4. A minimum of 27 hours of coursework at the 7000 level, including thesis hours.
5. Up to six hours of coursework may be taken outside the department with prior approval of the graduate coordinator.
6. Students will be allowed no more than six hours of credit toward the degree in non-classroom courses such as internships, individual directed studies, and reading courses.
7. Satisfactory performance on a comprehensive examination covering the major areas of criminology and criminal justice.

C. Retention Requirements

1. All students are required to maintain a GPA of at least 3.00. Should the student’s GPA fall below that mark, a period of one semester will be allowed to correct the deficiency. At the discretion of the chair,
the coordinator of graduate studies, and the Assistant Vice Provost for Graduate Studies, this period may be extended one additional semester.

2. Any student receiving a grade of D or F in a required course in the core curriculum will be terminated from the program.

Click here for course descriptions

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
Public and Nonprofit Administration

MICHAEL HOWELL-MORONEY, PhD
I. The Department of Public and Nonprofit Administration is a unit within the School of Urban Affairs and Public Policy. Its Master of Public Administration degree program educates students for careers in public service and for employment with government, private, nonprofit, and publicly-oriented organizations. The program combines interdisciplinary academic preparation with governmental and nonprofit field experience. The program is accredited by the National Association of Schools of Public Affairs and Administration.

Program objectives are: (1) development of generalist public service management and leadership knowledge, skills and competencies including an emphasis on public values and ethical actions and consequences; (2) ability to apply public management and leadership knowledge and skills; and (3) ability to integrate public administration concepts, theories, and applications.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

**PPI STATEMENT**

All college transcripts and test score information should be sent directly to Graduate Admissions. **Beginning with Summer and Fall 2013 admittance**, the Master of Arts program in Public and Non-Profit Administration highly recommends the ETS® Personal Potential Index (PPI) Evaluation Report containing a minimum of three (3) evaluations from separate evaluators in order to consider your application complete. The PPI is a third-party evaluative tool administered by the ETS (Educational Testing Service) organization. **There is no fee to submit the PPI report to the University of Memphis.**

You can create an ETS PPI account and review the ETS PPI Information Bulletin, which explains the service, at [http://www.ets.org/ppi/applicants/start/](http://www.ets.org/ppi/applicants/start/).

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**PPI - Steps At A Glance**
• Create an ETS PPI account to begin the process.
• Provide contact information for the evaluators you would like to complete an ETS PPI evaluation.
• ETS sends an email to each evaluator inviting them to access the ETS PPI system and complete your evaluation.
• Each evaluator logs in to the ETS PPI system to rate you on six personal attributes and provide an overall evaluation. Evaluators also may provide optional comments for each attribute as well as for the overall rating.
• You are notified via e-mail when each time that one of your evaluators completes their PPI.
• **THE MOST IMPORTANT STEP** After all of your evaluators have completed their PPI reports, you must log back into your PPI account, designate the University of Memphis Office of Graduate Admissions to receive an ETS PPI Evaluation Report and select the evaluations that are to be included in the report. Our office cannot access your PPI recommendations until you complete this step.
• Once you designate the University of Memphis to receive an ETS PPI Evaluation Report, ETS creates an evaluation report and sends it electronically to the University of Memphis, Office of Graduate Admissions. Allow up to 5 days for the report to be processed and sent to the University of Memphis.

View a sample PPI Report.

The evaluators/faculty members who you choose should be individuals that you believe are best able to objectively comment on your intellectual and professional achievements and potential.

We may call or write your recommenders for more information.

II. Master of Public Administration (MPA) Degree Program has concentrations in nonprofit administration and public policy/management.

A. Program Admission

Applicants must satisfy admission requirements of the Graduate School and receive favorable endorsement from the public administration faculty. Admission will be based on:

1. Applicable test scores (Graduate Record Examination [GRE], Graduate Management Aptitude Test [GMAT], or Miller Analogy Test [MAT]);
2. Undergraduate grade point average;
3. Previous education and/or experience demonstrated via a résumé and two letters of reference;
4. Ability to articulate career goals and education objectives via a personal statement.

Inquiries can be directed to mpa_admissions@memphis.edu

B. Program Requirements

1. Students are required to complete a minimum of thirty-nine (39) semester hours. Twenty-one (21)
hours are taken in the core curriculum; fifteen (15) hours are required in each concentration, plus a three (3) hour internship. An individual course plan is designed for each student and approved by the Coordinator of Graduate Studies. The two concentrations allow students to extend the basic knowledge gained in the core curriculum to more focused public service fields, including nonprofit administration and public policy and management.

2. The core curriculum is as follows:
   PADM 7661. Contemporary Perspectives in Public Administration (3)
   PADM 7663. Issues in Public Management and Policy
   PADM 7600. Seminar in Administrative Theory (3)
   PADM 7601. Research Methods in Public Administration (3)
   PADM 7602. Public Budgeting and Finance Administration (3)
   PADM 7605. Human Resources Administration (3)
   PADM 7607. Public Management Leadership (3)
   EITHER PADM 7612. Program and Policy Evaluation (3)
   OR PADM 7213. Seminar in Public Policy Analysis (3)

3. The capstone project must be successfully completed during the calendar year in which the student expects to graduate. Students must also successfully complete PADM 7607, Public Management Leadership, during the calendar year in which the student expects to graduate.

C. Concentration Requirements

1. Based on their course plan, students must complete five graduate courses (15 hours) specific to their academic goals and the guidelines of the concentration.
2. Public Service Field Experience: Students with no administrative experience must enroll in PADM 7610, Internship (3 Hours). The internship placement should relate to the student's concentration and career goals. Students must complete a minimum of 18 semester hours prior to enrollment in PADM 7610.

D. Non-Degree-Seeking Students

If a student has taken graduate courses at The University of Memphis as a non-degree-seeking student, the student may apply a maximum of 9 credit hours toward his/her degree requirements. The grade in each course applied must be at least a “3.00.” The Coordinator of Graduate Studies must approve all course work taken as a non-degree-seeking student.

III. Graduate Certificate in Local Government Management

The objectives of the certificate program are: (1) Help working professionals upgrade their knowledge of local government and theory. (2) Empower graduates of the program to succeed as effective and ethical leaders in local government administration. (3) Enhance the analytical and management capabilities of local government professionals.

A. Admissions Requirements
The certificate program in Local Government Management can be pursued concurrently with other graduate programs at the university. Applicants must satisfy admission requirements of the Graduate School and receive a favorable endorsement from the public administration faculty. Admission will be based on:

1. Applicable test scores: Graduate Record Examination (GRE), Graduate Management Aptitude Test (GMAT), or Miller Analogy Test (MAT);
2. Undergraduate grade point average;
3. Previous education and/or experience demonstrated via a resumé and two letters of reference;
4. Ability to articulate career goals and education objectives via a personal statement.

Inquiries can be directed to mpa_admissions@memphis.edu.

B. Program Requirements
Successful completion of 15 hours of graduate credit. Students must maintain a GPA of 3.0.

1. Core Local Government Management Courses, 9 hours:
   PADM 6221, Urban Administration
   PADM 7602, Public Budgeting and Finance
   PADM 7224, Seminar in Urban Problems
2. Electives, 6 hours chosen from the following:
   PADM 7605, Human Resources Administration
   PADM 7612, Program and Policy Evaluation
   PADM 7603, Public and Nonprofit Contract Administration
   PLAN 7000, Introduction to Planning
   PLAN 7202, Land Use Planning
   POLS 6222, Urban Politics
   Or other elective courses chosen in consultation with an advisor

Note: No more than twelve credit hours of this certificate program may be applied toward the completion of the MPA degree.

IV. Graduate Certificate Program in Philanthropy and Nonprofit Leadership

The Certificate in Philanthropy and Nonprofit Leadership is designed to meet the needs of graduate students, employees and volunteers looking for advanced study in the theory and practice of nonprofit administration. Ideal for nonprofit professionals, community volunteer leaders and active philanthropists, the Certificate provides knowledge and skills to help strengthen the leadership capacity of nonprofit organizations and promote ethical and effective nonprofit administrative practice. The Certificate requires 15 hours of graduate coursework, available in both on-campus and online formats.

A. Admission Requirements:

The Certificate in Philanthropy and Nonprofit Leadership can be pursued concurrently with other graduate
programs at the university. In particular, students currently admitted and in good standing in a graduate program at the University of Memphis can enroll in this certificate program.

Applicants must satisfy admission requirements of the Graduate School and receive favorable endorsement from the public administration faculty. Admission will be based on:

1. Applicable test scores (Graduate Record Examination [GRE], Graduate Management Aptitude Test [GMAT], or Miller Analogy Test [MAT]);
2. Undergraduate grade point average;
3. Previous education and/or experience demonstrated via a resumé and two letters of reference;
4. Ability to articulate career goals and education objectives via a personal statement.

Inquiries can be directed to mpa_admissions@memphis.edu.

B. Program Requirements: Successful completion of 15 hours of graduate credit. Students must maintain a GPA of 3.0.

1. Twelve of the 15 hours must be met by satisfactory completion of four core courses
   - PADM 7641 Theory and Practice of Nonprofits
   - PADM 7605 Human Resources Administration
   - PADM 7642 Resource Development for Nonprofits
   - PADM 7643 Nonprofit Leadership and Philanthropy
2. Elective courses will be selected with the student and their advisor.
3. In order to continue in the program, students must maintain at least a 3.0 Graduate GPA.

C. Graduation Requirements:

To obtain the certificate a student must complete five of the above-mentioned courses (four major courses and one elective course), with an average grade of 3.0 (B) or higher, for a total of fifteen credits.

V. Standardized Exam Waiver Policy

Applicants for the MPA degree or certificate programs may be eligible for a waiver of the standardized entrance exam (GRE, GMAT or MAT) if they fall into one of the groups below:

1. Applicants with an earned professional or graduate degree from an accredited institution
2. Public Service Experience: Certain applicants may be eligible for a waiver based upon a combination of their undergraduate performance and subsequent work experience. Applicants seeking a waiver under this mechanism must meet all of the following criteria:
   - Undergraduate GPA of 3.0 or better
   - Six years of progressively responsible public service experience
   - Successfully reach supervisory or managerial positions in public or nonprofit organizations, including independence of authority, responsibility of program design, and/or budgetary authority
   - Demonstrated exemplary accomplishment in their public service career or community volunteer
activities documented in letters of recommendation

*IMPORTANT* Applicants seeking a waiver must contact the Division Director BEFORE beginning their application. If a waiver is not granted prior to applying, the application will not be processed by the Graduate School.

Click here for course descriptions

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**Graduate School**

**2015-2016 Academic Calendar**

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The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Graduate Catalog

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Degree Planning

Social Work

Steven Soifer, PhD
I. The Department of Social Work offers a program of study leading to the Master of Social Work (MSW) degree. The purpose of the program is to educate students for careers as professional social workers by combining quality evidence-based academic preparation with field practice experience.

The mission of the MSW program is to educate advanced professional social workers for practice with at-risk populations. Housed within the School of Urban Affairs and Public Policy, the Department of Social Work is dedicated to (a) educating social workers with knowledge, values, and skills for evidence-based practice with children and families, (b) advancing the knowledge base of the social work profession and (c) providing regional leadership in the development and implementation of policies, programs and services for at-risk populations. The program offers two concentrations: (1) Advanced Practice with Children, Youth, and Families: and (2) Advanced Practice with Adults and Families. Students are required to choose one of the two concentrations.

Students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements), the requirements of the MSW program and must exhibit high integrity and moral character consistent with the standards of ethical practice set forth by the National Association of Social Workers.

II. MSW Degree Program

A. Program Admission and Prerequisites

A faculty committee of no less than three members will determine admission to the Master of Social Work program. Admission will require a majority vote in favor of the candidate from members of the committee. The following is necessary for application:

1. A baccalaureate degree from an accredited college or university.
2. Admission is competitive. Generally a grade point average of at least 3.0 or better (A=4.0) for the final
60 semester hours or 90 quarter hours of undergraduate study is necessary for consideration.

3. Submission of GRE test scores; admission is competitive.

4. Experience in a Social Work related field as a paid employee, volunteer or researcher is desirable.

5. A Professional Goal Statement (see the Department’s website for specific instructions).

6. Provide a professional resume.

7. Provide three professional references.
   a.) At least one must be from a former faculty member.
   b.) Two of the three must be from sources familiar with your volunteer, internship, or paid work experience.

Deadline for fall admissions is March 1st for scholarship/assistantship consideration and April 15th for regular admission. Applications received after April 15th may be considered if space is available. There are no spring semester admissions.

B. Program Requirements

Students are required to complete a minimum of sixty (60) semester hours; thirty (30) hours are taken in the foundation curriculum and thirty (30) hours are required in the concentration curriculum.

Thesis Option

- 30 semester hours of foundation-level graduate coursework (24 semester hours) and field (6 semester hours), 24 semester hours of concentration-level coursework (18 semester hours) and field (6 semester hours), and a minimum of 6 semester hours of SWRK 7996 (Thesis).
- All courses in the 30 semester hours of foundation-level graduate coursework (24 semester hours) and field (6 semester hours) are required and must be taken with a passing grade before concentration-level coursework, elective semester hours, independent study semester hours, or thesis hours may be undertaken.
- 12 hours of concentration-level coursework and 12 hours of concentration-level field and field seminar are required courses.
- The 6 semester hours of SWRK 7996 replace 2 electives and must be taken in two consecutive semesters.
- A passing score on the capstone Comprehensive Examination. The comprehensive examination for the Master of Social Work program consists of three components: 1) an evaluation of the student’s ability to meet MSW program competencies in field placement; 2) a student self-assessment of her/his ability to meet all MSW program competencies; and 3) completion of a social work licensure practice examination with a score of 75 or higher.

Non-Thesis Option

- 30 semester hours of foundation-level graduate coursework (24 semester hours) and field (6 semester hours), 18 semester hours of concentration-level coursework (18 semester hours) and field (6 semester hours) and field seminar (6 semester hours).
- All courses in the 30 semester hours of foundation-level graduate coursework (24 semester
hours) and field (6 semester hours) are required and must be taken with a passing grade before concentration-level coursework, elective semester hours, or independent study semester hours may be undertaken.

- 12 hours of concentration-level coursework, 6 hours of concentration-level field and 6 hours of concentration-level field seminar are required courses.
- 6 semester hours of electives or independent study must be taken with the non-thesis option.
- A passing score on the capstone Comprehensive Examination. The comprehensive examination for the Master of Social Work program consists of three components: 1) an evaluation of the student’s ability to meet MSW program competencies in field placement; 2) a student self-assessment of her/his ability to meet all MSW program competencies; and 3) completion of a social work licensure practice examination with a score of 75 or higher.

1. The foundation curriculum provides evidence-based knowledge, behaviors and skills for social work practice with individuals, families, groups, organizations and communities. The concentration curriculum allows students to extend the basic knowledge gained in the foundation to a more focused advanced evidence-based practice with families and children or advanced evidence-based practice with adults and families. Both the foundation and concentration portions of the program emphasize evidence-based practice and critical thinking skills.

2. To accommodate a wide range of student needs, the MSW program of study offers options for full-time (4 semesters of study; 60 credit hours) and extended study (6 to 8 semesters of study; 60 credit hours). Regardless of progression through the program, the educational components of each sequencing option are the same. The concentration curriculum is generally full-time (2 semesters), although students may choose to extend (3 to 5 semesters). All MSW students follow the same learning expectations for field education, take the same comprehensive exam at the conclusion of the program, and meet the same requirements for graduation. Courses are offered in the traditional classroom settings, on-line and in a hybrid format (combination of traditional classroom and on-line).

3. Students must follow a structured program of study that includes all of the following foundation courses (30 credit hours) (unless advanced standing):
   - 7001 Skills for Professional Social Work Practice (3)
   - 7002 Foundation Practice with Individuals and Families (3)
   - 7003 Foundation Practice with Groups, Organizations and Communities (3)
   - 7005 Assessment, Diagnosis and Psychopathology (3)
   - 7021 SW Across Lifespan (3)
   - 7022 Foundation Practice with Organizations and Communities (3)
   - 7025 Scientific Methods in Social Work (3)
   - 7030 Social Welfare Policy and Services (3)
   - 7051 Field Placement I (3)
   - 7052 Field Placement II (3)

4. Upon successful completion of at least 8 of the 10 foundation courses students move to the concentration curriculum, which includes 30 credit hours in either the Advanced Practice with Children, Youth, and Families concentration or the Advanced Practice with Adults and Families concentration.

1. Advanced Practice with Children, Youth, and Families
   - 7016 Adv. Individual Child/Youth (3)
7017 Adv. Family Child/Youth (3)
7032 Adv. Community Child/Youth (3)
7026 Program and Policy Evaluation (3)
7053 Field Placement III (3)
7054 Field Placement IV (3)
7055 Integrative Field Seminar I (3)
7056 Integrative Field Seminar II (3)
Elective (3)
Elective (3)

2. Advanced Practice with Adults and Families
7018 Adv. Individual Adults (3)
7019 Adv. Families Adults (3)
7033 Adv. Community Adults (3)
7026 Evaluative Research (3)
7053 Field Placement III (3)
7054 Field Placement IV (3)
7055 Integrative Field Seminar I (3)
7056 Integrative Field Seminar II (3)
Elective (3)
Elective (3)

C. Retention Requirements

1. Students in the MSW program must comply with all retention standards of the Graduate School at the University of Memphis.

2. All students are required to maintain a cumulative GPA of at least 3.00. Should the student’s cumulative GPA fall below that mark, a period of one semester will be allowed to correct the deficiency. At the discretion of the chair, the coordinator of graduate studies in the student’s college, and the Assistant Vice Provost for Graduate Studies, this period may be extended one additional semester. Students failing to improve their GPA to an acceptable level in that time will be dismissed from the program.

3. No more than 6 hours of "C-," "C" or "C+" will be applied toward meeting degree requirements. No grade of a D+ or lower will count toward the degree.

4. All degree requirements for the Master of Social Work must be completed within 6 years of initial enrollment.

D. Program Requirements

All students seeking the Master of Social Work degree must:

1. Successfully complete all courses required in the program of study
2. Abide by the honor’s statement which includes a commitment to engage in professional conduct appropriate for a Social Worker at all times in accordance with the Code of Ethics of the National Association of Social Workers (NASW).
3. Adhere to all graduate and University requirements as stated in The University of Memphis Graduate Catalog (available from the Graduate School).

4. Satisfactorily pass a written comprehensive examination in the final semester of study.

III. Advanced Standing Program

The Advanced Standing Program allows outstanding graduates of undergraduate social work programs to complete the MSW in a 37 credit hour accelerated program. Students seeking admission into the Advanced Standing Program must: 1) meet all admissions requirements for the 60 credit hour program; 2) have obtained a BA/BSW degree from an undergraduate program accredited by the Council on Social Work Education (CSWE) within five years of making application to the MSW; 3) have an overall undergraduate GPA of 3.0 or higher; and 4) have a GPA of 3.3 or higher in their undergraduate social work courses.

New admissions for Advanced Standing students occur for summer session only. Deadline for application is March 1st, for scholarship/assistantship consideration and April 15th for regular admissions.

Students in the Advanced Standing Program complete seven credit hours of foundation content and all concentration content. Required coursework is as follows:

1. All of the following foundation courses:
   - 7005 Assessment, Diagnosis, and Psychopathology (3)
   - 7025 Scientific Methods in Social Work (3)
   - 7050 Advanced Standing Field (1)
   - Complete a concentration in either Advanced Practice with Children, Youth, and Families or Advanced Practice with Adults and Families.

Click here for course descriptions
Cognitive Science Graduate Certificate Program (Interdisciplinary)

The primary objective of this certificate is to supply graduate students interested in Cognitive Science with
interdisciplinary training in the 3 major fields of Cognitive Science, Cognitive Psychology, Artificial Intelligence, and Linguistics. The focus of these courses is to develop core competencies to support research in cognitive science as well as applications in human-computer interaction, information systems, advertising and marketing, and design. While the program will be administered by the Institute for Intelligent Systems, the courses are being taught by seven different departments in four different colleges (Arts and Sciences, Communication Sciences and Disorder, Engineering, and Education).

A. Admissions Requirements

Applicants to the Cognitive Science Graduate Certificate may be admitted in any semester. The certificate will be promoted across all departments in the University and within the Institute for Intelligent Systems. Students currently admitted to a graduate program at the U of M may apply for admission. In rare instances, students who have not been admitted to a graduate program must apply to the Graduate School for admission as Non-Degree Seeking students; they will be considered for admission on an individual basis.

B. Program Requirements

The program requires completion of 15 semester credit hours distributed as follows:

The following course is required: PSYC 7514-8514, Seminar: Cognitive Science (Same as COMP 7514-8514 and PHIL 7514-8514)

One of the following courses is required:

- PSYC 7207-8207, Developmental Psychology
- PSYC 7208-8208, Psychology of Perception
- PSYC 7211-8211, Cognitive Processes
- PSYC 7222-8222, Psychology of Human Memory
- PSYC 7407-8407, Cognition & Emotion
- PSYC 7503-8503, Seminar Experimental Psychology
- PSYC 7701-8701, Behavioral Neuroscience

One of the following courses is required:

- AUSP 8017, Digital Signal Processing Speech/Hearing
- EECE 7216-8216, Computer Vision
- EECE 7262-8262, Logical Foundations Artificial Intelligence
- EECE 7266-8266, Prolog Processing/Intelligent Systems
- COMP 6720, Introduction Artificial Intelligence (Same as EECE 6720)
- COMP 6730, Expert Systems (Same as EECE 6730.)
- COMP 7118-8118, Topics in Data Mining
- COMP 7282-8282, Evolutionary Computation
- COMP 7720-8720, Artificial Intelligence (Same as EECE 7720-8720)
- COMP 7740-8740, Neural Networks (Same as EECE 7740-8740)
- COMP 7745-8745, Computational Intelligence
- COMP 7760-8760, Control of Autonomous Agents
- COMP 7770-8770, Knowledge Representation/Reasoning
- COMP 7780-8780, Natural Language Processing (Same as PSYC 7221-8221)
- PSYC 7313-8313, Computational Models Cognitive Science

One of the following courses is required:

- AUSP 7002-8002, Seminar Communication Sciences
- AUSP 7000-8000, Speech Science
- AUSP 7006-8006, Language and Speech Development
- AUSP 7008-8008, Acoustic and Perceptual Phonetics
- AUSP 7011-8011, Psycholinguistics
- ENGL 7507-8507, Empirical Methods Linguistic Research
- ENGL 7508-8508, Corpus Linguistics
- ENGL 7511-8511, Survey of Linguistics
- ENGL 7512-8512, Morphology and Syntax
- ENGL 7590-8590, Applied/Theoretical Linguistics

Electives: Total credits: 3 hours (1 course)

One of the following courses is required outside of the student's field. Other elective courses may be selected in consultation with the program director.

- AUSP 7002-8002, Seminar Communication Sciences
- AUSP 7000-8000, Speech Science
- AUSP 7006-8006, Language and Speech Development
- AUSP 7008-8008, Acoustic and Perceptual Phonetics
- AUSP 7011-8011, Psycholinguistics
- AUSP 8017, Digital Signal Processing Speech/Hearing
- EECE 7216-8216, Computer Vision
- EECE 7262-8262, Logical Foundations Artificial Intelligence
- EECE 7266-8266, Prolog Processing/Intelligent Systems
- COMP 6720, Introduction Artificial Intelligence (Same as EECE 6720)
- COMP 6730, Expert Systems (Same as EECE 6730.)
- COMP 7118-8118, Topics in Data Mining
- COMP 7282-8282, Evolutionary Computation
- COMP 7720-8720, Artificial Intelligence (Same as EECE 7720-8720)
- COMP 7740-8740, Neural Networks (Same as EECE 7740-8740)
- COMP 7745-8745, Computational Intelligence
- COMP 7760-8760, Control of Autonomous Agents
- COMP 7770-8770, Knowledge Representation/Reasoning
- COMP 7780-8780, Natural Language Processing (Same as PSYC 7221-8221)
IDT 7070-8070, The Instructional Design Process I
- IDT 7074-8074, Theories and Models of Instructional Design
- IDT 7090-8090, Development of Interactive Learning Environments I
- PHIL 6421, Philosophy of Mind
- PSYC 7207-8207, Developmental Psychology
- PSYC 7208-8208, Psychology of Perception
- PSYC 7211-8211, Cognitive Processes
- PSYC 7222-8222, Psychology of Human Memory
- PSYC 7301-8301, Research Design and Methodology
- PSYC 7313-8313, Computational Models Cognitive Science
- PSYC 7407-8407, Cognition & Emotion
- PSYC 7503-8503, Seminar Experiment Psychology
- PSYC 7514-8514, Seminar: Cognitive Science (repeatable; Same as COMP 7514-8514 and PHIL 7514-8514)
- PSYC 7701-8701, Behavioral Neuroscience

C. Graduation Requirements:

1. The student must complete all five Courses (4 required, 1 elective) with an average grade of B (3.0) or higher, for a total of 15 credit hours.
2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

NOTE: An interdisciplinary governance structure will manage and oversee the graduate certificate with primary leadership and accountability based in the Institute for Intelligent Systems.

The Associate Director of the Institute for Intelligent Systems will be the graduate coordinator for the program and will advise students regarding courses. This advising process will include an introductory meeting with students entering the certificate that focuses on course options and course prerequisites for later electives. The program will also have a Governance Board appointed by the Director of the Institute for Intelligent Systems. The Board will consist of 6 members. Members will come from the Institute for Intelligent Systems or affiliated departments.
Women's and Gender Studies Certificate Program

JOY CLAY, PhD
I. Description of Program

The Women’s and Gender Studies Program offers a graduate certificate program for students seeking work beyond the bachelor’s level, whether for self-enrichment or to enhance a master’s or doctoral degree program. Program objectives are: (1) development of interdisciplinary understanding of the social, political, and cultural roles of gender; (2) an appreciation of and the ability to synthesize theoretical perspectives on gender and race from both the humanities and the social sciences.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. Graduate Certificate Program in Women’s and Gender Studies

The Graduate Certificate in Women’s and Gender Studies is an interdisciplinary program open to students currently admitted to any graduate program at the University of Memphis. It is also available to graduate students enrolled at another institution, as well as to individuals holding a graduate degree who wish to pursue further professional credentials. The program draws on the expertise of faculty from different departments and colleges, including the Colleges of Arts and Sciences, Education, and Business; therefore, the academic program for each student will be individually crafted in consultation with the Women’s and Gender Studies advisors.

The certificate provides recipients with a specific and documented knowledge of Women’s and Gender Studies. Not only an advantage to those pursuing advanced degrees in related fields, the certificate program satisfies the demands of a labor market increasingly oriented toward those trained in managing diversity and services for women.

A. Admission to the Program

1. Students currently admitted to a graduate program at the University of Memphis or other university, as well as students already holding a graduate degree, may apply for admission to the Graduate Certificate Program in Women’s and Gender Studies.
2. For students enrolled in a graduate program, a minimum undergraduate GPA of 2.8 is required for admission.

3. Students must apply to both the certificate program and the Graduate School. To apply, students submit:
   1. Transcript of undergraduate degree program and transcripts of prior and current graduate study
   2. A letter describing reasons why the student is interested in pursuing a graduate certificate in the area of Women’s and Gender Studies and how the program corresponds with prior experience and anticipated career plans
   3. GRE scores are required and are an important factor in admission
   4. A minimum score of 550 on the TOEFL and a minimum score of 50 on the Test of Spoken English (for students whose native language is not English)

B. Program Requirements

1. The certificate program requires completion of twelve (12) semester credit hours.
2. Three (3) credit hours must be met by satisfactory completion of either SOCI 7421 Racial and Social Inequality or SOCI 7422 Race/Class/Gender.
3. Nine (9) remaining hours will be selected in consultation with the Women’s and Gender Studies advisors and prior to enrolling in the class to assure the courses include or treat centrally material relevant to the Certificate students. Course content may vary depending on the instructor and will not always be pertinent to the study of women and gender.
4. Select at least one course from the humanities group and one course from the social science group (courses from graduate programs that incorporate women’s and gender issues, such as in the courses below, will be considered for inclusion as an approved elective):
   1. Humanities Courses:
      COMM 6364 Voices/American Women
      COMM 6856 Women and Film
      ENGL 7451 Women and Literature
      ENGL 7469 African American Women Writers
      HIST 6056 Sex/Desire/Modern Europe
      HIST 6213 Women/Gender/Latin America
      HIST 6289 African Women’s History
      HIST 6831 History of the American Family
      HIST 6851 History Women in America
      HIST 6853 African American Women
      HIST 6863 History of Childhood in America
      HIST 7060/8060 Women/Gender/Historiography
      HIST 7061/8061 Studies Women/Gender History
      MUHL 6013 Women and Music
      PHIL 6441 Recent Continental Philosophy
      PHIL 7020 Seminar on Major Figure
      WMST 7320 Women and Multicultural Expression
   2. Social Science Courses:
      ANTH 6551 Culture/Sex/Childbirth
COUN 7723 Human Sexuality
COUN 7751 Gender Issues in Counseling
COUN 7752 Counseling GLBT
PSYC 7219 Social and Personality Development
SOCI 7212 Multiracial Feminist Theory
SOCI 7410 Sociology of Gender
SOCI 7421 Racial and Social Inequality
SOCI 7422 Race/Class/Gender
SOCI 7853 Gender and Health

5. Students are encouraged to take most of their courses at the 7000 level but up to two courses (6 hours) at the 6000 level are permissible.

6. Because the program is interdisciplinary, at least three (3) hours of coursework must be taken outside of the major department and from the list of courses provided.

7. In order to continue in the program, students must maintain at least a 3.0 GPA.

Click here for course descriptions
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# Dean

**LLOYD BROOKS, PhD**  
*Interim Associate Dean, Programs and Research*

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## GRADUATE ACADEMIC PROGRAMS

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Individual program requirements described in The University of Memphis Graduate Catalog, 2015 - 2016, are subject to change. Please consult the college office for changes that may occur before publication of the next issue of this Catalog. Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued (see departmental listings in this section).

The Fogelman College of Business and Economics is one of the premier schools of business in the Mid-South and is fully accredited by the AACSB-International, the Association to Advance Collegiate Schools of Business. AACSB-International accreditation represents the highest standard of achievement for business schools worldwide. Institutions that earn accreditation confirm their commitment to quality and continuous improvement through a rigorous and comprehensive peer review. The Fogelman College is also home to the Robert Wang Center for International Business, one of only 30 Centers for International Business and Education Research (CIBER), as designated by the US Department of Education. Other significant initiatives and centers that promote business research and outreach to the business community include the Bureau of Business and Economic Research, the Center for Supply Chain Management and the Center for Managing Emerging Technology at the FedEx Technology Institute, and the Institute for the Study of Securities Markets. In addition, ten Chairs of Excellence and two Distinguished Professors are on the faculty in the School of Accountancy and the Departments of Economics; Finance, Insurance, and Real Estate; Management Information Systems; Management; and Marketing and Supply Chain Management.

The mission of the Fogelman College is to offer business education to a diverse student population by teaching a rigorous and relevant business curriculum, supported and strengthened by research and community outreach. Graduate degree programs serve the workforce needs of the Mid-South region and beyond. Specifically, through the MBA program as well as the Executive MBA, International MBA, and other masters programs, the College prepares students for leadership roles in the technology-driven and globally competitive marketplace. The College offers a PhD program in Business Administration in selected areas to prepare students for teaching, research, or professional careers while serving as a research catalyst to stimulate faculty scholarly endeavors.

**MASTERS DEGREE PROGRAMS**
The Fogelman College of Business and Economics offers five MBA programs, the Master of Science with a major in Business Administration and three concentrations, the Master of Science in Accounting, and a Master of Arts in Economics.

The **Professional MBA** program is designed for full-time professionals who are interested in taking part-time classes to accommodate their busy schedules (although students may enroll on a full-time basis). Classes are offered in the evening. At least one year of full-time work experience is highly recommended prior to admission. Students typically choose one of the approved concentrations listed below to acquire additional professional expertise. However, students may choose a 33-credit-hour, no-concentration option if desired.

- The **MBA with a Biomedical Management concentration** is a 45-credit-hour program designed for full-time students interested in managerial positions in the biomedical industry, with classes offered during the day and evening. A three-credit-hour internship with a sponsoring company may be required.
- The **MBA with a Professional concentration** is a 45-credit-hour program designed for students who want maximum flexibility in creating an area of expertise for themselves. With advice from the program director, faculty, and industry stakeholders, students take 15-credit-hours of elective courses that are most influential for their career aspirations.
- The **MBA with a Law concentration** allows the student to concurrently earn an MBA and the JD. The student must be admitted to both the Fogelman College MBA program and the JD program in the Cecil C. Humphreys School of Law.
- The **MBA with an Entrepreneurship concentration** is a 45-credit-hour program designed for students interested in entrepreneurial ventures, with classes offered during the day and in the evening. A three-credit-hour directed study in developing a business plan for a new venture may be required.
- The **MBA with a Services Marketing concentration** is a 45-credit-hour program designed for students interested in managerial positions in the services marketing industry, with classes offered during the day and in the evening. A three-credit-hour internship with a sponsoring company may be required.

The **Customer-Driven MBA** program is a full-time, fixed track, 21-month program designed for students interested in working for specific area companies in a specific industry. Students enroll on a full-time basis and take classes during the day and evening. Students enroll in an approved MBA concentration; company-sponsored assistantships and internships/independent studies are required. The program is 45 credit hours in length.

The **MBA with an Executive concentration** is a full-time, fixed-track, 17-month program designed for full-time working professionals and mid-upper level executives with at least five years work experience. Classes are offered one day a week during the Fall and Spring semesters on alternating Thursday evenings and Saturdays and in two domestic and one international residency weeks. The program is 41 credit hours in length.

The **International MBA** is a fixed-track, two-year program designed for the full-time student interested in international business. Internship and study-abroad components are emphasized in the program.
The Master of Science with a major in Business Administration has concentrations in Finance; Management Information Systems; Real Estate; and Hospitality and Resort Management. This MS degree offers students distinct specialization in their chosen concentration area.

The Master of Science in Accounting provides students wishing to specialize in accounting the opportunity to concentrate in one of three areas: general accounting, accounting systems, and taxation.

The Master of Arts in Economics provides advanced training in economics for students who are interested in continuing their graduate education with the PhD in Economics or who are interested in a career as an economic analyst in the private sector or in government organizations.

I. MASTER OF BUSINESS ADMINISTRATION

An MBA is designed for those students who are interested in managerial careers -- for those with leadership aspirations and abilities. Specific program objectives include:

1. acquisition of managerial-level knowledge of and skills in economics, financial reporting and analysis, operations, strategic use of science and technology, and creating customer and societal value in the global arena;
2. acquisition of managerial-level knowledge of and skills in creativity and innovation, leadership and team-building, ethics and law;
3. acquisition of managerial-level knowledge of and appreciation for the global implications of all business decision-making.

A. Program Admission

Applicants to all MBA programs must have:

1. An undergraduate degree from an accredited college or institution.
2. A Graduate School application for admission and the appropriate fee.
3. An official transcript from each college or university attended.
4. Applicants must present an acceptable score on a recent (five years or less) Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE). Official GRE or GMAT scores are required for admission. Admission is competitive based on standardized test scores, cumulative grade point averages, (etc.).
5. A current resume
6. A personal statement of interest
7. Response to the required essay questions (available at http://www.mba.memphis.edu)
8. Two letters of recommendation

A separate application and additional information materials must be submitted for admission to the Executive concentration (www.memphis.edu/executivemba/), the International MBA (www.memphis.edu/internationalmba/), or the CD-MBA concentration (www.memphis.edu/cdmba/). Business experience requirements include one year work experience for the MBA and at least five years professional or managerial experience for the Executive
concentration.

Arrangements for taking the GMAT can be made by using [www.mba.com](http://www.mba.com). Arrangements for taking the GRE can be made by writing to the Educational Testing Service, P.O. Box 6000, Princeton, New Jersey 08541-6000, by calling 1-866-473-4373, or by using [www.ets.org](http://www.ets.org).

Registration packets for the GRE may be obtained from the Testing Center on campus in John W. Brister (JWB) Hall room 112.

Applicants with at least five years of managerial experience may choose to submit a portfolio of professional accomplishments in lieu of a GMAT or GRE score. An admissions committee will review each applicant's portfolio of professional accomplishments to decide if a GMAT/GRE waiver is warranted. If an applicant's portfolio is not adequate to warrant a GMAT/GRE waiver, that applicant will be asked to submit a GMAT or GRE score, as per standard admission procedure. Applicants who request a GMAT/GRE waiver must submit their portfolios to the department academic advisor.

Qualified applicants may enter the MBA or the MBA with Law concentration in either the Fall or Spring semesters, while admission to the International MBA, the MBA with Executive concentration, and the CD-MBA is for Fall only.

**MBA Preparatory Knowledge**

Students entering the MBA programs are expected to be fluent in the language of business; students are expected to have a working understanding of key concepts in economics, finance, and accounting. In addition, students are expected to have a working proficiency in statistics. If students have deficiencies in the basic concepts and skills of business, they may be counseled (by the MBA Program Director and/or the MBA program staff) to take preparatory courses and/or secure self-paced review materials. There are no prerequisite courses to the MBA programs.

**B. MBA Program Requirements**

Each candidate for an MBA degree must complete a minimum of 33 semester hours of course work that include 30 hours of Core Knowledge and Skills. Students who desire a concentration are required to take an additional 15 hours of coursework beyond the 30 hour Core as per the specifications of each concentration. Students who do not desire an MBA concentration are required to take a 3 hour elective (approved by the MBA Program Director) beyond the 30 hour Core.

**Core Knowledge and Skills:**

MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Business Administration (No Concentration)

Additional course requirements include one elective course in the Fogelman College of Business and Economics. Approval of elective courses must be obtained from the Director of MBA Programs.

Executive MBA Concentration: Program Requirements

The MBA with Executive Concentration is a 41 credit-hour program that can be completed in 17 months. All students generally progress together through the program with some flexibility built in to allow specialization based on the background and needs of executive cohorts. Courses are offered in a variety of formats, including in-class sessions, technology-enhanced instruction, hybrid format, weekend classes, intensive domestic residencies, innovation projects and an international study residency. Learning materials and content are specially designed for corporate executives in all formats. Classes meet on weekends during the Fall and Spring semesters. The international business residency will generally be in the summer after the first Spring semester of the program.

The Executive MBA curriculum is as follows:

Core Knowledge and Skills (30 hours)

MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)
Executive Concentration Courses (11 hours)

BA 7950 Practicum in International Business (3 hours)
MGMT 7421 Self Leadership for Executives (2 hours)
MGMT 7250 Strategic Human Capital Management (2 hours)
FIR 7160 Executive Financial Management (2 hours)
BA 7717 Special Topics in Business Administration (2 hours)

The program website [www.memphis.edu/executivemba](http://www.memphis.edu/executivemba) provides additional information regarding course schedule, etc.

**Biomedical Management CD-MBA/Professional MBA Concentration: Program Requirements**

The Biomedical Management MBA concentration consists of 45 credit-hours. Classes are offered during the day and the evening. A 3-credit-hour internship with a sponsoring company may be required. The Biomedical Management MBA curriculum is as follows:

Core Knowledge and Skills (30 hours)

MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Biomedical Management Concentration Courses (12 hours)

ECON 7715 Global Healthcare Economics
MKTG 7520 Medical Device New Product Development
SCMS 7315 Design and Mgmt. of Supply Chains in the Biomedical Industry
HADM 7718 Medical Technology Purchasing and Sales

Specific courses may change periodically as market needs, technology, and applied business knowledge changes.
Company Internship or elective (3 hours)

**Services Marketing CD-MBA/Professional MBA Concentration: Program Requirements**

The Services Marketing MBA concentration consists of 45 credit hours. Classes are offered during the day and evening. A three-credit-hour internship with a sponsoring company may be required. The Services Marketing curriculum is as follows:

Core Knowledge and Skills (30 hours)

MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Services Marketing Concentration Courses (12 hours)
MKTG 7540 Applied Consumer Behavior
MKTG 7542 Retail Marketing Strategy
MKTG 7544 Integrated Marketing Communications and Branding
MKTG 7546 Marketing in a Digital Age

Specific courses may change periodically as market needs, technology, and applied business knowledge changes.

Company Internship or Elective (3 hours)

**Entrepreneurship CD-MBA/Professional MBA Concentration: Program Requirements**

The Entrepreneurship concentration consists of 45 credit hours. Classes are offered during the day and evening. A three-credit-hour directed study in developing a business plan for a new venture is required. The Entrepreneurship curriculum is as follows:

Core Knowledge and Skills (30 hours)
MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Entrepreneurship Concentration Courses (12 hours)
MGMT 7270 Venturing, Building, and Sustaining a Successful Enterprise
FIR 7648 Evaluating and Financing New Projects
ACCT 7412 Legal and Accounting Aspects of Entrepreneurship
MGMT 7910 Problems in Management

Specific courses may change periodically as market needs, technology, and applied business knowledge changes.

Elective (3 hours)

**Professional MBA Concentration: Program Requirements**

The MBA with a Professional concentration is a flexible format 45-credit-hour program. Classes are offered during the day and evening. The concentration courses consist of 15 credit-hours chosen with the approval of the MBA Program Director and faculty advisors. The concentration courses are carefully selected to provide students with maximum professional impact. The Professional MBA concentration curriculum is as follows:

Core Knowledge and Skills (30 hours)

MIS 7650 Information Systems in the Global Enterprise (3 hours)
FIR 7155 Global Financial Management (3 hours)
ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
ECON 7100 Economics for the Global Executive (3 hours)
MKTG 7555 Creativity and Innovation (2 hours)
MGMT 7135 Leadership and Team-building (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
SCMS 7313 Global Operations Management (3 hours)
SCMS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Professional Concentration Courses (15 hours)

Elective courses taken upon advice of the program director and faculty advisors.

**MBA with Concentration in Law (MBA/JD)**

Core Knowledge and Skills courses are identical to the MBA program. Electives for this concentration are offered through the Cecil B. Humphreys School of Law and must be approved by the Director of MBA Programs in the Fogelman College. For JD/MBA students, the director of the MBA program will have the discretion to approve course substitutions of up to 9 credits from the following list of courses offered by the law school:

- Administrative Law (311)
- Antitrust (318)
- Arbitration/Labor (315)
- Banking Law (385)
- Bankruptcy Reorganization Seminar (442)
- Business Organizations II (319)
- Commercial Paper (323)
- Corporate Finance (384)
- Debtor-Creditor Relations (327)
- Employment & Labor Law Seminar (443)
- Environmental Law (328)
- Environmental Law Seminar (438)
- Comparative Law Seminar (441)
- Immigration Law (337)
- Labor Law (343)
- Land Use Planning (344)
- Non-Profit Organizations (370)
- Problems in Bankruptcy (354)
- Partnership Tax (352)
- Realty Transactions (358)
- Sales (359)
- Securities Regulations (361)
- Unfair Trade Practices (366)
- International Finance (338)
- International law (340)
- Transnational Legal Problems (365)

To facilitate customization, students are encouraged to consult with the director of the MBA program to add to this
list in order to complement their desired course plan.

II. INTERNATIONAL MASTER OF BUSINESS ADMINISTRATION

The International MBA is designed to assist students in meeting their goal of acquiring knowledge of international business, even if they do not have a traditional business background or a second language. The International MBA is open to graduates of business, foreign language, or liberal arts programs. It is a full-time, lock-step program (including one summer), with a minimum of 51 credit hours of required coursework.

Coursework for the International MBA degree includes 30 hours of business core coursework, identical to the other MBA programs in the Fogelman College of Business and Economics. The IMBA includes an additional 21 credit hours, 15-18 of which are devoted to an international experience (study abroad and internship abroad). Students secure an appropriate internship (with some assistance from the IMBA program, but ultimate responsibility for obtaining the internship lies with the student), which must be approved by the IMBA program before academic credit may be awarded.

Program objectives are: (1) An understanding of the general context of business in society including: ethical and global issues; influence of the political, legal, social, and technological environment; the impact of demographic diversity on organizations; and knowledge of the essential foundations of the functional areas of business. (2) Acquisition of a professional-level knowledge of: financial reporting and analysis; managing organizations; strategic use of science and technology; and creating value in the global arena. (3) Competence in business communication in a foreign language (except in the World Regions Track). (4) Building knowledge and skill in the operation of one or more international businesses. (5) Ability to compete effectively for jobs in the profit and not-for-profit sector.

A. Program Admission:

Applicants must have:

1. An undergraduate degree from an accredited college or university.
2. A Graduate School application for admission and have paid the appropriate fee.
3. An official transcript from each college or university attended with course by course credential evaluations (from a credential evaluation organization that is a member of the NACES) for degrees earned from accredited foreign educational institutions.
4. Satisfactory performance on undergraduate course work and a recent (5 years or less) GMAT or GRE examination score.
5. Acceptable TOEFL score for international applicants.

All applicants to the International MBA program must also submit a current resume, personal statement, three letters of recommendation, and an IMBA Applicant Profile form. Students must also pay the $500 seat fee (which is subsequently applied to their first annual program fee). Qualified applicants enter the program during the Fall Semester only. The program website is www.memphis.edu/internationalmba.
B. Program Requirements:

1. Language and Culture Options
   The International MBA Program offers three (3) Business Track options. Students must choose from one of the following:
   - Regional Business Track: for U.S. students with three years (six semesters) of foreign language proficiency. Students in this track will concentrate on the business practices, culture and language of the students' preferred region of the world.
   - World Region Business Track: for U.S. students who wish to specialize in the practice of business in geographical regions where English is the accepted business language.
   - U.S. Business Track: for international students who have English as their second language. This track provides in-depth exposure to U.S. business practices and culture.

2. Coursework

Core Knowledge and Skills (30 hours)
- MIS 7650 Information Systems in the Global Enterprise (3 hours)
- FIR 7155 Global Financial Management (3 hours)
- ACCT 7080 Financial and Managerial Accounting for Managers (3 hours)
- ECON 7100 Economics for the Global Executive (3 hours)
- MKTG 7555 Creativity and Innovation (2 hours)
- MGMT 7135 Leadership and Team-building (2 hours)
- ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
- SCMS 7313 Global Operations Management (3 hours)
- SCMS 7110 Quantitative Tools for Managers (3 hours)
- MKTG 7140 Global Strategic Marketing (3 hours)
- MGMT 7160 Global Strategic Management (3 hours)

International MBA Program Requirements (18 hours)
- BA 7902--Workshop in Business (2 hours)
- BA 7950--Practicum in International Business (internship) (3-6 hours)
- BA 7920--Contextual Environment for International Business (12 hours) Study Abroad coursework at an approved partner institution (U.S. Business Track students complete elective coursework at the University of Memphis according to an approved plan, depending on each student's background and interests.)
- BA 7910--Problems in International Business (1-3 hours)

Business Language (differs by track) (3 hours)

- World Business and U.S. Business Tracks
- Business elective (3 hours)
- Country Tracks (students choose one)
LALI 7780—Individual Studies in Business Language (3 hours over two courses)

Minimum hours required for graduation—51 hours

3. Study Abroad Academic Requirements and Fees

Grades for classes undertaken during a study abroad experience at one of the University of Memphis' partner institutions overseas will be transferred back to the University of Memphis and are subject to the university's policy on graduate transfer credit. Credit toward a degree does not transfer automatically; however, the program is designed for students who study abroad so every reasonable effort is made to transfer credit from partner institutions. Grades earned at another institution will not be computed in the university cumulative grade point average, nor will they be accepted for transfer, unless they are "B" (3.0) or better. No credit will be transferred unless it meets with the approval of the International MBA advisor or program graduate coordinator. Transferred courses from overseas partner institutions will appear on student transcripts as BA 7920 with a "Satisfactory" (S) grade. Students will need to obtain an evaluation of their overseas transcript by a professional credential evaluation firm (for a list of such firms, please visit www.naces.org). The evaluation firm must receive the transcript directly from the overseas university and submit a course by course evaluation directly to the IMBA Program advisor. Evaluations or transcripts issued to the student cannot be used in the transfer credit process. Fees charged to the student for such services vary by evaluating agency and is the responsibility of the student.

International MBA students are required to pay any fees required by the University of Memphis International Programs Office related to study abroad. Students are also responsible for round-trip airfare, passport fees, books, medical insurance, and any other expenses related to studying and interning abroad.

4. IMBA Graduate Assistantships

Graduate assistantships are available to students enrolled in the International MBA program. Graduate assistantships are competitive and are awarded only to highly qualified applicants. Graduate assistantships require students to supply 10-20 hours of service to the University of Memphis per week. Graduate assistants who work at least 10 hours per week are classified as in-state students for fee-paying purposes for the term of their appointment, only. In-state graduate assistants working at least 10 hours per week receive a waiver of ONE HALF of tuition and fees during the academic year. Graduate assistants who work 20 hours per week receive full waiver of tuition and fees during the academic year. (Tuition and fee benefits do not apply to study abroad or the summer semester.) University supported graduate assistants are expected to carry a 9-credit-hour load each semester of the academic year. Graduate assistants must maintain a 3.0 GPA to retain their assistantships.

III. MASTER OF SCIENCE

Program objectives are: (1) an understanding of the general context of business in society and a foundation
knowledge of the essential business functions; (2) acquisition of an advanced level of knowledge of a specialized business discipline; (3) ability to make significant professional contributions within a functional area of business; and (4) ability to compete effectively for professional positions in the private or public sectors.

A. Program Admission

Applicants to all MS programs in the Fogelman College must have the following:

1. An undergraduate degree from an accredited college or institution;
2. Application for admission and appropriate fee;
3. Official transcript from each college or university attended;
4. Satisfactory performance on undergraduate coursework and a satisfactory score on the Graduate Management Admissions test or the Graduate Record Examination GRE;
5. International applicants must submit an acceptable TOEFL score.

Qualified candidates may enter these programs at the beginning of any semester.

The Graduate Non-Degree classification allows individuals who have not yet decided to pursue a graduate degree or who have professional development needs to enroll in MS courses (a maximum of 9 credit hours). To remain enrolled as a Graduate Non-Degree student, individuals must maintain a minimum GPA of 3.0. Students should note that the 9-hour maximum is more stringent than the University Graduate School policy.

MS in Accounting

Prerequisite courses and program requirements for this degree are described in the School of Accountancy section of this bulletin.

MS in Business Administration

Prerequisites for the Master of Science in Business Administration differ by concentration area. Description of these prerequisites is listed in the departmental description for each concentration.

All Master of Science in Business Administration students must complete the following two core courses:

MIS 7650 - Information in the Global Enterprise - 3 hours
FIR 7155 - Global Financial Management - 3 hours

Total core: 6 hours

The remaining hours beyond the MSBA core are taken in the concentration area as specified in the appropriate departmental listing in this bulletin. Students in this program should consult the departmental master’s advisor for
IV. MASTER OF ARTS IN ECONOMICS

The Department of Economics offers a graduate program leading to the Master of Arts degree. For program admissions, prerequisites, and degree requirements see the departmental listing in this section.

PhD IN BUSINESS ADMINISTRATION

The mission of the PhD program in Business Administration is to prepare students primarily for academic careers in research-oriented institutions of higher education and secondarily for research careers in organizations.

Program objectives are: (1) an acquisition of an advanced level of knowledge in one or more functional areas of business or in applied economics and an expert level of knowledge in one or more subfields of a business function or economics; (2) ability to conduct significant, independent research that extends the knowledge base in a business function or economics; (3) capacity to teach effectively within the business or economics discipline; (4) capacity to communicate advanced-level knowledge to others in the academic and professional community; and (5) ability to compete effectively for faculty positions in respected colleges and universities or other high-level professional positions.

Students with master's or professional degrees in business administration, public administration, economics, law, engineering, mathematics, computer science, psychology, sociology, and the physical sciences will find this background provides important preparation for entering the PhD program.

The University has the academic resources to provide the doctoral applicant with a balanced education that provides both the qualitative and quantitative skills required of the modern business education professional.

The PhD student at the Fogelman College must select a concentration from one of six departments: accounting, economics, finance, management, management information systems, and marketing.

Visit this website for more information: www.memphis.edu/fcbephd.

A. Program Admission and Prerequisites

Individuals meeting the general requirements for admission to the Graduate School for doctoral-level programs shall be eligible to apply for admission to the PhD in Business Administration program. Applicants must indicate their area of concentration when filing their initial application.

Admission to the PhD program may be granted to qualifying applicants who show high promise of success in doctoral business study. The principal criterion for admission is evidence of superior achievement in prior
academic work, coupled with outstanding promise for future contributions as a business scholar. The concentration department and the Associate Dean of Academic Programs will review and evaluate each applicant. Some concentrations may not admit students to the doctoral program every year. Interested applicants should contact the departmental PhD coordinators before applying to the program.

Criteria used for admission consideration is competitive based on the applicant's:

1. **Academic record.** Applicant's grade point average should be 3.2 or higher on a 4.0 basis.
2. **Testing.** Applicants must present an acceptable score on a recent (five years or less) Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE).
3. **Recommendations.** Three letters of recommendation are required from former professors, colleagues, and/or business executives.
4. **Personal Statement and Resume.** Applicants must submit a written statement of career plans and objectives no more than two-pages in length, and a current resume of academic and professional experiences.
5. **Mathematics.** Applicants must submit a transcript indicating the successful completion of a course in calculus.
6. **Interview.** Applicants may appear before the departmental admission committee for a personal interview.

Prerequisites in the functional areas of business are determined by the department. A typical applicant has completed a master's degree in business, economics, or other relevant discipline.

Following admission, a student will be assigned to a department program committee composed of faculty members from the student's department of concentration. The program committee is responsible for planning and approving the program requirements, and for guiding and monitoring the progress of the student through the program.

**B. Program Requirements**

A minimum of 72 hours beyond the bachelor's degree is required. A minimum of 39 hours of the curriculum below must be completed at the University of Memphis after admission to the program. Most concentrations require more than 39 hours.

**Residency:** Students enrolled in the doctoral program must also meet the university residency requirements as defined in the Minimum Degree Requirements section of this catalog.

**C. Course Requirements**

**Research Core** (at least 12 semester hours): Includes courses designed to develop and improve research skills. Students may be required to acquire competence using research tools and techniques beyond and above what is required with the research core. Courses in the Research Core must be approved by the student’s departmental PhD coordinator.
Concentration (at least 30 semester hours): A minimum of 12 hours of 7/8000 level courses is required in the student's chosen concentration. Possible concentrations are Accountancy, Economics, Finance, Management, Management Information Systems, or Marketing. Additional supporting coursework may be selected from these concentrations or from approved areas outside the college. Courses graded an S or U may not be used to satisfy the minimum hours required for Research Core or Concentration.

Dissertation (18 semester hours): Major research of an original and creative nature is required and must meet the requirements of the Graduate School. The dissertation is the research capstone of the PhD program and must be a significant contribution to the study of Business Administration. The student will register for dissertation credit hours every semester after passing the comprehensive examinations. Students planning to graduate in the summer must be registered for dissertation credit. The student must show satisfactory progress over a 2-year period of time. Unsatisfactory progress towards dissertation completion will be grounds for dismissal from the program. After the dissertation committee approves the dissertation proposal, the candidate will be given a final oral examination primarily dealing with the dissertation. The dissertation committee will conduct this examination and all members must be present at the examination. If the student’s performance on this examination is satisfactory as judged by the committee, all requirements for the degree will be complete. In the Fogelman College, no credit earned more than 10 years prior to the student's date of completion of the doctoral degree will be applied toward satisfying requirements of the doctoral degree. Students should note that the 10-year time limit is more stringent than the University Graduate School policy. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

D. Comprehensive Examinations

Each student will have comprehensive examinations in the concentration. Comprehensive examinations in the concentration should be taken as soon as all of the course work required for the PhD degree has been successfully completed. Exceptions can be made at the discretion of the Associate Dean for Academic Programs. After satisfactorily completing the written comprehensive examinations, each student must pass an oral examination integrating all work. The student's program committee will organize and administer the oral examination. Some concentrations require qualifying examinations covering specific courses or content, typically given after the first or second year of coursework, which must be successfully completed prior to sitting for the comprehensive exam. Passing of the qualifying exam can allow students in the Economics concentration to apply some course work towards the MA degree before continuing with the doctoral degree requirements. Failure to pass the qualifying exam after two attempts will result in termination from the program.

EXPENSES

Credit Hour Surcharge

A surcharge of $30 per credit hour for graduate students has been approved by the Tennessee Board of Regents.
The purpose of the surcharge on these business courses is to facilitate the continuous improvement of the college and compliance with the standards of the Association to Advance Collegiate Schools of Business International (AACSB International).

**Financial Assistance**

A number of doctoral and master's graduate assistantships are available to full-time students. Doctoral assistantships may be available to those students with strong GMAT or GRE scores. Graduate assistants provide part-time assistance to the concentration in teaching and/or research. Current compensation for doctoral students can range from $9,000 to $15,000 per academic year, for master's students a minimum of $6,000 per academic year, in addition to a full tuition waiver. The Fogelman College also has a limited number of doctoral fellowships available.

[Click here for course descriptions](#)
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The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
I. Objectives

In the School of Accountancy, qualified students may work toward the following graduate degrees: Master of Science with a concentration in Accounting, Healthcare Accounting, or Taxation; or PhD in Business Administration.

Program objectives are: (1) An understanding of the general context of business in society, the ethical issues relevant to the accounting profession, and an appropriate knowledge base for professional exams in accounting; (2) effective analytical, interpersonal, and communication skills; (3) acquisition of technical accounting knowledge and skills and related computer technology; and (4) ability to make significant professional contributions by application of accounting knowledge and skills in profit and not-for-profit organizations.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. General Admission for Master of Science Program
Admission to the Master of Science degree program is granted to graduates of accredited colleges and universities who show high promise of success in graduate business study. Qualified candidates may enter the program at the beginning of any semester. The admission requirements include satisfactory performance on undergraduate coursework and a recent (five years or less) GMAT admissions examination score. The GMAT is waived for candidates who have received an undergraduate business degree with a grade point average of 3.5 or higher from an AACSB-accredited university (or from Christian Brothers University, Lemoyne-Owen College, or Rhodes College) within five years prior to registering for the University of Memphis Master's program.

Five-year Professional Accounting Program. The GMAT is waived for University of Memphis accounting majors who, when applying to the master of science program, have: (1) 30 hours or fewer remaining toward the accounting degree (or who have graduated within the previous five years) and (2) have an undergraduate grade point average of 3.50 or higher. See the School of Accountancy Master's Program Coordinator for details.

III. Master of Science Degree

The 30-hour master's program provides students with a corporate governance perspective that emphasizes accounting in a service-oriented economy. Three concentrations within the major are offered: accounting, healthcare accounting, and taxation.

The Master of Science degree requires:

1. Prerequisites of ACCT 2010, Financial Accounting; 3011 Business Law; ACCT 3110 and 3120, Intermediate Accounting; ACCT 3310, Cost Accounting; ACCT 3510, Individual Taxation; ACCT 4240, Auditing; and Economics.

2. A minimum of 30 semester hours of approved graduate courses. The 30 graduate credits must include 21 hours in Accounting, with no more than 9 hours of 6000 level courses.

A. General Requirements: 9 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 6520</td>
<td>Taxation of Business Entities</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 7120</td>
<td>Strategic Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 7610</td>
<td>Accounting Issues in a Service-Oriented Economy</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Concentrations

Specialization Core: 12 hours

<table>
<thead>
<tr>
<th>Accounting</th>
<th>Healthcare Accounting</th>
<th>Taxation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 4 courses from the following:*</td>
<td>ACCT 7928, Healthcare Accounting and 3 courses from the following:</td>
<td>ACCT 7510, Tax Research</td>
</tr>
<tr>
<td>ACCT 6241, Advanced Auditing</td>
<td>ACCT 6241, Advanced Auditing</td>
<td>ACCT 7511,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACCT 7320, Controllership</th>
<th>ACCT 7320, Controllership</th>
<th>Partnership Taxation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 7420, Accounting Databases and Systems</td>
<td>ACCT 7420, Accounting Databases and Systems</td>
<td>ACCT 7512, Corporate Taxation</td>
</tr>
<tr>
<td>ACCT 6211, Advanced Financial Reporting*</td>
<td>ACCT 6211, Advanced Financial Reporting*</td>
<td>ACCT 7518, Selected Topics/Taxation</td>
</tr>
<tr>
<td>ACCT 7510, Tax Research &amp; Theory</td>
<td>ACCT 7510, Tax Research &amp; Theory</td>
<td></td>
</tr>
<tr>
<td>ACCT 7310, Advanced Cost</td>
<td>ACCT 7310, Advanced Cost</td>
<td></td>
</tr>
<tr>
<td>ACCT 7412, Entrepreneurship</td>
<td>ACCT 7412, Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>ACCT 7928, Healthcare Accounting</td>
<td>ACCT 7626, Financial Reporting/Audit Stds**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACCT 7627, Regulatory/Business Environ**</td>
<td></td>
</tr>
</tbody>
</table>

**Supporting Courses: 6 hours**

<table>
<thead>
<tr>
<th>Accounting</th>
<th>Healthcare Accounting</th>
<th>Taxation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 2 courses from the following:</td>
<td>Each of the following 2 courses:</td>
<td>Select 2 courses from the following:</td>
</tr>
<tr>
<td>ACCT 7626, Financial Reporting/Audit Stds**</td>
<td>ECON 7710: Healthcare Economics</td>
<td>ACCT 7626, Financial Reporting/Audit Stds**</td>
</tr>
<tr>
<td>ACCT 7627, Regulatory/Business Environ**</td>
<td>HADM 7204: Quality and Outcomes Management in Healthcare</td>
<td>ACCT 7627, Regulatory/Business Environ**</td>
</tr>
<tr>
<td>Non-accounting elective*</td>
<td>Non-accounting elective*</td>
<td>Non-accounting elective*</td>
</tr>
<tr>
<td>Non-accounting elective*</td>
<td></td>
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</tbody>
</table>

**Communication: 3 hours**

<table>
<thead>
<tr>
<th>Communication***</th>
<th>Communication***</th>
<th>Communication***</th>
</tr>
</thead>
</table>

*Elective courses must be selected in consultation with the Master's Program Advisor and must support the degree plan. For non-accounting electives, students should normally expect to select graduate courses in the Fogelman College numbered above 6100/7100. Students are not permitted to take ACCT 6241, 6520 or 6211 if they took the course at the undergraduate level and should consult with the MS Program Advisor regarding an appropriate substitute accounting course(s).

**The ACCT 7626 and 7627 must be taken during the same semester. You must be within 200 days of completing 150 credit hours. There is an additional fee for Becker materials.

***The communication course is selected in consultation with Master's Program Advisor and normally is chosen from the following courses: MGMT 7173, Executive Communication and ENGL 7807, Workshop: Government and Corporate Writing or other course(s) approved by the MS Program Advisor.

IV. PhD Program
The goal of the Ph.D. concentration in Accounting is to develop the next generation of committed scholars and excellent teachers by providing an active and stimulating intellectual environment. The Accounting Ph.D. program prepares doctoral students for research-oriented academic positions at well-regarded universities and colleges that demand solid teaching skills. We train doctoral students in classroom management and the development of solid teaching skills. Research in the School of Accountancy focuses on economic based issues of importance to the accounting and business community such as the impact of accounting information on capital market participants as well as other firm stakeholders.

Reflecting the research orientation of the faculty, development of research and academic writing skills is continually emphasized throughout the Ph.D. program. The faculty goal for matriculation is four years. In seminars, doctoral students are encouraged to start working on the framework for the dissertation early in the first year aligned with research experts in the field. In the first two years, students focus on their coursework, are involved in a research workshop, and work closely with faculty on a research project. Students take their comprehensive examinations at the beginning of the third year. In their third and fourth years of study, students develop and present their thesis proposal, then complete and defend the dissertation.

A major strength of the Ph.D. program in accounting is that its graduate faculty members are student-oriented. Research with faculty is encouraged and fostered in a highly collegial environment. We emphasize a close faculty-doctoral student interaction. Only a few students are admitted into the doctoral program each year and they are encouraged to work closely as a team cohort. Doctoral students are involved in all phases of faculty research, including co-authorship of research papers and presentations at professional meetings. Most of the current doctoral students are CPAs with business experience at the most prestigious corporate accounting and public accounting firms.

Our graduate faculty members have published books and received academic honors that include chaired professorships. The accounting faculty publish their research in the top tiered accounting journals such as The Accounting Review, Contemporary Accounting, Research, Journal of Accounting and Economics as well as the highly regarded journals of the American Accounting Association in sub-discipline fields, among others.

For admission, prerequisites, and program information, see the college website at: http://www.memphis.edu/fcbephd/

Click here for course descriptions

Graduate Catalog

Learn more about our degree programs.
Graduate School

2015-2016 Academic Calendar

Full sitemap
I. In the Department of Business Information and Technology qualified students may work toward the Master of Science degree in Business Administration with a concentration in Business Information and Technology, and the PhD degree in Business Administration with a concentration in Business Information and Technology.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS in Business Administration with Concentration in Business Information and Technology

A. Program Admission

1. Satisfactory performance on the Graduate Management Admissions Test (GMAT) or Graduate Record Exam (GRE).
2. Satisfactory undergraduate grade point average as evidenced by an official transcript (evaluated by an agency such as WES if an international student).
3. Submit an application to the Graduate Admissions Office.
4. International Students must submit scores on the TOEFL exam.

B. Concentration Prerequisites

For those students with a limited information systems background, the department requires MIS 7060 and MIS 7070.
C. Concentration Requirements

1. Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The 33 graduate credits include a minimum of 21 hours in the concentration (24 if a thesis is written). Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

2. MIS 7160, Computer Hardware and System Software; MIS 7605, Business Database Systems; MIS 7610, Systems Analysis and Design; MIS 7615, Data Communications Systems and Network; and MIS 7640, Information Systems Management and Planning as part of their degree program. MIS 7650, Information Systems Global Enterprise and FIR 7155, Global Financial Management are also required for the MSBA degree program. MIS 7650, Information Systems Global Enterprise and Other courses can be selected from MIS courses as approved by the departmental master's coordinator.

3. At least 24 of the 33 credit hours required must be in courses designed primarily for graduate students (7000 level or above).

4. The comprehensive examination requirement for the MS in Business Administration with concentration in Management Information Systems is satisfied by successful completion of MIS 7640.

D. Experiential Learning Credit

Students enrolled in the MSBA programs with a concentration in Business Information and Technology will be allowed to request a maximum of six credit hours of experiential learning credit for the purposes of meeting their degree requirements (the six credit hours will apply toward the required credit hours needed to complete a concentration). This six credit hours of experiential learning credit will be granted only for students who have qualified, exceptional experience that can be related to one or more courses in the degree program.

In order to request consideration for the credit hours, students must submit a portfolio for review by following the guideline the University College developed. For more information about the guideline, refer to the University College’s Experiential Learning Credit website: (http://www.memphis.edu/univcoll/experiential_learning.php).

III. PhD Program

The PhD program in BIT at the University of Memphis aims at preparing students for a successful academic career as scholars. The BIT department prides itself on maintaining a supportive research and teaching atmosphere. PhD students are encouraged to actively get involved in research with faculty right from the first semester. Our program nurtures students' innate curiosity while providing them with mentoring and support to train them for independent research and professional responsibilities.

BIT courses include topics such as information systems management, business database systems, systems analysis and design, business intelligence, data communications and networks, information assurance and data security. In research seminars students review the core topics in information systems, with an emphasis on current research. Students also take four courses related to research methodology, as well as two courses related to
research in the field of information systems.

BIT faculty publishes applied and theoretical research in the top tier MIS academic journals, focusing on the AIS-6 journals: MIS Quarterly, Information Systems Research, Journal of MIS, Journal of the AIS, European Journal of Information Systems, and Information Systems Journal. Our faculty's research spans multiple lines of inquiry including managerial, behavioral and technical topics and we employ empirical approaches, modeling, experimental, qualitative, design science and econometric methodologies.

Our PhD program in BIT benefits from a mix of junior faculty members complementing our existing strong cadre of senior faculty. This brings opportunity for the students to work in diverse research areas like information value, IS service quality, strategic information management, outsourcing and the use of open source, system testing and management, social networks, online consumer behavior, business value of IT, information assurance management, global IS issues, knowledge management, technology in the supply chain, healthcare IS, ethics and philosophy of IT, innovation & strategy, and IT leadership.

Our doctoral students actively participate in and benefit from the various initiatives the department is involved in such as weekly MIS research colloquium, the Systems Testing Excellence Program (STEP), and the Center for Innovation Technology Management.

For admission, prerequisites, and program information, see the college website at: http://www.memphis.edu/fcbephd/.

**IV. Graduate Certificate Program in Software Testing**

Software testing is a critical discipline as organizations increasingly rely on information systems that are becoming increasingly more complex. This certificate prepares students to both manage and participate in testing at all stages of the software development process. The topics and techniques are applicable to testing all types of software.

**A. Admissions Requirements**

1. Same as College and University requirements.
2. The certificate can be pursued concurrently with other graduate programs at the University.
3. Non-degree seeking applicants must submit a brief (1-2 pages) statement that describes educational and work experiences in business, including their background in software testing. GMAT scores are not required. However, acceptance into the certificate program is not an implied acceptance into any master’s degree program.

**B. Program Requirements:** The following 4 courses must be satisfactorily completed for a total of 12 hours of credit.

MIS 7610, Systems Analysis and Design (3 hours)
MIS 7655, Advanced Systems Analysis and Design (3 hours)*
MIS 7681 Management of Software Testing (3 hours)
MIS 7682, Software Testing Tools and Techniques (3 hours)
*COMP 6081, Software Development, may be substituted for MIS 7655.

C. Graduation Requirements

1. The student must complete all 4 required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours.
2. In the semester of graduation, the student must submit an Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

V. Graduate Certificate Program in Business Information Assurance

The Business Information Assurance (BIA) certificate prepares students to perform critical activities needed to properly manage an organization’s assets related to a wide range of information security/privacy threats. Training related to effective managerial methodologies has become increasingly important in planning for possible breaches of security and handling resulting problems.

A. Admissions Requirements

1. Same as College and University requirements.
2. The certificate can be pursued concurrently with other graduate programs at the University.
3. Non-degree seeking graduate students may also pursue this certificate program of study. To be approved for the program, these students must submit evidence of this non-degree-seeking graduate student status, along with the completed application form, to the Department of Business Information and Technology for review.
4. Acceptance into the certificate program is not an implied acceptance into any master’s degree program.

B. Program Requirements: This program requires completion of 12 semester credit hours, as follows:

Six hours (two courses) from this group:

- MIS 7455 – Cyber Ethics in Information Technology*
- MIS 7670 – Computer and Network Security
- ACCT 6241 – Auditing and Assurance
- ACCT 7241 – Internal Auditing
- *COMP 7900 – Cyber Ethics may be substituted for MIS 7455

Six hours (two courses) from this group:

- MIS 7160 – Computer Hardware/System Software
- MIS 7615 – Data Communications Systems/Networks
- ACCT 7420 – Accounting Databases/Systems
- CJUS 6180 – Corporate/White Collar Crime

C. Graduation Requirements

1. To obtain the certificate, a student must complete four courses, with two selected from the first group of courses and two selected from the second group courses, for a total of 12 credit hours.
2. A minimum grade of B is required for each of the four courses.
3. In the semester of graduation, the student must submit an Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

VI. Graduate Certificate in Business Intelligence and Analytics

The business analytics discipline has become very important in information systems and industry, due to increased access to big data, unstructured and structured data, and strategic business decision making. These increasingly complex decision making capabilities lead directly to competitive advantage and increased profits. Thus, trained business analysts with skills in addressing data management and business intelligence and analytics are in high demand.

A. Admission Requirements: Same as College and University requirements.

B. Program Requirements:
The following 4 courses must be satisfactorily completed for a total of 12 hours of credit.

Three hours (one course) from this group:

- MIS 7190 Programing For Business
- PUBH 7156 SAS for Health Research

Three hours (one course) from this group:

- MIS 7660 Advanced Data Management
- COMP 7116 Advanced Database Systems

Three hours (one course) from this group:

- MIS 7620 Business Intelligence
- COMP 7118 Topics in Data Mining

Three hours

- MIS 7621 Data Analytics for Business

C. Graduation Requirements:
The student must complete all 4 required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours.

In the semester of graduation, the student must submit an Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

VII. Graduate Certificate in Business Project Management

Graduate certificate program in Business Project Management prepares individuals for project management team work and to be project managers with specific emphasis on the integration of information systems and business processes. This certificate program will address the importance of project management education and address the need for trained professionals in project management.

The objectives of the certificate program include: Provide knowledge of the theoretical and practical concepts of managing IT projects, Understand and be able to perform project management activities, Understand and be able to use project management tools and techniques, Understand the role of project managers in the modern organization, Explore unique and particular challenges resulting from rapid technological change in dynamic business environments, and Exploring the role of the IS business professional in change management

A. Admissions Requirements:

Same as College and University requirements.

The certificate can be pursued concurrently with other graduate programs at the University.

Non-degree seeking applicants must submit a brief (1-2 pages) statement that describes educational and work experiences in business, including their background in project management. GMAT and GRE scores are not required. However, acceptance into the certificate program is not an implied acceptance into any master's degree program.

B. Program Requirements:

The following 4 courses must be satisfactorily completed for a total of 12 hours of credit.

One course from this group:

MIS 7605 – Business Database Systems

COMP 7115 – Database Systems

One course from this group:
MIS 7610 – Systems Analysis and Design

COMP 7012/8012 - Foundations of Software Engineering

Both courses below:

MIS 7671 – Project and Change Management

MIS 7672 – Advanced Project Management

C. Graduation Requirements:

The student must complete all 4 required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours.

In the semester of graduation, the student must submit an Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

Click here for course descriptions
Graduate Catalog

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Economics

WILLIAM T. SMITH, PhD
I. In the Department of Economics, qualified students may work toward the MA degree with a major in Economics or the PhD degree in Business Administration with a concentration in Economics.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MA Degree Program

Program objectives are: (1) achievement of a solid foundation knowledge in economic theory and economic analysis; (2) acquisition of an advanced level of knowledge in either applied economics or academic economics; (3) acquisition of the quantitative skills to effectively address research problems and the ability to make significant professional contributions as a professional economist or within a functional area of business; and (4) ability to compete effectively for professional positions in the private or public sectors.

A. Program Admission

1. Satisfactory performance on the Graduate Record Examination (Satisfactory performance on the Graduate Management Admission Test may be acceptable with approval of the coordinator of the master's program.)
2. Satisfactory undergraduate grade point average.

B. Program Prerequisites
Students should have successfully completed or complete ECON 3310, Microeconomic Theory; ECON 3320, Macroeconomic Theory; SCMS 2710 and 3711, Business Statistics I and II (SCMS 7020 is an acceptable substitute for SCMS 2710 and 3711); ECON 6810 or equivalent.

C. Program Requirements

Each candidate has the choice of taking a written, comprehensive examination or writing a thesis at the end of course work. Regardless of which option is chosen, 15 hours of the student’s course work must be devoted to the following: ECON 7120, 7300, 7310, 7320, and 7810.

1. Examination Option: Each candidate must complete a minimum of 33 semester hours of graduate course work, exclusive of MA program prerequisite courses and MBA Essential Foundations courses. The 33 hours must include a minimum of 21 hours of approved course work in Economics. The remaining 12 hours, with approval of the department graduate advisor, may be taken in collateral courses. At least 24 hours must be in courses designated for graduate students (7000 level or above). Each candidate must pass a written examination in microeconomic theory and macroeconomic theory. A maximum of two attempts within a year of the first attempt is permitted.

2. Thesis Option: Each candidate must complete a minimum of 30 semester hours of graduate course work, exclusive of MA program prerequisite courses, MBA Essential Foundations courses, and Thesis Hours. The 30 hours must include a minimum of 18 hours of approved course work in Economics. The remaining 12 hours, with approval of the department graduate advisor, may be taken in collateral courses. At least 21 hours must be in courses designated for graduate students (7000 level or above). Each student will register for at least 3 hours (and not more than 6 hours), write and defend a thesis under the guidance of a faculty committee. A student who fails to complete the thesis after having registered for the maximum degree credit allowable must register for thesis credit each academic semester until the thesis is completed. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

D. Accelerated M.A. Program in Economics

This program permits outstanding undergraduate majors in Business Economics (B.B.A.) or Economics (B.A.) to begin coursework for the M.A. in Economics during their senior year. Students interested in this accelerated program are encouraged to begin planning for it early in their undergraduate careers, in consultation with both their undergraduate advisor and the M.A. Coordinator of the Department of Economics.

To be accepted into the Accelerated M.A. Program, students must have a grade point average of at least 3.25, and must submit two letters of reference and a copy of their transcript to the Department of Economics. Each applicant will also complete an interview with the M.A. Coordinator of the Department.

After being accepted into the program, the student will work closely with his or her undergraduate advisor and the M.A. Coordinator in order to develop a carefully tailored program of study so that he or she can begin work on the M.A. as they complete their undergraduate degree.
Students must also apply to the Graduate School for “combination status,” which allows them to take graduate courses in Economics. To continue the Program once they have completed the B.B.A or B.A., students must apply for full admission into the Graduate School and into the M.A. Program in Economics.

Up to 9 hours of graduate coursework may be applied to both the Bachelor’s and the M.A. degrees in Economics.

III. PhD Program

The objective of the PhD in Business Administration with a concentration in Economics is to prepare candidates for a successful academic or professional career in economics and business. Through an intensive, advanced level training in both economics theory and quantitative methods, students learn to conduct independent research and prepare for various responsibilities of a professional career. The Economics Department has an outstanding faculty with a strong orientation in applied as well as theoretical research. For admission, program content, and financial aid information, see the departmental website at: economics.memphis.edu/acad_index.html

Click here for course descriptions
Finance

PANKAJ JAIN, PhD
I. The Department of Finance, Insurance, and Real Estate offers the Master of Science in Business Administration degree with concentrations in Finance and in Real Estate as well as the PhD in Business Administration with a concentration in Finance.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS in Business Administration Program

See the beginning of this College section for admission requirements and College Core requirements.

A. Program Requirements

1. Prerequisite of MATH 1830 or its equivalent. Students with the necessary pre-qualifications may have the prerequisite waived by the program coordinator.
2. Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The
33 graduate credits include a minimum of 21 hours in the concentration (24 if a thesis is written; students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write).

3. Business Administration Core:
   FIR 7155, Global Financial Mgmt
   MIS 7650, Info Syst Global Enterprise

4. Finance Concentration: Four required courses (12 semester hours) and five elective courses (15 semester hours) approved by the program coordinator.
   Four required courses (12 semester hours)
   ACCT 7080, Financial and Managerial Accounting for Managers
   FIR 7410, Investment Theory and Portfolio Management,
   FIR 7810, Advanced Financial Management, and
   FIR 7840, Quantitative Applications for Finance

   Five electives courses (15 semester hours)
   Three elective courses (9 semester hours) must come from List A. The other two elective courses (6 semester hours) may come from List A, List B, or related courses approved by the program coordinator.

   List A:
   FIR 7170, Multinational Corporate Finance
   FIR 7171, International Financial Markets
   FIR 7173, Financial Analysis and Certifications
   FIR 7302, Real Estate Development and Sustainability
   FIR 7350, Real Estate Finance and Investment Analysis
   FIR 7648, Entrepreneurial Finance
   FIR 7721, Financial Derivatives

   List B:
   FIR 6310, Real Estate Law
   FIR 6331, Stock Portfolio Management
   FIR 6340, Real Estate Appraisal
   FIR 6610, Cases in Managerial Finance
   FIR 6720, Management of Financial Institutions
   FIR 6721, Financial Derivative Markets
   FIR 6770, Security Analysis/Port Mgmt
   FIR 6810, Property and Liability Insurance
   FIR 6820, Life and Health Insurance
   FIR 7310, Sustainable Real Estate
   FIR 7911, Internship in Finance, Insurance, and Real Estate
   ACCT 7140, Financial Statement Analysis
   ECON 7100, Economics for the Global Executive
   ECON 7300, Economic Theory and Decisions
   ECON 7310, Advanced Microeconomics
   ECON 7313, Economics of Risk and Uncertainty
5. **Real Estate Concentration:** A real estate concentration requires you to complete 18 hours in real estate coursework, including one elective, plus 9 hours in a related field. Course substitutions may be permitted with the approval of your concentration advisor.

**Required (15 hours):**
- FIR 7301, Contemporary Real Estate Theory and Practice
- FIR 7302, Real Estate Development and Sustainability
- FIR 7350, Real Estate Finance and Investment Analysis
- FIR 7910, Problems in Finance, Insurance, and Real Estate
- FIR 7310, Sustainable Real Estate

**Electives (3 hours), choose one from:**
- FIR 6310, Real Estate Law
- FIR 6340, Real Estate Appraisal
- FIR 7911, Internship in Finance, Insurance, and Real Estate
- PLAN 6515, Geographic Information Science

**Multi-Discipline:** In addition to 18 hours in real estate, the real estate concentration requires 9 hours be completed in fields including the areas of finance, architecture, civil engineering, urban ecology, and city & regional planning. Possible courses from these areas include:

**Finance**
- FIR 7173, Financial Analysis/Certification
- FIR 7170, International Financial Management
- FIR 7171, International Financial Markets
- FIR 7410, Investment Theory and Portfolio Management
- FIR 7648, Entrepreneurial Finance
- FIR 7710, Seminar in Investment Theory
- FIR 7721, Financial Derivatives
- FIR 7810, Advanced Financial Management
- FIR 7840, Quantitative Applications for Finance

**Architecture**
- ARCH 6023, Urban Design Seminar
- ARCH 6221, Determinants of Modern Design
- ARCH 6811, Parameters in Architecture Studio (3-6)
- ARCH 7211, Contemporary Architectural Theory

**Other Possible Architecture Electives:**
- ARCH 6021, Architecture Independent Study (1-3)
- ARCH 6510-6519, Special Topics (1-3)
- ARCH 7021, Architecture Independent Study (1-3)

**Civil Engineering:**
- CIVL 6162, Traffic Engineering
- CIVL 7991/8991, Projects

**Biology**
- BIOL 6055, Ecological and Environmental Issues
- BIOL 6730, Urban-Wildlife Ecology and Management
- BIOL 7020/8020, Current Topics in Ecology (1-3)
- BIOL 7360/8360, Plant and Environment
BIOL 7370/8370, Current Topics in Wetland Ecology and Management
BIOL 7751/8751, Conservation Biology (4)

Earth Sciences
ESCI 6201, Urbanization and the Environment
ESCI 6431, Urban Geography

City and Regional Planning
PLAN 6502, Computer Cartography
PLAN 6515, Geographic Information Science
PLAN 7000, Introduction to Planning
PLAN 7002, City Planning Principles and Theory
PLAN 7004, Land Use Controls
PLAN 7006, Comprehensive Planning Studio
PLAN 7007, Special Projects Studio
PLAN 7008, Site Planning
PLAN 7011, Financing Community Development
PLAN 7012, Methodology and Technique
PLAN 7101, Regional Planning
PLAN 7201, Community Facilities Planning
PLAN 7202, Land Use Planning
PLAN 7204, Urban Revitalization Planning

6. Candidates must pass a written or oral comprehensive examination.

III. PhD Program

The required course work for the Ph.D. concentration in Finance includes corporate finance, investments, and market micro-structure theory and applications. The student body is comprised of promising scholars from across the U.S. and around the world.

Doctoral students are involved in all phases of faculty research, including co-authorship of research papers and presentations at professional meetings. The research tools and opportunities available to our doctoral students are impressive. Students use financial databases such as CRSP and COMPUSTAT and data on all trades and quotes, time to the second or even millisecond.

Research interests of the doctoral faculty in Finance include: capital market theory, futures prices, capital budgeting and dividend policy, interest rates, international stock market returns, corporate debt policy, and domestic versus multinational risk and return. The faculty has a special focus on market microstructure.

The program is quantitative and the course work includes a number of courses in economics such as microeconomics and econometrics.

For admission, prerequisites, and program information, see the college website at: www.memphis.edu/fcbephd/.

Click here for course descriptions

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
Management

CHARLES A. PIERCE, PhD
I. In the Department of Management, qualified students may work toward the PhD in Business Administration with a concentration in Management.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. PhD Program

See the beginning of the College section for admission, prerequisite, and program requirements. Students are expected to be enrolled in the program on a full-time basis during their course work and one year during their dissertation stage. Doctoral candidates must register for dissertation credit each academic semester until the dissertation is completed in order to remain in active status. This commitment is expected to require three to four years of full-time study. Course work should be completed within two to three years, depending upon a student’s prior academic background.

In addition to these requirements, PhD students are expected to develop a high level of skills in both research and teaching. Doctoral students are provided ample opportunity to develop these skills through class work, seminars, and assistantships.

Click here for course descriptions
Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar

Full sitemap
Marketing and Supply Chain Management

MARLA B. ROYNE STAFFORD, PhD
I. In the Department of Marketing and Supply Chain Management, qualified students may work toward the PhD with a major in Business Administration and a concentration in Marketing.

NOTE: Every graduate student must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. PhD Program

See the beginning of this College section for admission, prerequisites, and program requirements.

In addition to these requirements, the following are an integral part of expectations for students in the PhD program with a concentration in Marketing.

1. Research: Students are exposed to a variety of methodological courses designed to enhance their capability to design, implement and conduct research studies which address relevant marketing problems. Students are expected to complete their Ph.D. programs of study with some record of success in publishing their research efforts through conference papers and/or journal manuscripts.

2. Teaching: Developing teaching skills is a major component of the PhD program. In the course of the program, doctoral students are provided with a balanced teaching and research assistantship. Student evaluations as well as faculty input (by observing doctoral students teach) are used to assess teaching skills. If teaching skills are found inadequate, the PhD candidate will be advised an appropriate course of action.

3. GPA Requirement: Marketing doctoral students are required to maintain a minimum of 3.50 GPA in the
marketing courses.

Click here for course descriptions

**Graduate Catalog**
Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
College of Communication and Fine Arts

RICHARD R. RANTA, PhD
## GRADUATE ACADEMIC PROGRAMS

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<td>Communication</td>
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Individual program requirements described in The University of Memphis Graduate Catalog, 2015-2016, are subject to change. **Please consult your graduate advisor for the latest catalog updates.** All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued (see departmental listings in this section).
Master of Architecture (MArch)

The first professional Master of Architecture degree is for individuals with a pre-professional degree in architecture, environmental design, or equivalent program of study. The professional curriculum comprises the four-year Bachelor of Fine Arts in Architecture and the two-year Master of Architecture degrees. The post-professional Master of Architecture degree is for individuals already holding a professional degree in architecture who are interested in pursuing opportunities for research, teaching, and independent studies.

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture.

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Memphis, Department of Architecture, offers the following NAAB-accredited degree program:

M.Arch. (pre-professional degree + 60 graduate credits)

Next accreditation visit: 2015
Program Objectives: The program of study for the Master of Architecture encompasses both the art and the science of design and is structured to engage students in the processes and professional standards of architecture and design. Through a series of professional core and elective courses, students (1) become competent in a range of intellectual, spatial, technical, and interpersonal skills; (2) understand the historical, socio-cultural, and environmental context of architecture; (3) are able to solve architectural design problems, including the integration of technical systems and health and safety requirements; and (4) comprehend the roles and responsibilities of the architect in society. The culturally diverse Memphis and Mid-South region serves as an urban and non-urban issues laboratory.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

A. Program Admission

In addition to application to the Graduate School, all persons making application to the MArch degree program must submit the following materials directly to the Department of Architecture:

1. **Portfolio:** Applicant portfolios are reviewed for demonstration of aesthetic judgment, basic design ability, visual investigation skills, and abilities in architectural design, including identification of building elements and an understanding of their assembly, integration of building systems, a knowledge of building structure, and other evidence of understanding and abilities conforming to NAAB performance criteria.

2. **Letters of Recommendation:** Three letters of recommendation are required.

3. **Statement of Intent:** Applicants must submit a two-page essay describing professional background, objectives, and motivation for pursuing graduate study in Architecture. This brief statement should reflect an individual interest in this graduate program and provide some indication of professional goals or intentions.

All admission documents and portfolio must be received by 15 March for fall admission. Students who, in the judgment of the faculty, have adequate preparation may be given advanced standing.

B. Program Prerequisites

1. Persons making application to the first professional MArch degree program must have completed an approved pre-professional undergraduate degree in Architecture, Environmental Design, or the equivalent.

   1. In assessing the pre-professional degree, the following course content or evidence of equivalent experience is required. Otherwise, the appropriate courses must be taken at the undergraduate level:

      1. Architectural Graphics (both technical and freehand drawing), 6 semester hours
      2. Architectural History (ancient through modern), 6 semester hours
      3. Structural Design Principles (statics; strength of materials; gravity and lateral load tracing; design in timber, steel, concrete), 6 semester hours
4. Building Materials and Assembly (light construction), 3 semester hours
5. Environmental Systems (heat, light, sound, human comfort), 3 semester hours
6. Architectural Design Studio (in addition to "design fundamentals" courses), 20 semester hours

2. Where slight deficiencies in preparation exist, applicants may be admitted with the stipulation that they complete additional design studio or supporting courses. These may not count toward the required graduate plan of study.

2. Persons making application to the post-professional MArch degree program must have completed a NAAB-accredited professional undergraduate degree in architecture. The Architecture Program director may approve a maximum of 30 semester hours in architecture course work from the professional degree. Registration as an architect in the United States may be substituted for the professional degree.

C. Program Requirements

1. A minimum of 60 semester hours, including 6 hours of thesis studio or professional project studio.
2. A total of 36 semester hours of Architecture core courses, consisting of 18 semester hours of advanced architectural design studios (ARCH 7711, 7712, 7713), 9 semester hours of architectural seminars (ARCH 7011, 7012, 7013), and 9 semester hours of architectural theory and advanced professional and technical courses (ARCH 7211, 7421, 7431)
3. A minimum of 3 semester hours of Architecture Research (ARCH 7930) and 6 semester hours of Architecture Thesis Studio (ARCH 7996) or Professional Project Studio (ARCH 7995). The thesis or professional project must be approved by a faculty committee. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
4. Students receiving assistantships are required to take a minimum of 12 credit hours per semester.

D. Transfer of Credits

The Architecture program director may recommend to the Graduate School acceptance of no more than 12 semester hours of credit for architecture course work successfully completed at another institution. For students formerly enrolled in programs accredited by the National Architectural Accrediting Board, a maximum of 30 semester hours in architecture course work may be approved.

Click here for course descriptions
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Art

RICHARD A. LOU, MFA
I. The Department of Art offers the Master of Arts degree with a major in Art History and concentrations in Egyptian Art and Archaeology, the Arts of Africa and the African Diaspora, or General Art History; and the Master of Fine Arts with a major in Art and concentrations in Ceramics, Graphic Design, Painting, Printmaking/Photography, or Sculpture. The Department of Art is a fully accredited institutional member of the National Association of Schools of Art and Design.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

Program objectives are: (1) equip students with a specialist knowledge in a specific field of art and visual culture; (2) practical application of critical analysis of the major theories and documents of art history to individual research; (3) field opportunities through museum internships or archaeological excavations; (4) ability to present research in a clear and persuasive format.

A. Program Admission

1. For Fall semester admission with assistantship, completed materials must be received at the University by February 15. Applications received after April 1 cannot be guaranteed consideration for the Fall semester. For Spring semester admission, the deadline is November 1.
2. For the concentrations in the Arts of Africa and the African Diaspora and General Art History, an undergraduate course in each of the major areas of art history is desirable: American, ancient, medieval, renaissance, baroque, and modern. For the concentration in Egyptian Art and Archaeology, an undergraduate major in Egyptology, art history, anthropology, history, classical studies, or archaeology is desirable. If, after evaluation of the student’s transcript, the art history faculty perceives a deficiency in these areas, the student may be required to successfully complete courses that will not count toward the Master of Arts degree.

3. A letter of intent, explaining the applicant’s motivation and objectives in pursuing a graduate degree in art history.

4. A sample of undergraduate writing, preferably in art history.

5. Two letters of recommendation, at least one of which should be from a college faculty member who knows the student well.

B. Prerequisites for Admission to Degree Candidacy

The student shall apply for admission to degree candidacy upon the completion of 18 semester hours of graduate work. All candidacy requirements listed below must be satisfied before registering for more than 18 hours of coursework at the graduate level. To be approved for admission for candidacy, the student shall have:

1. A grade point average of at least 3.0 on a 4.0 scale.
2. Fulfilled all departmental prerequisite requirements.
3. A planned degree program that meets all departmental and graduate school requirements.

Pass Qualifying Examinations

- Foreign language translation exam: The language is usually French, German, Italian or another research language appropriate to the student's field of study, to be approved by the Graduate Academic Advisor. For a concentration in Egyptian Art and Archaeology, French or German is preferred. The foreign language exam will consist of a 300-500 word passage chosen by a faculty member and must be translated within a two-hour period. Two additional attempts are allowed.

- Image Identification Exam: For a concentration in General Art History or the Arts of Africa and the African Diaspora, the examination covers works of art and visual culture from various regions and time periods, ancient to modern. For a concentration in Egyptian Art and Archaeology, the test covers key monuments of ancient Egyptian art and an entry-level examination in Middle Egyptian.

4. The student must establish a history of satisfactory ratings in periodic review, a semi-annual evaluation of each student's general level of achievement by all area graduate faculty. Two unsatisfactory ratings will result in dismissal from the program. Forms are available in the Art Department Office. Students with assistantships are required to take 9 hours each semester, 3 of which may be chosen from ART 7880 or 7881.

C. Thesis Comprehensive Exam

Before progressing to the thesis stage, normally by the end of the third semester, students pursuing a concentration in the Arts of Africa and the African Diaspora or General Art History must sit for a written exam. One
month prior to the test, students receive from the faculty five questions that they must research and prepare to answer in well-organized, scholarly essays. The subject areas of these questions are based both on the courses the student has taken in the graduate program as well as his or her specified field of study. One theory question will be included among the five. For the exam, two questions from the five are chosen by the student's primary advisor and must be answered within a timeframe of two hours. For students in Egyptian Art and Archaeology, a written exam will be given prior to the thesis defense.

D. Program Requirements

1. A total of 30 semester hours including ARTH 7996 thesis.
2. The completion of ARTH 6123 or 6166 and ARTH 7130.
3. A minimum of 18 semester hours in art history (not including the required ARTH 6123 or 6166, 7130 or any hours in ARTH 7996). Up to 6 hours of elective credit outside the field of art history, including ARTH/ANTH 6381, 6660, 6661, 6662, 7661, 7662, may be selected with the permission of the advisor.
4. Twenty-one semester hours of 7000 level courses, including no more than 3 credit hours for the thesis.
   NOTE: Students should consult with their academic advisor as to the required and recommended courses appropriate to their area of concentration.
5. Satisfactory completion of the qualifying examinations
6. Satisfactory completion of the Thesis Comprehensive Exam
7. An acceptable thesis and oral defense
   NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write the thesis.
8. Graduate Assistantships. Students with assistantships are required to take 9 hours each semester, 3 of which must be from ART 7880 or 7881. Assistantships are renewed based on the following:
   1. Students must attain the required grade point average (3.4 in Egyptology, 3.0 otherwise) and maintain a good record in their assistantship work assignments.
   2. Students must make satisfactory progress toward the degree. In order to maintain satisfactory progress toward the degree during the first two semesters of study, the student must:
      1. pass the qualifying exam administered by the concentration, and
      2. take the foreign language translation exam.
   3. Students who fail to successfully complete these examinations by May 1 of the Spring semester will not receive a high priority for assistantship renewal for a third semester of study.

III. MFA Degree Program

Program objectives are: (1) professional studio competence as exemplified by a significant body of work; (2) professional competence in the dissemination of knowledge, including logical and clear written and verbal expression of ideas in teaching contexts; and (3) development of skills for critical and analytical reasoning as a practicing art professional.

A. Program Admission
1. Portfolio: Approval by the area graduate committee of the applicant’s creative work as specified below:
   1. Graphic Design: 20-30 images in a powerpoint presentation, of original and/or printed works. Submission of original work may be requested.
   2. Ceramics, Painting, Printmaking/Photography, and Sculpture: 20-30 images in a powerpoint presentation, of work mainly in the applicant’s concentration area plus some slides of drawings and optional other media. Include additional views of 3D pieces. Submission of original work might be requested.
2. Letters of recommendation: Letters from two persons familiar with the applicant’s creative activity but who are not members of the area graduate committee. If applying for a teaching assistantship, each recommendation should contain reference to the applicant’s teaching ability. Graphic design applicants are required to submit two letters of reference.
3. Statement: A brief, personal statement of professional ambitions, intended concentration area, other special creative interests, and outline of previous professional experience. Please include current and permanent e-mail address, mailing address, and phone numbers.
4. Deadline: All University and Department of Art MFA application materials are due November 1 for Spring admission and February 15 for Fall admission and assistantship consideration.
5. Address: Send images, work, letters of recommendation, and statement to:
   Coordinator of Graduate Studies
   Department of Art
   The University of Memphis
   Memphis, Tennessee 38152
6. Deficiencies: Students may be admitted but required to complete undergraduate prerequisites or otherwise correct deficiencies.
7. Students with assistantships are required to take 9 hours each semester, 3 of which may be chosen from ART 7880 or 7881. Eligibility for assistantships is based on students receiving a positive graduate review.

B. Program Prerequisites

1. Previous education and experience: Normally admission to the graduate program will require an undergraduate major in the applicant’s concentration area. (See concentration areas listed above.) A baccalaureate degree from an accredited institution is required with not less than 70 semester hours of art, of which 12 hours should be in art history and 18 hours (24 hours for Graphic Design) must be in the concentration studio courses. Exceptions to the above requirements will be considered, however, when the portfolio and professional experience warrant it.
2. Transfer credit: Any applicant who holds an MA degree in studio art from another institution may transfer up to a maximum of 30 semester hours credit in art earned for that degree to apply toward the MFA degree.

C. Prerequisites for Admission to Degree Candidacy

The student shall apply for admission to degree candidacy during the semester in which the student completes 30 hours of graduate work. To be approved for admission to candidacy, the student shall have:
1. A grade point average of at least 3.0 on a 4.0 scale,
2. Removed all departmental prerequisite requirements,
3. A planned degree program that meets all departmental and graduate school requirements, and
4. Established an overall history of satisfactory ratings in periodic review (a semi-annual evaluation of each student’s general level of achievement by a committee of area graduate faculty) and be approved for candidacy by that committee.

D. Program Requirements

1. A total of 60 semester hours, including a thesis of 6 semester hours in the student’s area of concentration.
2. A total of 36 semester hours of studio art, excluding the thesis, with a minimum of 24 semester hours in the student’s area of concentration.
3. Forty-two semester hours of 7000 level courses.
4. A total of 9 semester hours in art history.
5. A total of 9 semester hours of electives.
6. Students with a concentration in graphic design are required to take at least 12 semester hours of ART 7040 and 7240 combined.
7. Residency requirement for Graphic Design: The student must commit to full-time study for a minimum of two successive semesters after admission to concentration to fulfill the residency requirement.
8. Students from the concentrations of Ceramics, Painting, Photography, Printmaking, and/or Sculpture must enroll in Art 7651 (1 hour) when also enrolled in a 6000 or 7000 level studio course.
9. Satisfactory grade on a written comprehensive examination, with follow-up oral examination at option of examining committee.
10. Thesis (exhibition) to be approved by a faculty committee with the member under whom the thesis was prepared as chair. For graphic design candidates, a written thesis accompanied by appropriate visual documentation is required.

IV. Interdisciplinary Graduate Certificate Program in Museum Studies (administered jointly by the Departments of Anthropology and Art).

A. Program Admission

1. Students currently admitted to a graduate program at the U of M or another university or students holding a graduate degree may apply for admission. For students enrolled in a graduate program, a minimum GPA of 3.0 is required for admission. In rare instances, a student who has completed an undergraduate degree program but who has not completed a graduate degree nor been admitted to a graduate program may apply and will be considered on an individual basis. All students not currently admitted to a graduate degree program at the U of M must also apply to the Graduate School for admission as a non-degree student. In order to continue in the program, students must maintain at least a 3.0 GPA.
2. To apply, students submit:
   1. transcript of undergraduate degree program and transcripts of prior and current graduate study;
   2. three letters of recommendation; and
3. a letter describing reasons for wishing to take a graduate certificate in the area of museum studies and how the program corresponds with prior experience and anticipated career plans. Inquiries can be directed to Dr. Leslie Luebbers, Director of the Art Museum (luebbrs@memphis.edu) or Dr. Linda Bennett, Associate Dean, College of Arts and Sciences (lbennett@memphis.edu).

B. Program Requirements

A minimum of 18 credit hours is required.

1. Six of the 18 hours will be met by completion of two core courses: ANTH/ARTH 7661 Museum Practices and ANTH/ARTH 7662 Museums and Communities.
2. Six elective hours will be selected in consultation with the Admissions and Advisory Committee. Except for unique circumstances, students in the Anthropology and Art History graduate programs must take at least three elective hours outside of their major department.
3. Two three-hour internships (ANTH/ARTH 7669 Museum Internship) are required. Each internship site will be chosen in consultation with the Admissions and Advisory Committee. For those students working in a museum or other appropriate community site, three of the internship hours may be replaced by a third elective course.

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Degree Planning

Communication

Sandra J. Sarkela, PhD
I. The Department of Communication awards two graduate degrees: the Master of Arts degree with a major in Communication and concentrations in Communication or Film and Video Production, and the PhD with a major in Communication.

II. MA Program

A Master’s Degree in Communication from The University of Memphis prepares students for success in the many professional opportunities in this field and success in pursuing a doctoral degree in Communication. Students have a choice of two concentrations: communication or film and video production.

MA students in Communication work along side doctoral students in one of three areas (or a combination of areas):

- Rhetoric, Politics, and Society
- Health Communication
- Media, Technology, and Society

The Film and Video Production concentration combines technical instruction with courses in both motion picture and traditional communication studies to provide students with the tools and concepts necessary to function in the multifaceted world of audiovisual production. The approach to media practice is broad enough to address the needs of the independent artist, as well as those who seek to enter the industry.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

A. Admissions Criteria

http://www.memphis.edu/communication/
Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point average, GRE scores, personal goals statement, relevant employment history, letters of recommendation, and quality of the applicant’s writing sample. The number of students admitted to the MA program will depend on availability of adequate faculty supervision and other department resources. More specific admissions criteria can be found on our department website. GRE scores are required for every applicant.

See the Department of Communication website for information on applying.

B. Initial Graduate Advising

Before registering for courses beyond nine hours of study, the student will form an MA advisory program committee consisting of three members of the department’s graduate faculty. One of these three (who must have full graduate faculty status), by request of the student and the consent of the faculty member, will serve as advisory committee chair.

C. Formation and Conduct of Master’s Advisory Committee

Role and Duties of MA Advisory Committee Chair and Members: All decisions pertaining to a student’s program must be approved by a consensus of the MA advisory committee, including meeting to approve a plan of study and approving the content of independent studies. Changes to the plan of study require advisory committee approval.

D. Program Requirements

1. Successful completion of a minimum of 30-33 hours of graduate courses, depending on the degree completion option a student and her/his committee agree on; 70% of the minimum must be at the 7000 level or above.

2. Completion of the degree requires one of the following options; however students in Film and Video Production must complete option C, Culminating Project:
    1. Written and oral comprehensive examination. Students must pass both a written and oral comprehensive exam during or after their last semester of course-work. The student’s MA advisory committee must approve the option and is responsible for evaluating the comprehensive examination. A pass on the written examination is necessary for admission to the oral examination. The quality of the comprehensive examination as a whole is determined at completion of the oral examination. Students who elect this option must complete a minimum of 33 hours of graduate courses.
    2. Thesis and oral comprehensive examination. Students who elect this option should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write. On completion of the thesis, the student must successfully complete an oral comprehensive examination, which will include an oral defense of the thesis, administered by the student’s MA advisory committee. The thesis, defense, and examination must be acceptable to all members of the advisory committee and recommended to the Graduate School after a successful defense. Students who elect this option must complete a minimum of 30 hours of graduate courses of
which 3 must be COMM 7996 Thesis. No more than 3 credits of COMM 7996 Thesis may count toward the 30 hour minimum.

3. Culminating project and oral comprehensive examination. This project must be completed under the supervision of a member of the graduate faculty. The student’s MA advisory committee must approve the option, and the student must enroll in at least three credits of COMM 7994, Culminating Project, during or after the last semester of course work. The culminating project provides an opportunity for students to demonstrate their ability to work independently, as well as their mastery of an area of concentration in an applied form approved by their advisory committee. The project may take one of several forms, including a community-based communication intervention, or in the case of FVP students, a film or video production. On completion of the culminating project, the student must successfully complete an oral comprehensive examination, which will include an oral defense of the project, administered by the student’s MA advisory committee. The project, defense, and examination must be acceptable to all members of the student’s MA advisory committee. Students who elect this option must complete a minimum of 30 hours of graduate courses, of which 3 must be COMM 7994 Culminating Project.

3. All students must have competency in two of three core areas: Communication Theory, Rhetorical Theory, or Media Theory. These competencies can be satisfied academically in a variety of ways in consultation with the MA advisory committee.

4. All students with a concentration in Film and Video Production must take three credits of COMM 7892, Film and Video Production, before beginning their final culminating project.

5. Up to nine hours outside the department may be applied to the minimum hour requirement with the approval of the student’s MA advisory committee.

6. Up to six semester hours earned at another institution may be applied to the minimum hour requirement with the approval of the student’s MA advisory committee.

E. Graduate Assistantships

1. Graduate assistantships are available and are awarded on a competitive basis within the department. Assistantships are normally renewed for one year depending upon the performance of assistantship duties and the progress being made towards a degree.

2. Further details are available on the department website.

F. Time Limitation

All requirements for the degree must be completed in 6 calendar years.

G. Retention

At the end of every academic year, the graduate faculty in the Department of Communication evaluates the progress of every MA student in the program. For a student to continue in the program, he or she must maintain satisfactory progress. The student will be judged as NOT making satisfactory progress if:

1. The student’s cumulative GPA drops below 3.0 and remains there for more than one semester or nine
credit hours.

2. The student has acquired more incompletes than he or she can complete during one semester of normal academic work.

Should a student fail to maintain satisfactory progress, the Graduate Committee, in conjunction with the department chair, can recommend to the CCFA Associate Dean for Graduate Affairs and the U of M Vice Provost of Graduate Programs that the student be dropped from the program. Moreover, students found by the Office of Student Conduct to have committed misconduct will be sanctioned by the University in accordance with the policies contained in the “Code of Student Rights and Responsibilities.” In these cases, the Department may also recommend to the CCFA Associate Dean for Graduate Affairs and the U of M Vice Provost of Graduate Programs that the student be dropped from the program.

H. Departmental MA Guidelines

Additional details and information are available on the department website.

III. Accelerated B.A./M.A Program in Communication

This program allows outstanding undergraduates to begin the coursework for the Master of Arts in Communication during their senior year. Students must begin planning to enter the Accelerated B.A./M.A. program early in their undergraduate career, in consultation with their advisor in the Department of Communication.

Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program begin a carefully tailored course of study which will allow them to complete their B.A. degree while they also begin the coursework toward their M.A.

To apply, students should have a minimum 3.25 grade point average, and must submit a copy of their transcript and two reference letters from Department of Communication faculty to the Department chair. Each applicant will complete an interview with the undergraduate and graduate studies coordinator.

Students must also apply to the Graduate School for "combination senior" status, which allows them to take graduate courses in Communication. To continue in the program past the B.A., students must apply for full admission into the Graduate School and into the Communication department's M.A. program.

Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs.

IV. PhD Program

The PhD program offers three areas of specialization:

Rhetoric, Politics, and Society, Media, Technology, and Society, and Health Communication. For details on these areas see the Department of Communication website.
All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

A. Admissions Criteria

Students can be admitted to the PhD program with or without a Master’s degree. We require your degree to be in Communication, Rhetoric, or a related field from an accredited institution. Multiple criteria will be used when considering your application for admission, including, but not limited to, undergraduate and graduate grade point average, GRE scores, statement of purpose, writing samples, relevant employment history, letters of recommendation, and the quality of the applicant’s writing. The number of students admitted to the PhD program will depend on availability of adequate faculty supervision and other department resources. More specific admissions criteria can be found on our department website. GRE scores are required for every applicant.

See the Department of Communication website for information on applying.

B. Graduate Advising

Before registering for courses beyond 18 hours of study in the department, the student must choose a major advisor and form a PhD advisory program committee consisting of their major advisor to serve as chair and two members of the department’s graduate faculty. Students must also submit a Plan of Study, approved by their committee, before registering for courses beyond 18 hours.

C. Role of the PhD Advisory Committee

All decisions pertaining to a student’s program must be approved by a consensus of the PhD advisory committee, including meeting to approve a plan of study and approving the content of independent studies. Changes to the plan of study require advisory committee approval. See information below on comprehensive exams and dissertation for more information on the role of the advisory committee.

D. Program Requirements

1. It is expected that students maintain a GPA of 3.0 throughout the PhD program. Should the student’s GPA fall below 3.0, nine semester hours will be allowed to correct the deficiency. At the request of the student’s PhD advisory committee and at the discretion of the department chair and the graduate committee, this period may be extended 9 additional semester hours. The student must have obtained a GPA of at least 3.0 before registering for dissertation credit hours. Any assistantship is forfeited if a student is put on probation.

2. A minimum of 72 hours of graduate credit beyond the bachelor’s degree. At least 60 hours of credit must be at the 7000 level or higher. Students admitted to the PhD program without an MA must first
complete the MA in Communication as part of their PhD requirements. For students who have already obtained a master’s degree when admitted to the program, a minimum of 42 hours of graduate credit at the 7000 level or higher beyond that master’s degree is required. A minimum of 6 hours must be taken from outside of the Department of Communication. No more than 9 hours of dissertation (COMM 9000) will count toward satisfying the total number of graduate hours required for the PhD.

3. Research Tool or Analytic Specialty. Students must demonstrate competence in the research tool or analytic specialty required for completion of their dissertation. Competence can be demonstrated in a variety of ways to be determined by the student's advisory committee.

4. Core Competencies. Students must have competency in the Department’s three areas of specialization: Rhetoric, Politics, and Society, Health Communication, and Media, Technology, and Society. These competencies can be satisfied academically in a variety of ways in consultation with the student's advisor.

5. Residency Requirements. A minimum of 2 consecutive semesters (Fall/Spring or Spring/Fall) in residence (with a course load of 9 hours per semester) beyond the master's degree must be completed prior to registering for dissertation credit. The summer session will not count as one of the required semesters.

6. Comprehensive Examination. The examination will consist of a written and an oral portion. At the completion of the students’ course-work the student shall take a comprehensive exam over the areas covered in the student’s program. The content of the examination for each student will depend on the nature of the student’s program and the areas of concentration. The precise distribution of the 10 hours of the written exam and the areas that it will cover will be determined by the student’s PhD advisory committee. When appropriate, questions may be solicited from other faculty members to supplement those provided by the PhD advisory committee members. The comprehensive examination, which is both written and oral, is the primary basis on which the faculty of the department determine whether the student is ready to embark upon the program of research and writing culminating in the dissertation. The PhD advisory committee administers the comprehensive examination. At the close of the oral portion, the PhD advisory committee, after considering the quality of both oral and written responses, will determine the outcome. Students will not be allowed to take the comprehensive examination or submit a dissertation prospectus if they have any Incompletes outstanding in the approved program of study.

7. Dissertation Requirements
   1. On successful completion of the comprehensive examination the student shall select a dissertation director and, in consultation with the director, invite three additional faculty members to serve as the students’ dissertation advisory committee. One member of the advisory committee must be from outside the discipline. The dissertation director serves as the chair of the dissertation committee. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
   2. Dissertation Proposal Defense. The student shall submit a proposal for the dissertation to the dissertation advisory committee and defend the proposal before the committee. To be considered as "making satisfactory progress," a candidate must have his/her prospectus approved within two semesters of completion of the comprehensive examination.
   3. Dissertation Defense. The dissertation director will circulate a complete draft of the dissertation to all advisory committee members, who will be given the opportunity to provide feedback. The student will then make the required revisions, submit them to the dissertation director, and
circulate them to all advisory committee members. This process will continue until a majority of the dissertation advisory committee formally agrees that the dissertation is ready to be defended. At that time, the dissertation director will schedule an oral defense of the dissertation. On approval of all of the members of the dissertation advisory committee, the dissertation will be submitted to the Graduate School for final approval and the degree awarded.

8. Departmental PhD Guidelines. Additional details and information are available in the departmental PhD Guidelines found on the department website.

E. Graduate Assistantships

1. Graduate assistantships are available and are awarded on a competitive basis within the department. Assistantships are normally renewed for one year depending upon the performance of assistantship duties and the progress being made toward a degree.

2. More details are available on the department website.

F. Time Limit

All requirements for the degree must be completed in 12 calendar years.

G. Retention

At the end of every academic year, the graduate faculty in the Department of Communication evaluates the progress of every PhD student in the program. For a student to continue in the program, he or she must maintain satisfactory progress. The student will be judged as NOT making satisfactory progress if:

1. The student’s cumulative GPA drops below 3.0 and remains there for more than one semester or nine credit hours.
2. The student has acquired more incompletes than he or she can complete during one semester of normal academic work.
3. The student fails the Comprehensive exam.
4. The student’s coursework does not demonstrate promise for independent scholarly work.

Should a student fail to maintain satisfactory progress, the Graduate Committee, in conjunction with the department chair, can recommend to the CCFA Associate Dean for Graduate Affairs and the U of M Vice Provost of Graduate Programs that the student be dropped from the program. Moreover, students found by the Office of Student Conduct to have committed misconduct will be sanctioned by the University in accordance with the policies contained in the “Code of Student Rights and Responsibilities.” In these cases, the Department may also recommend to the CCFA Associate Dean for Graduate Affairs and the U of M Vice Provost of Graduate Programs that the student be dropped from the program.

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Journalism

DAVID ARANT, PhD
I. The Department of Journalism offers the Master of Arts degree in Journalism. In addition to the residential master’s program, the Department offers its MA in Journalism online to distant students.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MA Degree Program

Students in the MA program may take courses in advertising, news, new and emerging media, public relations, and visual communication in keeping with their needs and interests. The curriculum is designed for undergraduates interested in advanced study, practicing professionals looking to deepen their knowledge and sharpen their skills, workers changing careers, and those who anticipate completing doctoral programs. Students should consult with the coordinator of graduate studies and with faculty advisors in designing individual course plans.

Program objectives are: (1) understanding and application of First Amendment principles and the law appropriate to professional practice, the history and role of professionals and institutions in shaping communications, and the diversity of groups in relationship to communications; (2) understanding the concepts and being able to apply theories in the use and presentation of images and information; (3) developing the ability to work ethically in pursuit of truth, accuracy, fairness and diversity; (4) developing the ability to conduct research and evaluate information by methods appropriate to the communications professions in which they work; and (5) cultivating the ability to write correctly and clearly in forms and styles appropriate for the communications professions, their audiences, and the purposes they serve.

A. Program Admission and Prerequisites
Applicants to the program are evaluated three times a year on or around March 1, October 1, and June 1. Students may be admitted for the fall or spring semesters or for the summer session. Admission to the journalism program is competitive. Multiple criteria are considered and include official GRE or MAT scores, cumulative grade point averages, relevant employment history in the form of a resume, and a personal goal statement.

B. Program Requirements

1. Courses and credit hours. Students may complete their degrees with (a) a minimum of 30 hours of graduate credit including a thesis, or (b) a minimum of 33 hours of graduate credit including a professional project, or (c) a minimum of 36 hours of graduate credit with the acceptance of a paper for publication in a refereed scholarly journal or for presentation at a refereed academic or professional conference. All courses taken for graduate credit must be approved by the graduate faculty of the department. Student work must be completed at a level of performance satisfactory to the graduate faculty. Students must complete all journalism courses with a grade point average of 3.0 or better. Course work taken outside the department must be approved by the student’s advisor. No more than 9 credit hours of coursework may be taken at the 6000-level.

Students with graduate credit earned at another institution may petition to have it applied toward their degree requirements at the University of Memphis. Such credit is not transferred automatically and must be approved by the graduate faculty. A maximum of nine semester hours, including up to six hours of journalism credits, earned at another regionally accredited university may be applied toward the master’s degree requirements at the University of Memphis. The Graduate School will not accept courses that have been used to earn a previous degree.

2. Required Courses. All students are required to complete a 12-hour core consisting of JOUR 7050, 7075, and 7100 plus one writing course chosen from JOUR 7015, 7350, or 7420. In addition, students must complete a one-hour pro seminar (JOUR 7001) by the end of their first semester. While the course provides essential orientation to the program, the one credit hour will not count toward the degree.

Students are encouraged to prioritize the core courses, and complete them as soon as possible. No more than three hours in either JOUR 7700 or JOUR 7800, but not both, may be applied to the degree. No more than three hours in either JOUR 7600 or JOUR 7650, but not both, may be applied to the degree. All requirements for the degree must be completed in eight years. Courses older than eight years will not be allowed as credit toward the master's degree. Additionally, students who entered the program without an undergraduate degree in journalism and mass communication or a similar field are required to take JOUR 6700, 6702 and JOUR 7000.

3. Master's Thesis (JOUR 7996, Thesis). Students who anticipate continuing with doctoral study or who are interested in academic research should complete an independent research project culminating in a master’s thesis. A thesis uses the academic research method to examine a phenomenon in mass communication, or
to consider a legal, historical, or visual issue related to journalism and mass communication. It must collect original data and analyze it, and discuss how the research fits in with established knowledge. A thesis might use content analysis, survey, experiment, focus groups, in-depth interviews, document analysis, ethnography, legal analysis, historical analysis, or visual analysis.

On completion of a thesis, a student will take an oral examination with a three-person faculty committee that assesses the thesis and the student’s broader awareness of theoretical and empirical issues in his or her field. The student must defend both the thesis proposal as well as the final document. He or she is responsible for assembling a committee, which should consist of at least 3 faculty members (a minimum of 2 from Journalism).

Students must take 6 credit hours of thesis credit, and cannot count more than 6 toward graduation, but may take more if needed. Graduate assistants on the thesis path may take only 6 hours of thesis credit in their final semester and remain on their assistantship.

A thesis might need approval from the Institutional Review Board, depending on the type of research.

Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write the thesis.

4. Professional Project (JOUR 7998, Professional Project). Students seeking master’s degrees to enhance career progress may complete a professional project under the direction of a faculty committee. In a project, students create an original work that can be used by a professional outlet. The way a project is completed depends on the type of work being done. Students are expected to complete a project that would be useful in their careers.

A professional project can take many forms. It might be a marketing plan, business startup, a communications plan for a nonprofit organization, a series of research-based journalism articles, or a visual creative project. Students will determine the expectations and guidelines for the project with the committee chair. The quality of work in a project is expected to be equal to a thesis.

On completion of a professional project, a student will take an oral examination that assesses the project and the student’s broader awareness of theoretical and empirical issues in his or her field. The student must defend both the project proposal as well as the final document. He or she is responsible for assembling a committee, which should consist of at least 2 Journalism faculty; additional outside members are welcome at the students’ choice.

Students must take 3 credit hours of project credit, and cannot count more than 3 toward graduation, but may take more if needed.

A project might need approval from the Institutional Review Board, depending on the type of research.
5. Courses-only option. Students who elect to complete the 36-credit-hour plan must have a culminating experience. Qualifying experiences are the acceptance of a paper for publication in a refereed scholarly journal or for presentation at a refereed academic or professional conference.

III. Graduate Certificate in Entrepreneurial Journalism

The Entrepreneurial Journalism Certificate program prepares students to start their own media-related businesses or bring innovation to legacy media organizations. It will emphasize knowledge of business fundamentals, marketing, advertising and public relations strategies for new businesses, and creating digital, multimedia content for media products or promotions.

Objectives of this program include:

1) To prepare students for today’s media landscape, which is undergoing unprecedented disruption as new digital technologies and changing economic realities have upended the practices and the business models of traditional media organizations. Students need to be able to understand this upheaval and be equipped to recognize opportunities for new businesses and ways traditional organizations can evolve to meet evolving demands.

2) To equip students with the skills they need not only to start their own media-related businesses but also to work as “intrapreneurs” within existing companies and to initiate and sustain change initiatives. They will learn startup fundamentals such as how to turn ideas into business plans, assess customer needs, pitch investors, and develop marketing, public relations and advertising strategies.

3) Students will hone their ability to use social media and a variety of cutting-edge digital tools necessary to market and create content for new media businesses.

A. Program Admission

To apply to the Entrepreneurial Journalism Certificate Program, students must submit the following:

1. Cover letter expressing interest in the program and qualifications
2. Resume/CV
3. BA or BS degree transcript

B. Program Requirements

Completion of 12 semester hours distributed as follows:

Required Courses: Total of 6 credit hours

- JOUR 7100 Entrepreneurial Media (3)
Electives: 6 credit hours chosen from the following:

- UNIV 7110 Launch Memphis 48 Hour Launch (2)
- UNIV 7110 LaunchMemphis BarCamp, SocialCamp, MobileCamp (2)
- UNIV 7110 Business Plan Boot Camp (1)
- UNIV 7110 Launch Memphis ad hoc mentoring (3)
- JOUR 7650 Startup Journalism Practicum (3)
- MGMT 7270 Venture/Bldg/Sustaining a Successful Enterp (3)
- FIR 7648 - Evaluating/Finance New Projects (3)
- ACCT 7412 - Legal/Accounting Aspects of Entrepreneurship (3)

C. Graduation Requirements

In order to graduate with the certificate students must:

1. Complete Certificate Program course requirements within a period of six years with a B or above average.

2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

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Rudi E. Scheidt School of Music

JOHN CHIEGO, MM
I. The Rudi E. Scheidt School of Music is a member of the National Association of Schools of Music. It offers three graduate degrees in music—Master of Music, Doctor of Musical Arts, and Doctor of Philosophy—and a graduate certificate, the Artist Diploma in Music.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

A. Prerequisites

1. All requirements for admission to the Graduate School must be met before a student's application will be considered by the School of Music. See the Admissions section of this catalog for further information.

2. Admission to graduate study in the School of Music is competitive and will be based on the student's demonstrated fitness for advanced academic work in music and for the specific demands of the proposed concentration.

3. A baccalaureate degree in music or the equivalent is normally expected before entrance into a graduate program in music. Students with degrees in other disciplines will be considered for admission to a master's program but may be required to make up undergraduate credits in music history, music theory, and/or other subjects as necessary for their intended concentration.

4. Applicants to the DMA and PhD programs must submit current GRE (general) or MAT scores with the application materials. For applicants to the MMu programs, standardized test scores are optional.
5. Auditions and Work Samples
   1. Students in performance must perform a successful audition for the music faculty in the appropriate area. Auditions are normally on the principal instrument only; students in the woodwinds specialization within the performance concentration must audition acceptably on three woodwind instruments.
   2. Students in composition must submit acceptable compositions in various media to the composition faculty.
   3. Students in music education must submit a written philosophy of music education.
   4. Students in musicology must submit an acceptable writing sample (not necessarily on a musical subject) to the appropriate faculty.

6. Students planning a concentration in jazz and studio music must achieve a satisfactory grade on the proficiency examination administered by that division. Students showing deficiencies may be placed in appropriate undergraduate courses. Students planning to take applied jazz instruction at the 7000 level must perform an audition of classical and jazz literature in several styles. Students planning to take jazz composition/arranging must submit tapes and scores of several works for various media.

7. All students entering master's or doctoral programs in music education are expected to hold a current teaching license in music; all requirements for licensure must be met before admission to graduate study.

8. All students entering a master's or doctoral program in the School of Music, regardless of concentration, must take the music history and theory proficiency examinations given in the days preceding registration in each term; entering MM students (except in musicology, music education, and Orff-Schulwerk) and DMA students must also take an examination in aural theory. Students who pass these examinations may take any history or theory course they wish; those who fail are required either to retake and pass the test(s) or to take assigned remedial course(s) promptly.

9. Students taking courses in vocal pedagogy or vocal performance must satisfactorily pass the proficiency examination in diction administered by the voice faculty. Students who fail this test must take MUSE 4211 and/or 4212 at the first opportunity.

II. Master's Degree Programs

The Rudi E. Scheidt School of Music offers the Master of Music degree with concentrations in performance, conducting, pedagogy, musicology, Orff-Schulwerk, music education, jazz and studio music, and composition.

Program objectives are: (1) development of competency in music theory, music history, bibliography, and pedagogical areas related to the discipline; (2) preparation for advanced study in Music; (3) preparation for teaching positions at the elementary, middle, and high school level; and (4) preparation for auditions at orchestra or performing ensemble.

A. Prerequisites to Master's Degree Candidacy

1. The student shall declare a concentration area at the time of application. Admission to graduate standing in that concentration, and any subsequent changes in concentration, must be approved by the appropriate area coordinator.
2. Evidence of keyboard proficiency is required of students in the music education, composition, and voice performance concentrations.

B. Prerequisites for Graduation

1. A student with a concentration in performance must successfully complete a hearing, normally before the area faculty, for the public recital and shall perform that recital to their satisfaction. Advisors may recommend outstanding performers for the Performer's Certificate at any time after the recital by submitting a recording of the recital to the Honors and Awards Committee of the School of Music.
2. All students must pass a comprehensive examination administered by the School of Music.
3. A student of whom a thesis is required shall submit a thesis acceptable to his or her advisor and committee and to the Graduate School. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.
4. Certain concentrations have language requirements; see the descriptions of the individual programs below.
5. Complete details of this outline may be obtained by writing the Associate Director for Graduate Curriculum and Advising, Rudi E. Scheidt School of Music.

III. MMu Degree Program

A. Core Requirements (10 Hours)

1. Ensemble (1 hour)
2. Music core: 3 hours of bibliography (MUHL 7400), 3 hours of music history, and 3 hours of music theory. Any graduate music theory or history course may be used for this requirement with the exception of individual studies, pedagogy, or repertory courses. (9 hours)

B. Program Requirements (22-26 Hours)

The individual program of study is determined as a cooperative effort between the student and his or her advisor.

1. Performance (bass, bassoon, cello, clarinet, euphonium, flute, guitar, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice, woodwinds)
   1. Applied Music (individual lessons) (12 hours)
   2. Ensemble (1 hour)
   3. Music Electives (8 hours)
   4. Recital MUAP 7999 (3 hours)
      NB: for students studying voice, a minimum of 3 undergraduate hours in each of French, German, and Italian and two semesters of Song Repertory are required. If such coursework has not been fulfilled during a student's undergraduate degree, it can be taken during his or her time in the Graduate School.
2. Musicology
   1. Music History (12 hours)
   2. Minor Concentration in Music (6 hours)
   3. Ensemble (1 hour)
4. Thesis MUHL 7996 or Lecture Recital MUAP 7899 (3 hours). NOTE: Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.
5. Reading knowledge of one foreign language, preferably German, must be demonstrated before graduation.
6. Students taking the option of Lecture Recital must have a minimum of one semester of individual lessons at the 6000 level.

3. Pedagogy
   1. Applied Music (individual lessons) (8 hours)
   2. Pedagogical Area (12 hours)
   3. Ensemble, or Chamber Music for students studying piano (1 hour)
   4. Recital (3 in Suzuki, 2 in Piano Pedagogy)
   5. Projects in Piano Pedagogy (piano only) (1)

4. Orff-Schulwerk
   1. Level I Orff-Schulwerk MUSE 6802 (3 hours)
   2. Level II Orff-Schulwerk MUSE 7103 (3 hours)
   3. Level III Orff-Schulwerk MUSE 7104 (3 hours)
   4. Master Class in Orff-Schulwerk MUSE 7214 (2 hours)
   5. Courses chosen from music education (6 hours)
   6. Electives (3 hours)
   7. Orff Practicum MUSE 7998 (3 hours)

5. Music Education
   1. MUSE 7220 Research in Music Education (3)
   2. MUSE 7222 Rsrch Appl Music Education (3)
   3. MUSE 7402 Hist Phil Music Ed (3)
   4. MUSE 7404 Assessment Music Classroom (3)
   5. Music, MUSE, and/or education electives (7)
   6. MUSE 7996 Thesis or MUSE 7995 Master's Project (3). NOTE: Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

6. Jazz and Studio Music
   1. Advanced Improvisatory Practices and Materials MUTC 7010 (3 hours)
   2. History of Jazz MUHL 6806 (3 hours)
   3. Jazz Pedagogy MUSE 7520 (3 hours)
   4. Analytical Studies of Jazz Styles MUTC 7104 (3 hours)
   5. Lessons in performance, composition, and/or arranging (8 hours)
   6. Jazz Ensemble MUAP 7107 or Jazz Combo MUAP 7202 (3 hours)

7. Composition
   1. Composition MUTC 7501 (12 hours)
   2. Composition Practicum MUTC 7599 (3 hours)
   3. Ensemble (1 hour)
4. Music Electives (8 hours)

8. Conducting
   1. Advanced Conducting MUAP 7701 (12 hours)
   2. Score Study and Aural Training for Conductors MUAP 7703 (3 hours)
   3. Ensemble as appropriate to conducting specialty (Wind, Orchestra, or University Singers) (3 hours)
   4. Music Electives (4 hours)
   5. Recital MUAP 7999 (3 hours)
   6. NB: for students studying choral conducting, the conducting faculty will assess competence in vocal pedagogy, diction for the major choral languages, and foreign-language comprehension, and may assign remedial coursework as needed. Such coursework, if assigned at the undergraduate level, may be taken while enrolled in the Graduate School.

IV. Doctoral Degree Programs

The Rudi E. Scheidt School of Music offers the Doctor of Musical Arts degree with concentrations in performance, composition, and conducting. The School also offers the Doctor of Philosophy degree with concentrations in musicology and music education.

A. Admission to Doctoral Programs

All auditions, writing or composition samples, proficiency examinations, etc., described above in "I.A. Prerequisites" are required for entry into doctoral and master's programs alike; standards for the former are naturally higher than for the latter. Completion of a master's degree in music at the University of Memphis does not guarantee admission to a doctoral program.

B. Prerequisites for Doctoral Degree Candidacy

1. Before declaring degree candidacy, doctoral students must have completed 40 hours of graduate coursework.
2. Doctoral candidates who did not have a course in Bibliography and Research Methods at the master's level must complete MUHL 8400 during doctoral study. (Students in the PhD in music education may substitute MUSE 8220 for this requirement.)
3. Students must fulfill all university requirements, including residency for two consecutive semesters.
4. Students must successfully pass written and oral comprehensive examinations. For students in the PhD programs, comprehensive examinations will be taken near the end of coursework and will be tailored to the individual student's course of study and dissertation interest. For students in the DMA programs, there will be two sets of tests, the qualifying examinations in music history and theory, and later a comprehensive examination in the major and minor fields. Opportunities for remediation will be provided by courses, organized study or review sessions, and/or reading lists. A second failure will result in termination from the program.
   The DMA qualifying examinations will be given after the student has completed 27 hours, usually in the fourth semester of full-time study. Students may perform only one degree recital before passing the
qualifying exams. The DMA comprehensive examination will normally be taken during the last semester of coursework (exclusive of dissertation hours) for the degree. The examination has a written and an oral component and will be administered by the student's committee and tailored to his or her major and minor areas. Further details may be found in the departmental Graduate Student Handbook.

5. Unless otherwise specified, all doctoral programs have language requirements which may be satisfied by (a) successful completion of a foreign-language course at the 1020 level (or the equivalent) or higher, taken at an accredited institution within five years of entry into the doctoral program, or while the student is enrolled in the Graduate School; (b) successful completion of a foreign-language examination administered by the School of Music; or (c) successful completion of a course in computer programming language at the 6000 level or higher. Students who are native speakers of a foreign language may have this requirement waived for that language.

6. Upon completion of these prerequisites, the student may file the candidacy forms and work with his or her committee on the proposal(s) for the dissertation or dissertation equivalent.

C. The Dissertation or Dissertation Equivalent

1. The PhD program requires a doctoral dissertation on an approved scholarly or experimental topic. For most DMA programs, the conventional dissertation is replaced by a dissertation equivalent appropriate to the individual disciplines.

2. Submission of the Dissertation: All regulations of the Graduate School regarding the mechanics and submission of doctoral dissertations apply to dissertations and dissertation equivalents in music. All degree recitals are recorded and a copy of the recording placed on file in the Music Library. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

3. Dissertation defense: every doctoral candidate must defend his or her dissertation or dissertation equivalent before the doctoral committee. Other faculty may attend the dissertation defense or be invited to participate. At the conclusion of the defense, the results will be conveyed in writing by the major professor to the Associate Director for Graduate Studies.

4. Graduation: The timetable and requirements for graduation are set by the Graduate School and published elsewhere in this Bulletin.

D. Post-Master's Assistantships

Study at the post-master's level involves considerable sacrifice of time and often earning power to fulfill the requirement of most institutions that a full year must be spent in residence before a degree can be awarded. By awarding assistantships at the post-master's level, the Rudi E. Scheidt School of Music seeks to attract the very best combination of talent and scholarship available and to encourage as many talented, mature students as possible to continue learning by providing basic subsistence during the year of residence. Normally, stipends to post-master's students will be for one to three years.

V. DMA Degree Program

The DMA degree is structured to allow maximum flexibility in designing a program around each student's
background and needs. Although the distribution of hours is firm, program requirements are to be regarded as
general rather than fixed. The student's preparation, experience, and stated goals are carefully evaluated before an
individually selected course of study is prescribed.

Program objectives are: (1) competency in music theory, music history, advanced research, and pedagogical for
classroom or studio; (2) preparation for college or university teaching; (3) preparation for auditions at orchestra or
performing ensemble.

A. Core Requirements

1. Music History (3 hours)
2. Music Theory (3 hours)

B. Concentration Area Requirements

1. Performance (bass, bassoon, cello, clarinet, euphonium, flute, guitar, harpsichord, horn, oboe, organ,
percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice) (60 hours)
   1. 24 hours of private lessons on the major instrument
   2. 12 hours of a minor area in music
   3. 9 hours of electives, to be chosen with the approval of the student's advisor
   4. 9 hours Dissertation Equivalent: Three public recitals, of repertory approved by the doctoral
      committee, are required. A formal research document on a topic approved by the committee will
      also be submitted to the Graduate School after the final defense; music covered by this
      document will also appear on one of the recitals. (These requirements are part of the applied
      music hours. Voice majors may submit a proposal requesting substitution of a major operatic role
      for one recital. Further details are contained in the "Voice Area Policies and Procedures"
      document, available from the area coordinator. The 9 hours of dissertation equivalent must
      include at least 6 hours of MUAP 8999 and at least 1 hour of MUAP 9000.)

2. Composition (60 hours)
   1. 3 hours of MUTC 8599 Composition Practicum
   2. 18 hours of MUTC 8501 Composition
   3. 12 hours of a minor area in music
   4. 12 hours of electives, to be chosen with the approval of the student's advisor
   5. 9 hours of MUTC 9000 Dissertation: The dissertation will consist of a work of significant scope.

3. Conducting (60 hours)
   1. 15 hours MUAP 8701, Advanced Conducting
   2. 4 hours MUAP 8702, Conducting Practicum
   3. 4 hours MUAP 8703, Score Study and Aural Training
   4. 4 hours Wind Ensemble, Orchestra, or University Singers
   5. 6 hours of coursework in choral, orchestral, or wind literature
   6. 9 hours of coursework in a minor area in music
   7. 3 hours music electives
   8. 9 hours dissertation equivalent: Three public recitals of repertory approved by the doctoral
committee are required. A formal research document on a topic approved by the committee will also be submitted to the Graduate School after the final defense; music covered by this document will also appear on one of the recitals. The 9 hours of dissertation equivalent must include at least 6 hours of MUAP 8999 and at least 1 hour of MUAP 9000.

VI. PhD Degree Program (60 hours)

The PhD degree is structured to allow maximum flexibility in designing a program around each student's background and needs. Although the distribution of hours is firm, program requirements are to be regarded as general rather than fixed. The student's preparation, experience, and stated goals are carefully evaluated before an individually selected course of study is prescribed.

Program objectives are: (1) competency in selected area of concentration and related research areas; (2) development of teaching skills; and (3) ability to successfully publish research in a selected music discipline.

A. Musicology Concentration Requirements

Students will follow either:

1. A program providing a broad background in historical musicology culminating in a dissertation on a musicological topic agreed upon by the student and the doctoral committee.
   1. A minimum of eleven courses (33 hours) in the major area, including:
      2. MUHL 8400 Bibliography and Research Methods
      3. MUHL 8531 Early Musical Notations
      4. MUHL 8505 Seminar in Musicology
      5. 18 hours of graduate study outside musicology. At least 9 of these hours must be in an approved discipline outside music.
      6. MUHL 9000 Dissertation (9 hours total) Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.
      7. A reading knowledge of two foreign languages, ordinarily including German, must be demonstrated before graduation.

OR

A program providing a broad background in ethnomusicology with a focus on the music of the southern United States:

1. A minimum of eleven courses in the major area (33 hours), including:
   2. MUHL 6800 World Musical Styles
   3. MUHL 6801 American Folk and Popular Music
   4. MUHL 7400/8400 Bibliography and Research Methods
   5. MUHL 7800/8800 Field Methods in Ethnomusicology
   6. MUHL 8801 Ethnomusicology
   7. MUHL 8805 Transcription and Analysis in Ethnomusicology
   8. MUHL 8806 Seminar in Southern Regional Music
   9. Two of the remaining four courses in music shall have a major focus on Southern regional music.
10. 18 hours of graduate study outside musicology. At least 9 of these hours must be in an approved humanistic discipline outside music.

11. MUHL 9000 Dissertation (9 hours total). Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

12. A reading knowledge of two foreign languages, ordinarily including German, must be demonstrated before graduation.

B. Music Education Concentration Requirements (60 hours)

Admission to the PhD program in Music Education is highly competitive. Students must submit proof of employment in the field and proof of licensure/certification. In addition, a written philosophy of music education and an example of research in the field must be submitted to the Music Education Area.

1. MUSE 8207 Measure Music Behavior (3)
2. MUSE 8606 Desc/Exp Research Music (3)
3. EDPR 8541 Stat Meth App Ed I (3)
4. EDPR 8542 Stat Meth App Ed II (3)
5. EDPR 8561 Qualitative Mthds Educ (3)
6. Music and/or MUSE electives (18)
7. Minor (18)

VII. Artist Diploma Program

The Artist Diploma is a certificate program providing concentrated post-baccalaureate training for prospective professional musicians. Currently it is offered violin, voice, opera direction, and opera coaching; it involves lessons and recitals (or equivalent performances) at the School of Music and an internship at the Memphis Symphony (for violinists) or Opera Memphis (for all others).

A. Admission

Admission for the program is highly competitive: students are admitted via an audition held conjointly with the appropriate School of Music faculty and representatives of the Memphis Symphony or Opera Memphis. Applicants must be fully accepted by both the School and the cooperating institution; there will be no provisional acceptances. Admission to the program will be subject to the usual requirements of the Graduate School for certificate-seeking graduate students.

Students may pursue a graduate degree at the University of Memphis after acquiring the Artist Diploma. In such cases, they must fulfill all entrance requirements for a graduate degree, including the GRE/MAT and entrance tests in Music History and Music Theory. Up to twelve credits from the Artist Diploma may be applied to the degree, subject to the usual Graduate School time limit.
Students in a graduate degree program may not transfer into the Artist Diploma program. After successful completion of a graduate program, a student may apply to and audition for the Artist Diploma program. No hours from any degree will apply to the Artist Diploma.

B. Program Requirements

The Artist Diploma program is four semesters long and is structured as follows:

Semester 1

Lessons MUAP 7611, 7511, 7704, or 7705 (3 hours)
Internship MUAP 7800 (1 hour)

Semester 2

Lessons MUAP 7611, 7511, 7704, or 7705 (3 hours)
Internship MUAP 7800 (1 hour)
Recital MUAP 7999, 7622, or 7623 (3 hours)

Semester 3

Lessons MUAP 7611, 7511, 7704, or 7705 (3 hours)
Internship MUAP 7800 (1 hour)

Semester 4

Lessons MUAP 7611, 7511, 7704, or 7705 (3 hours)
Internship MUAP 7800 (1 hour)
Recital MUAP 7999, 7622, or 7623 (3 hours)

These are minimum requirements; students with graduate assistantships may be required to take more hours.

Click here for course descriptions
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Theatre and Dance

HOLLY C. LAU, MFA
I. The Department of Theatre and Dance offers graduate programs leading to the Master of Fine Arts degree in Theatre. Within the MFA degree in Theatre, training is available in directing and in design and technical production. The University of Memphis is an accredited institutional member of the National Association of Schools of Theatre.

Program objectives are: (1) understanding of the theatre arts and crafts at a sufficient level to communicate with other artists in collaborative process and to make critical judgments; (2) knowledge of objectives and methods of play analysis, awareness of aesthetics, psychology, and socio-historical context, and ability to integrate advanced play analysis skills into the development of an artistic concept for a stage production; (3) comprehensive knowledge of body of plays in various periods of dramatic literature and specific scripts; (4) cultivation of interpersonal skills to communicate productively with artistic collaborators; (5) development of interpersonal skills to effectively handle budgets, contract negotiations, professional ethics, legal responsibilities, and public relations; and (6) awareness of standards and expectations of theatre practice according to professional models.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MFA Degree Program

A. Program Admission

Admission to the program is competitive and is not automatic upon meeting minimum admission requirements. Students are selected from the pool of qualified applicants; the number of students admitted yearly depends on the availability of program resources required to maintain a high level of student/faculty contact and professional training.

Procedures include:
1. Admission to the Graduate School. Note that the Department of Theatre and Dance requires a grade point average of at least 2.5 from an accredited undergraduate institution. As well, the department will require evidence of suitable academic preparation, typically demonstrated by performance in coursework in the undergraduate major and/or a writing sample.

2. Submission of a separate departmental application identifying prior theatre education and experience and professional goals. Departmental applications are available from the Department of Theatre and Dance.

3. An interview with appropriate program faculty either at the university or at a regional or national conference.

B. Degree Requirements

1. Successful completion of a minimum of 60 semester hours of graduate credit approved by the student’s Graduate Advisory Committee. A minimum of 70% (42 hours) of the total required hours must be 7000 level courses. A minimum GPA of 3.0 is required for graduation.

2. All students in the program must take the following core courses: THEA 7564, Studio in Theatrical Collaboration and Style; THEA 7581, Seminar in Dramatic Theory and Criticism; THEA 7582, Analysis of Dramatic Literature; THEA 7600, Internship; and THEA 7995, Production Practicum.

3. All students with a specialization in Directing must take the following courses: THEA 7521 Stage Direction; THEA 7526 Directing Studio (1st Year Project); THEA 7526 Directing Studio (2nd Year Project); THEA 7553 Styles of Directing; THEA 7554 Seminar in Directing; THEA 6554 Visual History I; THEA 6558 Visual History II; and one of the History / Literature courses: THEA 6549 Theatre History; THEA 6548 Musical Theatre History; THEA 6551 Dramatic Literature I (Classical); or THEA 6552 Dramatic Literature II (Modern).

4. All students with a specialization in Design and Technical Production must take an additional thirty-nine hours of courses determined in consultation with their advisor.

5. Satisfactory completion of a comprehensive examination.

C. Graduate Advisory Committee

Each student will have a Graduate Advisory Committee. The functions of the committee shall be:

1. To approve the three-year Plan of Study (which may include remedial work).
2. To monitor academic and artistic progress.
3. To monitor quality and quantity of participation in the theatre production program.
4. To approve and evaluate production projects, the Production Practicum Project, the internship, and the comprehensive examination.

D. Annual Progress Review

Progress in the MFA program involves more than the successful completion of academic course work. Artistic progress and engagement in the theatre production program of the department are also required.

1. MFA Portfolio Review: Each year all design students will meet with the design faculty and all directing
students with the directing faculty for Portfolio Review. At that time, the student’s competencies, artistic progress, and professional presentational skills will be evaluated.

2. Graduate Review: Following each semester's Graduate Advisory Committee meeting with the student, the full faculty will meet to review the status and progress of each student. Possible outcomes of the evaluation process include:
   1. continuance in the program without condition;
   2. continuance in the program with conditions; or
   3. non-continuance in the program.

3. Note: A more detailed discussion of program requirements may be found in the Department of Theatre and Dance Graduate Handbook available from the department office.

Click here for course descriptions
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
**Interim Dean**

**VIVIAN MORRIS, PhD**  
*Interim Assistant Dean for Graduate Programs*

E-mail: shutsell@memphis.edu  
Homepage: [http://www.memphis.edu/cehhs/](http://www.memphis.edu/cehhs/)

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**GRADUATE ACADEMIC PROGRAMS**

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<tr>
<th>Department</th>
<th>Major</th>
<th>Concentration within Major</th>
<th>Degree Offered</th>
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</table>
| Counseling, Educational Psychology, and Research | Counseling | (1) School Counseling  
(2) Clinical Mental Health Counseling  
(3) Rehabilitation Counseling  
(4) Clinical Rehabilitation Counseling | Master of Science (MS)  
Doctor of Education (EdD) |
| Counseling Psychology              |                              | Doctor of Philosophy (PhD)                          |                      |
| Educational Psychology and Research | (1) Educational Psychology  
(2) Educational Research | Master of Science (MS)  
Doctor of Philosophy (PhD) |                      |
| Instruction and Curriculum Leadership | Instruction and Curriculum Leadership | (1) Early Childhood Education  
(2) Instruction and Curriculum  
(3)Instructional Design and Technology | Master of Science (MS)  
Doctor of Education (EdD) |
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<th>Programs Offered</th>
<th>Degrees Available</th>
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<td>Advanced Studies in Teaching and Learning</td>
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<td>Instructional Design and Technology</td>
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<td>Autism Studies</td>
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<td>Literacy Leadership and Coaching</td>
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<td>Leadership</td>
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<td>Leadership and Policy Studies</td>
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<td>School Administration and Supervision</td>
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### Policy Studies

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<tr>
<th>Higher and Adult Education</th>
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<td>(1) Higher Education</td>
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<td>(2) Adult Education</td>
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<td>(3) Organizational Leadership and Higher Education</td>
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<th>Community College Teaching and Leadership</th>
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Individual program requirements described in The University of Memphis Graduate Catalog, 2015-2016, are subject to change. **Please consult your department or the Office of the Graduate School for changes that may occur before publication of the next issue of this Catalog.** Every graduate student is expected to comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued (see departmental listings in this section).

Graduate programs in the College of Education prepare students to be leaders within their professional areas of education. Candidates for a degree must design a curriculum plan that has the approval of their major advisor, the department chair, and the Associate Dean for Graduate Studies.

In programs where candidates are specializing in a professional area, awarding a degree or recommending for a professional license does not merely attest to the accumulation of the specified number of hours in the classroom or other professional setting but also to the demonstration of professional knowledge, skills, and dispositions. The faculty has the responsibility to both the public and the profession to award a degree or license only when the candidate has demonstrated a satisfactory level of professional knowledge, skills, and dispositions as judged by the program faculty. Further, candidates must exhibit integrity and character consistent with the standards of ethical principles set forth by appropriate professional associations and Tennessee law.

The College of Education offers degrees at the master's, specialist, and doctoral levels. The master's degree programs are the Master of Arts in Teaching (MAT), Master of Science (MS), and the Regents Online Master of Education (MEd). Offered at the post-master's level are the degrees of Education Specialist (EdS), Doctor of Education (EdD), and Doctor of Philosophy (PhD).

Graduate degrees in the College of Education are available in the departments of Counseling, Educational
Psychology, and Research; Instruction and Curriculum Leadership; and Leadership.

For specific information concerning majors, areas of concentration, course requirements, etc., students should review the program descriptions found under the departmental listings in this Bulletin. See the chart of academic programs at the beginning of this section for majors and concentrations.

MASTER'S DEGREE PROGRAMS

The College of Education offers programs leading to the Master's degree in the departments of Counseling, Educational Psychology, and Research; Instruction and Curriculum Leadership; and Leadership.

Master of Science Degree (MS)

The Master of Science degree is available to individuals who are already licensed and want to expand their work in their teaching areas or individuals without licensure who desire to work in education-related settings but do not need teacher licensure. This degree is directed toward the development of competencies necessary for leadership and advancement in K-12 settings and fields related to education.

Master of Arts in Teaching Degree (MAT)

The Master of Arts in Teaching degree is designed for people with outstanding undergraduate records who are seeking initial teacher licensure at the graduate level. Students may pursue licensure in special education, early childhood, elementary, or secondary fields.

Master's Program Requirements

Admission to Master's Degree Candidacy

Admission to the Graduate School allows students to enroll and begin to take courses prior to admission to a degree program. However, a student's initial enrollment should not be taken to mean acceptance for degree candidacy. To become a candidate for a degree, the student must apply for a specific degree and major and be accepted for that degree. A maximum of 12 hours taken prior to acceptance will be counted for that degree. At the beginning of the semester of graduation the student must submit an "Apply to Graduate" form and an "Application for Admission to Master's Degree Candidacy" form. See the Graduate School homepage for specific dates and forms. For advice on completing the candidacy form, the student should consult the major advisor.

Appointment of Advisor

Prior to initial enrollment, the student is advised to arrange an interview with the chair or a representative of the department in which the student plans to major. At this meeting the student may be assigned an advisor who will
help the student in planning a program of studies. Some departments appoint an advisor upon admission.

*Workshops and Independent Study Credits*

The maximum combined credit in "Independent Study" and "Workshop" courses that can be applied to the master's degree is 12 semester hours with no more than 6 semester hours applying to the major. Seven semester hours of credit in "Independent Study" courses may be applied to master's degree requirements, but no more than 4 of these hours may be taken in either the major or the collateral area.

If the student should elect to take "Workshop" courses and no "Independent Study" courses, only 6 workshop hours could apply to the major.

*Other Requirements*

For all master's programs, a minimum of 70% of the total required hours must be taken at the 7000 level. At least 12 semester hours of these must be taken in the major.

*Program of Studies*

Each student, in consultation with an advisor, will plan a program of studies leading to the fulfillment of the requirements for one of the degrees listed below.

Minimum requirements for the *Master of Science* degree are:

**Major:**

Content for Specialty 18-21 hours  
Research 3 hours (EDPR 7521 or 7523)  
Electives (selected in consultation with student's advisor) 9-18 hours

Total 30 hours

Minimum requirements for the *Master of Arts in Teaching* degree are:

**Major:**

Professional Core 9-15 hours

Professional Specialization 15-21 hours  
Professional Development 7 hours
Research 6 hours

Total 30-43 hours

Substitutions for Required Courses

Any substitutions for departmental required courses in the major must be approved by the graduate coordinator and the department chair. Substitutions that affect college or degree requirements must be approved by the advisor, the department chair, and the Associate Dean for Graduate Studies.

Master's Thesis

A thesis of 3 to 6 semester hours may be presented as partial fulfillment of degree requirements. Each degree candidate must enroll for thesis credit each semester until the thesis is completed. A student who fails to complete the thesis at the end of the academic semester following registration for the total credits allowed to count toward the degree will be required to renew his/her status. In order to remain in active status, the candidate will be required to register for 1 hour of thesis credit each academic semester until the thesis is completed. Summer school enrollment is optional for continuous enrollment. Credit will be posted upon the completion and acceptance of the thesis, but no more than 6 hours will be counted toward degree requirements for a master's thesis. This requirement may be waived for any semester the advisor is not on campus or for other reasons approved by the major advisor, the department chair, and the Associate Dean for Graduate Studies of the College of Education. Students in the MAT program may not enroll in thesis credit during the semester of student teaching.

Thesis Guidelines

Theses must be prepared according to guidelines specified by the College. For specific information, a student should consult his/her major professor. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

Master's Project

Students choosing to complete a Master's Project for the MAT degree must enroll in 3 hours of Master's Project credit. A grade of IP (In Progress) will be assigned until the Master's Project is completed. Receipt of the grade of IP requires continuous enrollment each semester for the same number of hours, including summer, until a final grade of S or U is earned. Students in the MAT program may not enroll in the Master's Project during the semester of student teaching.

Master's Comprehensive Examination

Before being recommended for graduation, every candidate for the master's degree is required to pass a final
comprehensive examination.

Departmental requirements with reference to comprehensive examination, thesis, research, and course requirements for each of these degree programs are found under the appropriate departmental sections in this Bulletin.

EDUCATION LICENSURE AT THE GRADUATE LEVEL

The Master of Science degree program is used for securing additional endorsements in the areas of Beginning Administration K-12(B), Professional Administration K-12, Counselor K-12, Librarian K-12, Reading Specialist (grades K-12), Early Childhood PreK-3, Special Education Modified, Special Education Comprehensive, and Special Education Early Childhood. The applicant who wishes to add these areas must complete an approved program and be recommended by the College.

To obtain a Tennessee License with an endorsement in one of the following areas: School Psychologist or Special Education Speech and Language PreK-12, the applicant must complete the approved program and be recommended by the College.

Initial Teacher Licensure

The Master of Arts in Teaching (MAT) program awards initial teacher licensure with a master's degree. Programs are available for Early Childhood (PreK-3); Elementary (K-6); Middle Grades (4-8); Secondary (7-12); Special Education: Modified or Comprehensive (K-12); Special Education: Early Childhood (PreK-3).

Clinical Teaching

Students seeking initial licensure must complete at least one semester of clinical teaching in the placements coordinated and approved by the Coordinator of Field Experiences in the College of Education, Health and Human Sciences. Students may not student teach during the summer semester.

Policies Governing Licensure at the Graduate Level

Students who have received a bachelor's degree from an accredited institution that did not qualify them for a teacher's license may become eligible for licensure by enrolling as a master's student in the MAT degree program and completing the requirements for the program according to the current catalog. These candidates should confer with the coordinator of the MAT licensure program concerning individual program requirements.

Procedures for Admission to the Graduate Level Teacher Preparation Program

The student must apply for admission to the Graduate School and to the Master of Arts in Teaching degree
program. After admitted, the student should meet with the MAT advisor.

For initial licensure the student must have an appropriate undergraduate major for the area of teaching licensure being sought.

Adding an endorsement at the graduate level that requires The University of Memphis's recommendation may be accomplished by completing the requirements of the approved program. Information can be obtained from the teacher licensing advisor.

Simultaneously with admission to the MAT, the student must apply for and meet standards required for admission to the Teacher Education Program (TEP). Only Level I MAT courses should be taken prior to admission to TEP. Students must take the Praxis II Content Knowledge Exam for their licensure area, the PPST Writing Subtest, and successfully interview for TEP admission. Students must be fully admitted to TEP one full semester before application to student teaching and internship is submitted. Application for student teaching/internship is submitted the semester before enrolling in student teaching/internship. A maximum of 12 hours may be taken prior to admission to TEP and the MAT degree program.

For additional information, consult the general advisor in the MAT advisor.

The Master of Arts in Teaching degree may be earned with the completion of a thesis or Master's Project.

For a more detailed explanation of the program, see the Department of Instruction and Curriculum Leadership program description.

ONLINE CERTIFICATE IN INSTRUCTIONAL DESIGN AND TECHNOLOGY

This certificate program has two tracks: (1) K-12 Educational Technology and (2) Design and Development. Each require 12 credit hours of online coursework as described below.

**Admission**

Students interested in receiving a Certificate in Instructional Design and Technology must be admitted to this graduate certificate program. The courses may be completed as part of a degree program with the advisor's approval, or as additional course work.

**Requirements**

1. **Track One: K-12 Educational Technology** - This track is designed for educators who want to integrate the use of computers in the classroom. The focus of these courses is to develop the technology competencies needed for the development, utilization, and integration of instructional computing technology in the classroom. The required courses are IDT 7061/8061, IDT 7062/8062, IDT
2. **Track Two: Design and Development** - This track is designed for instructional designers and developers who work in non-education related settings such as business, government, military, and health care. The required courses are IDT 7063/8063, IDT 7070/8070, IDT 7080/8080, and IDT 7090/8090.


**POST-MASTER'S DEGREE PROGRAMS**

The post-master's degree programs of the College of Education require the candidate to have a clear professional goal and a commitment to scholarship, leadership, and excellence. To accomplish this, a close, continuous professional interaction between the candidate, faculty, and fellow students is an integral part of the program of study.

To be admitted to post-master's degree candidacy in the College of Education the student must first meet all Graduate School requirements and then complete a candidacy file in the department in which admission is sought.

**EDUCATION SPECIALIST (EdS)**

The Education Specialist is an interdisciplinary degree designed to provide an individualized, flexible program of studies for the educator-practitioner in either a school or non-school setting, whose academic interests are aimed at specific and individual career goals and needs. It offers opportunities for advanced professional specialization and includes a relevant culminating experience or a thesis. Studies may be focused in the departments of Counseling, Educational Psychology, and Research; Instruction and Curriculum Leadership; and Leadership. A collaborative EdS is offered with the Department of Psychology.

Program objectives are: (1) strong knowledge base in a major area of study, research, cultural or psychological foundations, and a supportive area of study; (2) ability to evaluate and conduct research in higher, adult education, and lifelong learning; (3) development of skills and dispositions for leadership positions in educational organizations.

**DOCTOR OF EDUCATION (EdD)**

Doctor of Education programs in the College of Education are designed to improve the competency of teachers, counselors, supervisors, and administrators; to serve the career needs and goals of individuals in education-related fields; to encourage research in a student's area of concentration; and to initiate and implement programs involving the school and the community. The programs provide both breadth and depth of preparation through a flexible combination of academic specialization, interdisciplinary study, and significant research.

**DOCTOR OF PHILOSOPHY (PhD)**
The PhD in Counseling Psychology or Educational Psychology and Research is offered by the Department of Counseling, Educational Psychology, and Research. It is designed to meet the needs of candidates who wish to seek licensing as counseling psychologists or candidates preparing for research and college faculty positions.

**Admission to Post-Master's Candidacy**

Admission to the EdS, EdD, and PhD programs is handled by the department in which the student wishes to major. After completion of the department's candidacy file, the department admissions committee will act on the application and notify the student of its action.

**Appointment of Advisory Committee**

When admitted to candidacy, the student should consult with the department chair and the temporary advisor in order to secure the appointment of a permanent major advisor who will also serve as chair of the program advisory committee. The department chair, following consultation with the student and the major advisor, will make a recommendation to the Associate Dean for Graduate Studies concerning the appointment of a graduate program advisory committee to assist the student in planning a complete program of studies. Upon approval by the Associate Dean for Graduate Studies, the appointment will be forwarded to the Graduate School.

The student's program advisory committee for the EdS, EdD, and PhD degrees shall be composed of at least three members. Each committee member must be a member of the Graduate Faculty at The University of Memphis.

**PROGRAM OF STUDIES**

All programs of study for the EdS, EdD, and PhD degrees are individually designed by the student and the program advisory committee to accomplish the student's educational goal and ensure mastery of requisite knowledge, skills, and dispositions for the discipline.

**Time Limitations**

Each student, in consultation with the program advisory committee, will plan a complete program of studies. The program of studies must be placed on file with the Associate Dean for Graduate Studies before the end of the semester immediately following admission to the program. No doctoral student may be considered as officially in residency unless the student has filed a program of studies, signed by the program advisory committee.

The student's program of studies for the EdS degree must include a minimum of 33 semester hours earned no more than six years prior to the date of graduation.

The student's program of studies for the EdD or PhD degree must include a minimum of 54 post-master's semester hours. Time limitations for completion of the degree vary by department. The Departments of Counseling,
Educational Psychology, and Research and Leadership have ten (10) year time limitations for completion of the doctoral programs. The Department of Instruction and Curriculum Leadership has a twelve (12) year time limitation for completion of the doctoral program.

Acceptance of Transfer Credit

Credit earned at another institution must be presented for consideration not later than the end of the student's second semester of enrollment. Upon approval by the student's program advisory committee, the credit will be transferred to apply toward the EdS, EdD, or PhD, provided that the credit meets general University and specific program requirements.

Approved transfer credit may be accepted for not more than 12 semester hours of post-master's degree course credit for the EdS, EdD, or PhD degree.

Other Requirements

The maximum combined credit in Independent Study and "Workshop" courses that may be applied to EdS degree requirements is 9 semester hours.

The maximum combined credit in Independent Study and "Workshop" courses that may be applied to the EdD degree requirements is 18 semester hours.

Planning the Program

Minimum requirements for the Education Specialist degree are:

**Major:**

Content for Specialty 21 hours (Including 6 hours culminating experience)
College Core 6 hours (Complete one three-hour course in research* and one three-hour course in educational psychology appropriate to the area of study)
Electives 6 hours

Total 33 hours

Minimum requirements for the Doctor of Education degree are:

**Major**

Content for Specialty 42-45 hours (Includes 9-12 hours dissertation)
Research Core* 9-12 hours (EDPR 8541, 8542 and 3-6 hours of research electives)

Total 54 hours

*A master's level introduction or research course is assumed (EDPR 7521 or 7523).

Changes in Program of Studies

Any changes to be made in a program of studies must be submitted on the appropriate form and must have the approval of the program advisory committee, the department chair, and the Associate Dean for Graduate Studies.

Doctoral Residency

Students working toward the doctoral degree must fulfill the University and College residency requirement after filing a program of studies.

Purpose

The purpose of residency is to provide the doctoral student with significant time for sustained contact with faculty members. An expected outcome is the acquisition of skills of inquiry, an opportunity for research, and the incorporation of professional values into the experience that the student brings to graduate school. Also, it facilitates the creation of a cohesive climate in which inquiry becomes the linking feature of the graduate student experience. In short, residency is expected to be a vehicle for socialization into the shared community of professional life. At the heart of that community lies a commitment to sustained inquiry that extends beyond the period of doctoral preparation and into the student's lifetime work, either as a practitioner or as one who demonstrates leadership based on a foundation of inquiry.

Doctoral Residency Policies

1. A doctoral student must select one of the following course enrollment options:

   - The student will maintain two semesters of continuous enrollment of 9 hours per semester. The enrollment requirement may be satisfied by enrolling in fall, spring, and summer semesters.
   - Three semesters of continuous enrollment of 6 hours per semester;
   - Nine hours of enrollment per semester during two consecutive summers and at least 3 hours per semester during the intervening fall and spring semesters.

2. A plan for the scholarly product of residency will be developed by the student and major professor. The plan will be reviewed by the department.

3. The scholarly product plan of residency consists of the following elements:
The plan will be contained in a 3-5 page document.

It will contain an introduction to the problem area that the student will address during the coming period of residency. This introduction will include a specification of the problem, an indication of its importance, and a brief summary of pertinent literature placing the problem in its context. Relevant theoretical implications will be noted.

It will detail a plan of action including projected time benchmarks to resolve the problem. It is expected that this plan will allow for a sustained and multifaceted inquiry that incorporates significant components derived from the literature and that have implications for the field of study.

Tools of inquiry expected to be required in the course of completing the residency will be noted. If the candidate possesses these tools, some indication documenting the mastery of the tool component should be noted. If skills of inquiry are to be acquired during the course of the residency this must be noted.

Faculty resources associated with each component of the plan must be indicated.

The products of the residency will be noted. It is expected that the residency will lead to a paper submitted to a refereed journal or a peer-reviewed conference.

A copy of the scholarly product of residency that has been approved by the major advisor must be filed with the Associate Dean for Graduate Studies.

All research involving data collection, use of existing data, or other investigations using human subjects must be reviewed and approved by the University's Institutional Review Board for the Protection of Human Subjects prior to beginning any such research.

**Timetable for Filing for Residency**

Prior to beginning residency, the written plan must be filed. The plan must have the approval signatures of the chair of the candidate's program advisory committee and of the department chair. It must be submitted to the department office of the candidate's major for approval no later than the last day of graduate registration in the semester designated to count as residency. Students are expected to have satisfied requirements for admission to the doctoral program before filing a residency plan.

**Comprehensive Examination for the EdS, EdD, and PhD Degrees**

When the candidate in good standing has completed all course requirements for the EdS, EdD, or PhD degree or is enrolled in the last semester of coursework (exclusive of culminating experience or dissertation) he/she must pass a comprehensive exam, written and oral, covering the major and collateral fields of study. For EdD and PhD candidates, residency must be completed prior to taking the comprehensive exams. The student who passes the comprehensive exam will be designated as a Late Doctoral Candidate or Late Specialist candidate in the candidate's degree status. Doctoral students may not enroll in dissertation hours until they have attained Late Doctoral status.

**EDS CULMINATING EXPERIENCE AND DOCTORAL DISSERTATION**

The EdS degree candidate will present a six-hour culminating experience appropriate to the major area of
specialization. This may be fulfilled through a thesis based on research related to the major, a field study of a significant problem, an organized internship, or a special project appropriate to the major.

An acceptable dissertation is a requirement for all doctoral degrees. The dissertation must embody the results of an extended research effort that is an original contribution. It should reflect the candidate's ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research. The student will be required to meet the specific regulations of the major department and of the Graduate School (see the Thesis/Dissertation Preparation Guide). The EdD or PhD degree candidate will present a dissertation for 9-12 hours of credit.

**Enrollment Requirements**

All degree candidates must maintain continuous enrollment of at least one credit hour per semester (Summer school enrollment is optional for continuous enrollment.) once they begin taking field study, culminating experience, or dissertation hours. If they fail to do so, they will be charged retroactive tuition at graduation.

Credit will be posted upon the completion and acceptance of the culminating experience or dissertation, but no more than 6 hours will be counted toward degree requirements for an EdS culminating experience and no more than 12 hours for a doctoral dissertation.

The continuous enrollment requirement may be waived for any semester the advisor is not on campus or for other reasons approved by the major advisor, the department chair, and the Associate Dean for Graduate Studies of the College of Education.

Failure to remain in continuous enrollment without an approved waiver will result in reevaluation of the candidate's status in the program by the program advisory committee.

**Committee Membership for Supervision of the Dissertation**

After completing the comprehensive examination, the candidate will form a dissertation advisory committee of at least four graduate faculty members. The dissertation advisory committee will direct the development of the candidate's prospectus, dissertation, and defense. The chair (major professor) must be a full graduate faculty member from the candidate's area of concentration within the major. At least one other committee member must be a faculty member in the candidate's major. The department chair, following consultation with the candidate and the major advisor, will make a recommendation to the Associate Dean for Graduate Studies concerning the appointment of the dissertation advisory committee.

**Doctoral Prospectus**

In order to provide a relatively uniform framework for preparation of a doctoral prospectus, the College of
Education has specified a format to be followed in its preparation. Copies of the format may be obtained from the major advisor or from the office of the Associate Dean for Graduate Studies.

Once a prospectus is approved, it is expected that the study will be completed within three years; if not, the program advisory committee will reevaluate the candidate's status in the program.

"Early doctoral student" designation applies to all doctoral candidates from the time of formal admission to candidacy in the College of Education until the time of completion of course work and passing the comprehensive exam. At that time the candidate is redesignated as "late doctoral student."

**Culminating Experience/Dissertation Guidelines**

Culminating experiences and dissertations must be prepared according to guidelines specified by the College and the Graduate School. For specific information, the student should consult his/her major advisor. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

**Final Examination (Culminating Experience/Dissertation Defense)**

After the completion of the culminating experience/dissertation and all other prescribed work for the degree, all candidates will be given a final oral examination dealing primarily with the culminating experience/dissertation and its relation to the candidate's major field of study. This exam will be conducted by the student's culminating experience/dissertation advisory committee.

**GRADUATE ASSISTANTSHIPS**

Graduate assistantships for post-master's students are available in most of the academic areas of the College of Education and a limited number of graduate assistantships for master's students are available.

Active work and satisfactory progress toward a degree are necessary to hold an assistantship, and graduate assistants are required to be registered in each term in which they hold assistantships. Full-time graduate assistants take twelve hours of course work per semester (six hours if they are enrolled for thesis or dissertation hours) and serve 20 hours per week on the assistantships.

Permission for graduate assistants to take fewer then twelve credit hours in a semester may be granted by the Graduate School upon the recommendation of the College of Education's Associate Dean for Graduate Studies and the department chair. Permission to take more than twelve hours may be granted upon recommendation of the department chair and the College of Education Associate Dean for Graduate Studies.
Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Counseling, Educational Psychology, and Research

DOUGLAS C. STROHMER, PhD
I. The Department of Counseling, Educational Psychology, and Research offers graduate degree programs in three program areas: MS and EdD degrees in Counseling, MS and PhD degrees in Educational Psychology and Research, and a PhD degree in Counseling Psychology. Admission to each of these programs is handled separately. Each has its own admission criteria, and application must be made for a particular program before an applicant is considered for that program. Any person admitted to one of these programs who desires to transfer to another program within the department must make formal application to that program and will be evaluated competitively against the same criteria and on the same time schedule as all other applicants for that program. The time to degree completion for the EdD degree in Counseling, the PhD degree in Educational Psychology and Research, and the PhD degree in Counseling Psychology is limited to 10 years, an exception to the general Graduate School policy.

The departmental objective is to prepare advanced educational leaders to be both sophisticated practitioners and researchers. Programs in Counseling and Counseling Psychology have a strong scientist-practitioner base. Programs in Educational Psychology and Research have a strong research emphasis. The graduate degrees within the department will qualify students as university and college teachers, counselors, psychologists, program evaluators, and researchers in educational and counseling environments, as well as provide them with the skills necessary to fill a variety of roles in other settings in which knowledge of human development, learning and cognition, research and evaluation methods is essential.

All graduate students within the department will demonstrate generalized competency in core areas of psychological inquiry. Generalized competency may be demonstrated either by passing examinations or completing designated coursework in three of the four general domains:

1. Research methods and data analysis

2. Measurement and evaluation

3. Human development

4. Learning and cognition
Every graduate student is expected to comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS Degree Program in Counseling

Major: Counseling

Concentrations:

Clinical Mental Health Counseling

Clinical Rehabilitation Counseling

Rehabilitation Counseling

School Counseling

The Master’s degree programs in Counseling prepare entry level counseling professionals with a broad knowledge base in fundamental social/behavioral science (human development, learning and cognition, personality theory, and emerging research on visible ethnic populations and gender differences), counseling and helping skills (individual and group counseling, and assessment), research and evaluation tools, and professional identity, role and function. The concentrations in Clinical Mental Health Counseling and School Counseling are accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). The Rehabilitation Counseling concentration is accredited by the Council of Rehabilitation Counseling (CORE).

Program objectives are: (1) comprehension of concepts and theories underlying the profession of counseling; (2) ability to collect, analyze, and interpret individual and group data, and to generate and test hypothesis related to human behavior; (3) ability to effectively counsel in both individual and group settings: (4) ability to formulate, implement, and evaluate appropriate counseling programs and interventions; (5) ability to understand and demonstrate ethical behavior and the legal and ethical implications of that behavior; and (6) development of sensitivity and understanding of the needs of persons who are culturally different, including the ability to (a) examine attitudes and myths regarding the culturally different client and (b) the sociopolitical forces impacting the culturally different client.

A. Program Prerequisites
   Students need 6 semester hours of course work at the upper division undergraduate or the graduate level in psychological or cultural foundations.

B. Program Admission
Program admission for concentrations in the Counseling program

1. Applicants must apply to the Graduate School and to the program. The Master of Science degree in Counseling is a limited access program; not all eligible candidates are admitted. To be considered for admission, applicants must provide:
   1. official undergraduate and/or graduate transcripts of all academic work completed,
   2. submit a Graduate Record Exam (GRE) score,
   3. complete a program admission application including appropriate goals essay,
   4. provide three letters of academic and/or professional reference,
   5. undergo an interview with the faculty.

2. Deadline for the completion of all admissions requirements is March 1 for the fall semester and October 1 for the spring semester. The program selection committee selects students after all application materials and the personal interview are completed. Program admissions forms are available in the department office.

All college transcripts and test score information should be sent directly to Graduate Admissions.

For both the MS and EdD degrees, applicants may choose to expand the information on their application by providing the Personal Potential Index (PPI) Evaluation Report. The guidelines for this process are below. However, this information is NOT required.

PPI STATEMENT
You can create an ETS PPI account and review the ETS PPI Information Bulletin, which explains the service, at http://www.ets.org/ppi/applicants/start/.

PPI - Steps At A Glance

- Create an ETS PPI account to begin the process.
- Provide contact information for the evaluators you would like to complete an ETS PPI evaluation.
- ETS sends an email to each evaluator inviting them to access the ETS PPI system and complete your evaluation.
- Each evaluator logs in to the ETS PPI system to rate you on six personal attributes and provide an overall evaluation. Evaluators also may provide optional comments for each attribute as well as for the overall rating.
- You are notified via e-mail when each time that one of your evaluators completes their PPI.
- **THE MOST IMPORTANT STEP** After all of your evaluators have completed their PPI reports, you must log back into your PPI account, designate the University of Memphis Office of Graduate Admissions to receive an ETS PPI Evaluation Report and select the evaluations that are to be included in the report. Our office cannot access your PPI recommendations until you complete this step.
- Once you designate the University of Memphis to receive an ETS PPI Evaluation Report, ETS creates an evaluation report and sends it electronically to the University of Memphis, Office of Graduate Admissions. Allow up to 5 days for the report to be processed and sent to the University of Memphis. View a sample PPI Report.
The evaluators/faculty members you choose should be individuals you believe are best able to objectively comment on your intellectual and professional achievements and potential.

We may call or write your recommenders for more information.

C. Program Requirements

1. The School Counseling and Rehabilitation Counseling programs are a minimum of 48 semester hours. Clinical Mental Health Counseling and Clinical Rehabilitation Counseling are 60-semester hour programs.

2. MS program core (18 hours): COUN 7411, COUN 7531, COUN 7541, COUN 7551, COUN 7571, and EDPR 7521.

3. All students are to maintain good standing (3.0 or better cumulative grade point average) and at least a B- in all required courses.

4. Concentration requirements:
   1. Clinical Mental Health Counseling (42 hours): COUN 7561, 7630, 7710, 7730, 7750, 7885; EDPR 7117; CPSY 7700; practicum COUN 7631 (3 hours) and internship COUN 7632 (9 hours); 6 hours elective.
   2. Clinical Rehabilitation Counseling (42 hours): COUN 6901, 6913, 6921, 7630, 7710, 7750, 7885, 7912; CPSY 7700; practicum COUN 7941 (3 hours) and internship COUN 7942 (9 hours), EDPR 7117.
   3. Rehabilitation Counseling (30 hours): COUN 6901, 6913, 6921, 7750, 7912, EDPR 7117; 3 hours of electives approved by advisor; practicum COUN 7941 (3 hours) and internship COUN 7942 (6 hours).
   4. School Counseling (30 hours): COUN 7542, 7561, 7640, 7730, 7750, and EDPR 7117; 3 hours of supportive electives; practicum COUN 7641 or 7645 (3 hours) and internships COUN 7642 and 7646 (6 hours). SPED 7000 or COUN 6901 must be taken if students do not hold a valid teaching license. Students who do not have a valid teaching license must take one semester hour special problems course COUN 7990.

5. All programs include clinical components, practica, and internships; each student's effectiveness will be evaluated by faculty and supervisors. Prior to contact with clients in practicum and internship, students are expected to provide evidence of good judgment and appropriate emotional functioning. Final decisions regarding student effectiveness will be predicated upon factors that include course grades, demonstrated clinical competence, personality factors, and any relevant test scores.

6. Comprehensive examination.

III. MS Degree Programs in Educational Psychology and Research

Major: Educational Psychology and Research

Concentrations:

   Educational Psychology
Educational Research

The Master’s degree programs in Educational Psychology and Research prepare educational leaders for scholarly expertise with a knowledge base for critical thinking in human development across the life span, cognitive processes applied to education, educational research methods and statistics.

Program objectives are: (1) ability to contribute to the professional field through research presentations and writing; (2) preparation for careers as academicians in institutions of higher education, applied researchers and/or scholarly work; (3) development of leadership skills for professional organizations and the ability to contribute to the field through professional service activities.

A. Program Admission

1. Applicants must submit a completed application packet, including:
   1. application to the Graduate School,
   2. application to the program,
   3. official transcripts for undergraduate and graduate studies,
   4. official report of Graduate Record Examination (GRE) scores,
   5. a 500 word statement of purpose and intended area of concentration,
   6. three letters of recommendation.

2. Applicants to the MS program are evaluated two times a year. All application information must be received by November 1 for spring semester admission, and April 1 for fall semester admission. Applications for international students are only accepted in the fall (November 1 deadline). Late submissions may be considered on an individual basis, but will normally be deferred to the following semester. The admission committee may request a personal interview. Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point average, GRE scores, personal goals statement, relevant employment history, and letters of recommendation. Admission forms are available in the departmental office.

B. Program Requirements

1. All programs are a minimum of 36 semester hours.

2. MS program core (12 credits):
   1. Research (6 credits): EDPR 7521 and 7511 or 7541
   2. Learning & Cognition (3 credits): EDPR 7121
   3. Human Development (3 credits): at least one from EDPR 7111, 7112, 7117

3. Concentration in Educational Psychology or Educational Research (15 credits): courses to be taken within the area of concentration will be planned with the major advisor.
4. Electives to be taken outside of the major (6 credits).

5. Research project/thesis (3 credits-EDPR 7000): Each MS student is expected to complete an independent research project or thesis as a culminating experience. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

6. MS Comprehensive Examination. Upon completion of coursework, each MS degree student will complete a written comprehensive examination covering the domains of research methods and data analysis, measurement and evaluation, human development, and learning and cognition. The exam will be administered by the student’s advisory committee and coordinated by the student’s advisor. An oral examination may follow if it is deemed necessary by the advisory committee.

IV. EdD Degree Program

Major: Counseling

The EdD program in Counseling is designed to prepare advanced professional practitioners in counseling, student personnel services, and counselor education with particular program emphases on multicultural and urban settings. Entry into the program presumes a master’s degree in counseling wherein one has acquired knowledge and skills in human development, helping relationships, group counseling, lifestyle and career development, assessment techniques, research and evaluation and clinical experiences in applied settings. The EdD is designed for individuals seeking advanced preparation as educational leaders in the role of professional counselor and researcher and who may seek additional credentials in counselor supervision and counselor education. The EdD is not appropriate for individuals seeking preparation or licensure as a psychologist.

Program objectives are: (1) comprehension of concepts and theories underlying the profession of counseling; (2) ability to collect, analyze, and interpret individual and group data, and to generate and test hypotheses related to human behavior; (3) ability to effectively counsel in both individual and group settings: (4) ability to formulate, implement, and evaluate appropriate counseling programs and interventions; (5) ability to understand and demonstrate ethical behavior and the legal and ethical implications of that behavior; and (6) development of sensitivity and understanding of the needs of persons who are culturally different, including the ability to (a) examine attitudes and myths regarding the culturally different and (b) the sociopolitical forces impacting the culturally different client.

A. Program Prerequisites

A master’s degree in counseling that meets CACREP or CORE standards for core knowledge and skills. Students with a master’s degree in counseling that does not contain all core areas can be considered for admission, but will be required to complete additional coursework prior to enrolling in doctoral level courses.
B. Program Admission

1. Applicants must apply to the Graduate School and to the program. The Doctor of Education degree in Counseling is a limited access program; not all eligible candidates are admitted. To be considered for admission, applicants must:

   1. provide official undergraduate and graduate transcripts of all academic work completed,
   2. submit a Graduate Record Exam (GRE) score,
   3. complete a program admission application including appropriate goals essay,
   4. provide three letters of academic and/or professional reference,
   5. undergo an interview with the faculty, and submit a writing sample.

2. The program selections committee selects students after all application materials and the personal interview are completed. Deadline for the completion of all admissions requirements is March 1 for the fall semester. Students are admitted one time per year and must begin their coursework during the fall semester.

C. Program Requirements

1. Thirty three (33) semester hours in the major, including COUN 8501, 8510, 8511, 8530 (6-hrs.), 8730, 8750, 8831, 8841, and 8885; CPSY 8203.

2. Nine (9) semester hours in research (EDPR 8541, 8542, and 8561).

3. Nine (9) semester hours in a specialty area (such as marriage and family, crisis intervention, career, rehabilitation, school, mental health counseling, etc.).


5. All students must maintain a cumulative grade point average of 3.0 and make no less than a B- in all required courses.

V. PhD Degree Programs

   Major: Educational Psychology and Research

   Concentrations:

       Educational Psychology

       Educational Research
The PhD degree program in Educational Psychology and Research is designed to prepare advanced educational leaders for university teaching, applied research, or other professional roles in the areas of human development (infant, child, and adolescent development; adult development and aging), learning (motivation and cognitive processes applied to education), educational research methods and statistics, measurement and program evaluation.

Since the purpose of doctoral-level training is to prepare students to conduct research in a specialized area, individuals with no interest in research should not apply to this major.

Program objectives are: (1) ability to contribute to the professional field through research presentations and writing; (2) preparation for careers as academicians in institutions of higher education, applied researchers and/or scholarly work; (3) development of leadership skills for professional organizations and the ability to contribute to the field through professional service activities.

A. Program Admission

Applicants to the PhD program are evaluated two times a year. Completed application packets must be received by November 1 for spring semester admission, and April 1 for fall admission. Applications for international students are only accepted in the fall (November 1 deadline). Late submissions may be considered on an individual basis, but will normally be deferred to the following semester. The admission committee may request a personal interview. Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point average, GRE scores, personal goals statement, relevant employment history, and letters of recommendation. The number of students admitted to the PhD program will depend on availability of adequate faculty supervision. Admission forms are available in the departmental office. The completed application must include:

1. Letters of recommendation from at least three persons familiar with the applicant’s academic background and aptitude for graduate work, specifying in detail the applicant’s capabilities for graduate study and for future performance and scholarship.

2. A statement of 500-1000 words indicating the intended area of concentration, the applicant’s present interests and career goals, research and applied interests, and prior research and applied experience.

3. A willingness to be interviewed by members of the Educational Psychology & Research faculty, should that be required.

B. Program Requirements

1. Credit Hours: A minimum of 54 hours of graduate credit beyond the master’s degree.
2. Core Competency: All students upon admission into the doctoral program need to demonstrate competencies in the departmental core domains (research methods; human development; and learning and cognition) as prerequisites for further coursework. Students may demonstrate their competency by (a) having earned at least a 3.0 in a master's level course in each of the above domains, or (b) passing proficiency exams. Doctoral students without proficiency in any of these core domains must complete the appropriate entry level course before more advanced coursework. These entry level courses will not count toward the minimum of 54 hours required.

3. Core (24 credits):

   1. Research (18 credits): EDPR 8541, 8542, 8561; 2 of 8543, 8549, or 8562 or an approved equivalent, and at least 3 credits of supervised research (EDPR 8081). All doctoral degree students are expected to be active in collaborative research with members of the faculty. This includes the research-based residency project approved by the major advisor that must result in a paper submitted to a refereed journal or a refereed professional conference.
   2. Learning & Cognition (3 credits): at least one from EDPR 8149, 8150, 8151.
   3. Human Development (3 credits): at least one from EDPR 8111, 8112, 8113, 8114, 8131, 8161.

4. Concentration in Educational Psychology or Educational Research (15 credits): courses to be taken within the area of concentration will be planned with the major advisor.

5. Electives to be taken outside of the major (3 credits).

6. Comprehensive Examination: Upon completion of coursework each doctoral student will complete a 9-hour written comprehensive examination covering both the educational research and the educational psychology components of their programs. The examination will place emphasis on the student’s area of concentration, will be administered by the student’s advisory committee, and will be coordinated by the student’s advisor. An oral examination will follow the written examination.

7. Dissertation and Final Defense (12 credits-EDPR 9000): A dissertation acceptable to the faculty is a requirement for all doctoral students. The dissertation must embody the results of an extended research effort that is an original contribution to the existing body of research within the area of concentration. The dissertation should reflect the candidate’s ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research. Upon completion of the dissertation, each student will orally defend the research undertaken. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

VI. PhD Degree Programs

   Major: Counseling Psychology

   The Counseling Psychology program is fully accredited by the American Psychological Association and prepares
psychologists who embody a scientific approach to understanding and working with both specific and general problems in human behavior. The program is interdisciplinary and is organized around the scientist-practitioner model of critical thinking. It is implemented through didactic and experiential activities that emphasize research, development, evaluation, and learning as bases for prevention and remediation to assist persons of all ages and all life styles with improving and optimizing their well-being. The program has sufficient flexibility for students to pursue their own interests.

A. Program Prerequisites (or their equivalent) at the masters level: Group Processes, Assessment/Evaluation, Career Counseling, Counseling Theories, Practicum/Clinical Techniques, Research/Data Analysis. Students who have not completed these courses prior to entering the doctoral program must complete them early during their course of studies at the University of Memphis and prior to taking advanced courses in the same topic area.

B. Program Admission

A limited number of applicants are admitted once each year only for admission in the Fall semester; applicants for Spring admission are not considered. All application credentials must be received by December 5 for an applicant to be considered. Applicants to the doctoral program in Counseling Psychology typically hold a master's degree (or equivalent) in counseling, psychology, or a related mental health area. Applications from students having a bachelor's degree (or equivalent) in counseling, psychology, or a related mental health area will be considered if they have had substantial academic, clinical, or research work experience beyond the undergraduate degree.

Multiple criteria will be used when considering applicant admission, including, but not limited to, competitive GRE scores, undergraduate and graduate grade point average, personal statement, letters of recommendation, clinical and research experience, and interviews. A completed application packet will include the following: Graduate School application, departmental application, GRE scores, graduate transcripts, and four letters of recommendation from persons familiar with the applicant’s academic record and potential for graduate study in counseling psychology.

C. Program Requirements

1. Program prerequisites as noted above.

2. 15 semester hours in Substantive Psychology including 3 semester hours in each of Biological Bases of Behavior, Social Bases of Behavior, Cognitive-Affective Bases of Behavior, Individual Behavior, History and Systems of Psychology

3. 6 semester hours in Counseling Psychology Foundations and Professional Issues, CPSY 8101 & 8201

4. 6 semester hours in Psychometric Theory and Methods, CPSY 8575 & 8576, or approved alternatives
5. 12 semester hours in Research Methods/Data Analysis, EDPR 8541, 8542, 8543, or approved alternatives; CPSY 8203

6. 18 semester hours in Counseling, CPSY 8102, 8202, 8577; COUN 8721, 8750 or approved alternative, 8841

7. For students who enter with a master's degree that included clinical practicum, 6 semester hours in counseling psychology practicum, CPSY 8200. Minimum of 400 clock hours, of which 150 must be direct contact hours, is required. Students may enroll in 9 additional credits of CPSY 8200, CPSY 8300, or a combination of the two courses as electives. No more than a total of 15 practicum or advanced practicum credits will count toward the program requirements. Students entering with a bachelor's degree and no supervised clinical practicum will be required to take 9 hours of counseling psychology practicum (CPSY 8200). These students may count up to 18 credits of practicum or advanced practicum toward the program requirements.

8. 15 semester hours of Electives in a Concentration

9. Residency Project and Comprehensive Examinations: Upon completion of the core counseling psychology coursework and a research-based residency project, each doctoral student will complete a written comprehensive examination covering the core counseling psychology domains and an oral examination.

10. 12 semester hours in Dissertation, CPSY 9000. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

11. 9 semester hours in Predoctoral Internship, CPSY 8800. A full-time one-year internship in Counseling Psychology in an agency approved by the Director of Training is required.

D. Enrollment

The counseling psychology program is a full-time program of study. Students who enter with a master's degree are able to complete the required coursework in three years and complete a one-year internship in their fourth year. Students who enter with a bachelor's degree are able to complete the required coursework in four years and complete a one-year internship in their fifth year. Candidates for the PhD degree in counseling psychology are expected to carry a minimum of 9 credit hours per semester. It is necessary to enroll in 12 credit hours per semester (6-9 in summer) in order to complete the program coursework in the expected time periods.

E. Professional Competency

Candidates for the PhD in counseling psychology are specializing in a profession. The PhD degree represents more than the accumulation of the specified number of semester hours credit. The student has responsibility to the public and to the psychology profession to ensure that satisfactory levels of professional and research competencies are attained.
VII. Graduate Certificate in Career and College Counseling

A. Admission to program

1. Students currently admitted to a graduate program at the U of M or other university in the social or behavioral sciences, or students already holding a graduate degree in the social or behavioral sciences, may apply for admission to the Graduate Certification Program in Career and College Counseling.

2. Non-degree seeking students who hold a bachelor's degree or higher who meet the University of Memphis's graduate school requirements. Students must apply to both the certification program and graduate school as a non-degree seeking student.

Application Process


2. Out of state students must submit proof of a commensurate state endorsed background check.

3. If you are eligible to apply for the certification program
   - Complete the certification application
   - Submit two letters of recommendation from a current or previous employers, and or previous university instructor
   - Student GRE scores
   - A sealed copy of official student transcripts
   - Copy of background check
   - A letter describing the reasons why the student is applying for the certification programs that discusses how the program supports students prior interests and experience and future career goals.

4. For students with no graduate program experience, a minimum undergraduate grade point average of 2.75 is recommended for admission at the undergraduate level.

B. Program Requirements

The online program is designed to be completed in one year across four semesters: Summer I & II, Fall and Spring. The classes are designed to build student's knowledge base incrementally and it is recommended that courses are taken in the following sequence

1. General Education including transfer of 19 hour pre-major paths

2. Major Field Core:

   - SCHL 7000/8000 College Admission Counseling (3 hours) Summer I
   - COUN 7000/8000 Strategies for College and Career Counseling in K-12 Settings (3 hours) Summer II
   - COUN COUN 7000/8000 School Counseling to Close the Achievement Gap (3 hours) Fall
COUN 7000/8000 Capstone Course in College and Career Counseling (3 hours) Spring

NOTE: Students concurrently enrolled in the Masters program or working toward school counseling licensure can substitute this capstone course for a Secondary Practicum or Internship class. Students electing this option can expect to spend time in a high school and college setting working alongside the college counselors, academic advisors, and career counselors.

VIII. Interdisciplinary Graduate Certificate in Disabilities Studies

A. Programs Admissions

Applicants will apply to the specific certificate program (i.e. Interdisciplinary Graduate Certificate in Disabilities Studies). They should submit:

1. transcript of undergraduate degree program and transcripts of prior and current graduate study;

2. three letters of recommendation; and

3. a letter describing reasons for wishing to take a graduate certificate in the area of disability studies and how the program corresponds with prior experience and anticipated career plans.

B. Program Requirements

Required Courses:

COUN 6913 Medical and Psychosocial Aspects of Rehabilitation (3 Credit Hours)
COUN 6901 Principles and Techniques of Rehabilitation Counseling (3 Credit Hours)
UNIV 7400 Family Disability Law and Practice (3 Credit Hours)

Choose one 3-hour elective from the following list:

ANTH 6531 Alcohol, Drugs and Culture
PLAN 7201 Community Facilities Planning
CJUS 7510 Law and Society
POLS 7111 Issues in Health Services Administration
HADM 7114 Long Term Care Administration
HADM 7115 Public Health Systems
PSYC 7217 Social Psychology
PADM 6208 Mental Health Policy and Law
PADM 7604 Social Science and the Law
SOCI 7411 Social Stratification
SOCI 7512 Deviance and Diversity  
COMM 7012 Seminar in Health Communication  
NUTR 7212 Applied Nutrition for Health  
HPRO 7182 Health Promotion  
HPRO 7702 Contemporary Health Issues  
HPRO 7703 Lifetime Physical Activity and Health  
SPED 7000 Psycho-Educational Problems of Exceptional Children and Adults  
UNIV 7796 Independent Study  

Total Hours Required: 12  

IX. Graduate Certificate in Qualitative Studies in Education  

Program Objectives:  

1. The certificate will provide students with an understanding of the epistemological and theoretical groundings associated with qualitative research.  
2. The certificate is intended to provide students with knowledge and experience in various qualitative methodologies and methods.  
3. The certificate will assist students in constructing their own qualitative research projects following from epistemology -> theory -> methodology -> method -> analysis/interpretation -> representations -> conclusions.  
4. The certificate will increase critical thinking skills in relation to general qualitative scholarship, including prevailing theories, ethical considerations, and emerging perspectives.  
5. The certificate will provide space for students to practice different methodologies, methods, and types of representation, including both traditional and creative analytic practices.  
6. The certificate program will prepare students to be effective reviewers and critical consumers of qualitative presentations, papers, and journals.  
7. The certificate program will provide students with opportunities to practice graduate level instruction so that they will enter the job market with concrete teaching experience.  

A. Program Admissions  

Students who are currently enrolled in a Doctoral program at the University of Memphis or other universities will be eligible for rolling admission application.
To apply to the Graduate Certificate Program in Qualitative Studies in Educational Research, students must fill out the University of Memphis online application. They must also submit the following documents to the qualitative certificate coordinator:

1. a 2-3 page personal essay about their research interests, prior preparation and experience related to the objectives of the program, and their long-range career/professional plans

2. a letter of recommendation from their major professor/committee member supporting the certificate’s requirements of a fully qualitative dissertation

Doctoral* students in good standing will be admitted to the Qualitative Studies in Educational Research Certificate Program on the recommendation of the student's major professor/committee member and subject to a successful review of application materials by the qualitative methodologists in the Educational Research program in the School of Education, Health and Human Sciences. The qualitative methodologists, with consideration of all materials, will make final decisions regarding student acceptance to the program.

*Qualified Master's students are eligible based on advisor’s recommendation.

B. Program Requirements

The certificate requires 12 semester hours of credit. All students must complete 9 hours of core courses and 3 hours of an elective. For students with substantial proof of scheduling issues, there is the option to make up credits through a 1-3 hour directed readings with the qualitative methodologists or approved qualitative faculty.

1. Required core courses (9 credits):

EDPR 7/8561: Introduction to Qualitative Research in Education

EDPR 7/8562: Designing Qualitative Research

EDPR 7/8565: Qualitative Methods and Analysis

2. Example Electives (3 credits unless otherwise noted)*:

EDPR 7/8563: Applied Qualitative Theories and Methodologies

EDPR 7/8566: Writing Up Qualitative Research (Week-long Summer Retreat)

EDPR 8008: Directed Readings in Qualitative Research
EDPR 8081: Supervised Research in Qualitative Inquiry

ANTH 7/8075: Methods in Anthropology (4 credits)

ANTH 7/8076: Anthropological Data Analysis (4 credits)

SOCI 7/8320: Seminar in Methods of Social Research

SOCI 7/8325: Seminar in Qualitative Research Methods

COMM 7/8332: Seminar in Communication Research: Advanced Qualitative Research Methods

COMM 7/8434: Qualitative Research Methods

PSYC 7/8312: Qualitative Research Methods in Psychology

*We recognize that there are many courses across campus that can enrich our elective selection. However, due to extensive possibilities we cannot list all current and future “potential” electives. Therefore, if a student feels that a course outside of EDPR is appropriate as an elective, we ask that the student fill out the petition for elective form to be reviewed and approved by the qualitative coordinator.

C. Graduate Requirements

In order to graduate with the certificate, students must:

1. complete all Certificate Program course requirements with a B or above average

2. complete a fully qualitative dissertation

3. have a qualitative methodologist sit on their dissertation committee

4. submit the Certificate in Qualitative Studies in Educational Research Completion Form online

5. submit appropriate certificate completion form from the University of Memphis graduate school for program coordinator’s signature

X. Graduate Certificate in Quantitative Studies in Educational Research
A. Admission

Admission to the program will be based on competitive selection from the pool of applicants

- Complete admission to The University of Memphis and the College of Education, Health and Human Sciences
- Have a minimum score of (250 computer based or 100 Internet based) on the TOEFL (for students for whom English is a second language).
- A minimum of a BS/BA in a related field with a cumulative GPA of 3.0 on a 4.0 point scale.

B. Program Requirements

- Prerequisites: EDPR 7/8541 or equivalent and EDPR 7521 or equivalent.

Participants complete 15 credits hours of graduate work. Six (6) credits are obtained from completing:

1. EDPR 7/8542: Statistical Methods Applied to Education (3)
2. EDPR 7/8511: Introduction to Measurement and Evaluation (3)

And nine (9) credits are selected from:

1. EDPR 8549 : Multivariate Methods in Education (3)
2. EDPR 8544: Application of Multiple Regression (3)
3. EDPR 7/8531: Computer as a Research Tool (3)
4. EDPR 7/8543: Research Design and Analysis (3)
5. EDPR 7/8512: Psychometric theory (3)

C. Progression/Retention

- All students in the certification program must maintain a 3.0 graduate GPA.
- A cumulative graduate GPA of 3.0 or better is required for certification.
- All courses towards certification must be completed within 3 years.

Click here for course descriptions
I. Department of Instruction and Curriculum Leadership (ICL) Overview, Programs, and Admission

A. Overview

The Department of Instruction and Curriculum Leadership (ICL) offers graduate programs leading to the Master of Science, Master of Arts in Teaching, and Doctor of Education degrees. Graduate students can also take Instructional Design and Technology (IDT) courses that focus on educational technology and design and development in various traditional and non-traditional educational settings that will lead to a Certificate in Instructional Design and Technology. The department also offers courses that lead to Certificates in Literacy Leadership and Coaching, Urban Education, and Autism Studies. The University of Memphis participates in the Regents Online Master of Education degree (MEd) in Advanced Studies in Teaching and Learning. The College of Education, Health and Human Sciences is accredited by the National Council for the Accreditation of Teacher Education (NCATE).

Program objectives are: (1) understanding of how learning occurs, how students construct knowledge and acquire
skills, and how to provide learning opportunities that support intellectual, social, and personal development; (2) ability to adapt instructional techniques to diverse cultural and language backgrounds and to those with exceptional learning needs; (3) understands the principles and techniques associated with various instructional strategies that reflect best practice and that foster high expectations for all students; and (4) ability to use multiple teaching and learning strategies that engage students in active learning opportunities.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

**B. Definition of Programs**

1. Master of Arts in Teaching (MAT) Degree. The MAT program is designed for students seeking initial teacher licensure and a Master’s degree. Programs are offered in Early Childhood (PreK-3), Elementary Education (K-5), Secondary Education (grades 6-12), Music (K-12); English Second Language (K-12); Art (K-12); and Physical Education Teacher Education (K-12), and Special Education (K-12). Students choosing Special Education will choose one of three licensure areas: interventionist, comprehensive, or early childhood. MAT students should apply to TEP as soon as they enroll for courses. TEP admission, MAT admission, and Graduate School admission are separate procedures.

   Teacher Education Program (TEP). TEP is NOT a degree program. It is regulated by the Tennessee Department of Education and administered by the Department of Instruction and Curriculum Leadership. The TEP program requires an application and admission procedures that are separate and distinct from admission to the Master of Arts in Teaching program. Students should apply to TEP as soon as they enroll in College of Education, Health and Human Sciences courses.

2. Master of Science (MS) Degree. The MS degree is NOT designed for students seeking initial teacher licensure. It is designed for students who are seeking advanced study in education with a concentration in Instruction and Curriculum, Instructional Design and Technology, Reading, Early Childhood Education, or Special Education.

3. Master of Education (MEd) Degree. The University of Memphis participates in the Regents Online Master of Education degree (MEd) in Advanced Studies in Teaching and Learning. This program provides advanced professional preparation in the area of reading and language arts for practicing teachers.

4. Doctor of Education (EdD). The Doctor of Education degree is designed to improve the competency of teachers, to serve the career needs and goals of individuals in education-related fields, to encourage research in a student’s area of concentration, and to initiate and implement programs involving the schools and the community. Concentrations are offered in Instruction and Curriculum, Instructional Design and Technology, Reading, Early Childhood Education, or Special Education.

5. Education Specialist (EdS) Degree. The Education Specialist is an interdisciplinary degree designed to provide an individualized, flexible program of studies for the educator-practitioner in either a school or non-school setting, whose academic interests are aimed at specific and individual career goals and needs. It offers opportunities for advanced professional specialization and includes a relevant
culminating experience or a thesis. **Students in this program may choose a content area specialty from any of the concentration areas offered under the MAT or MS degrees.**

C. Application Deadlines

Applicants to the ICL graduate programs are evaluated periodically throughout the year. All application information must be received by February 1 for summer semesters, April 1 for fall semesters, and October 1 for spring semesters.

II. Master of Arts in Teaching (MAT) Degree Program

A. MAT Program Admission

Applicants must complete admissions requirements to be admitted. **All admissions requirements must be met prior to being admitted into the MAT program.** MAT admission requirements are designed to be both competitive and selective, to be knowledge and performance-based, to be clear and consistent, to maintain diversity, and to meet or exceed undergraduate requirements and minimum state requirements.

To be admitted to the MAT program a candidate must:

1. Take and pass all sections of the Core Academics Skills for Educations (CORE). (Reading, Writing, and Math). If the GRE has already been taken, the student may have the CORE waived if the scores are appropriate (verbal 143, quantitative 138, writing 3.5) and are less than 5 years old.
2. Take and pass the Praxis II Content Knowledge Exam required for the student licensure area. Please refer to [http://www.tn.gov/education/section/licensing](http://www.tn.gov/education/section/licensing) to verify what exam should be taken.
3. Submit an application to Graduate Admissions in 101 Wilder Tower including the following:
   1. An official transcript reflecting an earned bachelor's degree with a 3.0 or higher grade point average from an accredited institution. Applicants with a successful professional career may appeal this grade point average requirement.
   2. Passing scores on the CORE Academic Skills for Educators reading (156), writing (162), and math (150) subtests.
   3. Passing scores on the Praxis II Content Knowledge Exam for the licensure area they plan to teach. (NOTE: Special Education applicants may submit passing scores on the Elementary Content Knowledge Exam, Middle School Content Knowledge Exam, or the Education of Exceptional Student: Core Content Knowledge Exam.)
4. Submit the ICL department MAT application ([http://www.memphis.edu/tep/pdfs/mat-application.doc](http://www.memphis.edu/tep/pdfs/mat-application.doc)) to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave, Memphis, TN 38152) along with copies of the CORE and Praxis II Content Knowledge scores.

B. TEP Program Admission

1. Students who plan to pursue a graduate program of studies leading to teacher licensure must submit a formal application to the College of Education, Health and Human Sciences Teacher Education
Program (TEP). Students are encouraged to apply for admission into TEP as soon as they enroll in any College of Education, Health and Human Sciences courses.

2. TEP admissions deadlines are September 15 for fall and January 31 for spring.

3. Requirements for provisional admission into TEP include:
   1. A grade point average of 3.25 at the graduate level and undergraduate grade point average of 3.0 or higher;
   2. Successful completion of a professional interview;
   3. Pass all sections of the CORE Academic Skills for Educators;
   4. Pass the Praxis II Content Knowledge Exam required by the State of Tennessee for the licensure area being pursued.
   5. TBI Background Check
   6. Completion of teacher aptitude survey

4. Requirements for full admission to TEP must be completed prior to the Clinical Teaching Semester and/or the semester candidates enroll in ICL 7993. They include:
   1. 3.25 graduate grade point average
   2. Interview by program faculty with on-demand writing sample
   3. Exemplar work sample utilizing the professional portfolio

Passing scores on all required Praxis II Licensure Exams

Licensure and Graduation: Candidates participating in the Clinical Teaching Semester and/or ICL 7993 must submit a successful edTPA. Transitionally licensed candidates must have a composite of 3.0 on the Teacher Evaluation used in their employing district or have a letter verifying renewal by the employing district.

Students must be provisionally admitted to the Teacher Education Program (TEP) before completing all Level I courses and starting Level II courses. (Level I Professional Core courses provide requisite foundations for teaching and should be completed before taking Level II Professional Specialization courses that focus on specialized strategies for teaching and learning in educational environments).

Students who do not apply to TEP or fail to maintain criteria during the program will not be allowed to continue in the program.

NOTE: MAT admission, TEP admission, and Graduate School admission are separate procedures.

C. Program Requirements for the Master of Arts in Teaching

Students seeking licensure and the MAT degree must take a minimum of 30-46 graduate semester hours, depending on program and licensure area. Minimum hours may increase depending on licensure requirements. Students who are employed by a school district on a transitional license may have the Level III (clinical teaching semester) waived if they provide the necessary documentation to verify one year of successful teaching experience in their area of licensure with a composite Teacher Evaluation Score of 3.0 or higher. Students in this category should contact the Teacher Education Office in 202 Ball Hall for specific requirements. Please note that all initial licensure candidates must take ICL 7993, either along with clinical teaching semester or the last semester...
before applying for license if working on a transitional license. This course serves as the culminating experience and will require successful completion of the Teacher Performance Assessment (edTPA) to be able to be recommended for licensure.

1. Program Requirements

1. Students seeking Early Childhood Licensure (PreK-3) and the MAT degree must complete the following requirements:
   1. Early Childhood (PreK-3) Level I Licensure Requirements: ECED 6510, EDPR 7110; ICL 7106, SPED 7000; IDT 7061.
   2. Early Childhood Level II and III Licensure Requirements: ECED 6520, 6530, 6540, 7102; RDNG 7553; ICL 7804 (6 hours), ICL 7993 (3 hours).
   3. Students are required to complete a minimum number of structured field experiences during the day in PreK-3 settings prior to clinical teaching semester. These field experiences will be incorporated into courses required for licensure.
   4. MAT Degree requirements in addition to (1), (2), and (3) above: EDPR 7521 and ICL 7993 (Professional Seminar & Teacher Performance Assessment-3 Hours).

2. Students seeking Elementary Licensure (K-5) and the MAT degree must complete the following requirements:
   1. Elementary (K-5) Level I Licensure Requirements: ICL 7059, SPED 7000; EDPR 7111; IDT 7061.
   2. Elementary Early Grades Level II and III Licensure Requirements: ICL 7504, 7605, 7654, 7709; RDNG 7553, 7554; ICL 7806 (6 hours), 7993 (3 hours);
   3. Elementary Early Grades students are required to complete a minimum number of structured field experiences during the day in elementary school settings prior to clinical teaching semester. These field experiences will be incorporated into courses required for licensure.
   4. MAT Degree requirements in addition to (1), (2), and (3) above: EDPR 7521 and ICL 7993 (Professional Seminar & Teacher Performance Assessment-3 Hours).

3. Clinical teaching semester students seeking Secondary Licensure and the MAT degree must complete the following requirements:
   1. Secondary Level I Licensure Requirements: IDT 7061; SPED 7000; EDPR 7112 (or EDPR 7117 or ASTL 7703 [RODP]); ICL 7030 or TELC 7002 (RODP);
   2. Secondary Level II and III Licensure Requirements: RDNG 7544; 3 hours of appropriate methods courses ICL 7174, 7303, 7502, 7602, 7652; BUED 7655; and ICL 7808 (6 hours) and ICL 7993 (3 hours).
   3. Students are required to complete a number of clinical/field experiences during the day in secondary school settings prior to clinical teaching semester. These field experiences will be incorporated into courses required for licensure.
   4. MAT Degree Requirements in addition to (1), (2), and (3) above: EDPR 7521 and ICL 7993 (Professional Seminar & Teacher Performance Assessment-3 Hours). Must be taken prior to clinical teaching semester and ICL 7993.
   5. Students who wish to become licensed as a teacher of foreign languages that do not require a PRAXIS content knowledge test must pass the ACTFL Oral Proficiency Examination in addition
to the requirements for licensure that other students must meet.

6. Students seeking secondary licensure must select one of the following endorsement areas: art education, biology, chemistry, earth science, English, English as a Second Language, French, geography, German, government, history, Latin, library information specialist, marketing, math, physics, political science, psychology, Russian, sociology, Spanish, and other foreign languages.

4. Students seeking **Special Education Licensure** and the MAT degree must complete the following requirements:
   1. Special Education Level I Licensure Requirements: EDPR 7110 or 7111; SPED 7000, 7001 or PSYC 7800; ICL 7105 and 7106;
   2. Special Education Level II and III Licensure Requirements: SPED 7211, 7212, 7221, 7241 (6 hours), or PSYC 7808; and ICL 7993 (3 hours).
   3. Licensure areas (chose one):
      1. Interventionist: RDNG 7553.
      2. Comprehensive (K-12): SPED 6000, 6601, 7042.

   4. Students in the Interventionist Licensure program are required to complete a minimum of 116 clock hours of clinical/field experience during the day in special education settings prior to clinical teaching semester. Students in the Comprehensive and Early Childhood licensure programs are required to complete a minimum of 124 clock hours of clinical/field experience during the day in special education settings prior to clinical teaching semester. These field experiences will be incorporated into courses required for licensure.

5. MAT Degree Requirements: In addition to (1) through (4) above: EDPR 7521 and ICL 7993 (Professional Seminar & Teacher Performance Assessment-3 Hours).

5. All students seeking teacher licensure must successfully pass clinical teaching semester or must document successful completion of professional experience in lieu of clinical teaching semester.
   1. Students who are employed by a school district on a transitional license issued by the State of Tennessee may have the Level III clinical teaching semester waived if they provide the necessary documentation to verify one year of successful teaching experience and composite score of 3 or higher on the Teacher Evaluation used by their employing district. They must also be successful with the Teacher Performance Assessment (edTPA) to be recommended for licensure. Students in this category should contact the Licensure Coordinator for specific requirements.
   2. Students must enroll in the appropriate clinical teaching semester course during clinical teaching semester.
   3. Applications for clinical teaching semester must be filed one semester before clinical teaching semester.
   4. Application for documenting successful completion of professional experience in lieu of clinical teaching semester must be filed at the beginning of the first month of the semester in which the candidate plans to complete the approved academic program leading to final licensure. Completion of the edTPA must be completed during the semester the candidate on a transitional license plans to apply for their apprentice license.


7. Validation of methods courses is not permitted.
2. Retention

To remain in the Master of Arts in Teaching (MAT) and the Teacher Education Program (TEP) the student must maintain a graduate grade point average of 3.25. Failure to maintain a 3.25 GPA will result in termination of a candidate's TEP status and will result in academic probation in the MAT program.

III. MS Degree Program

This program is designed for students who are seeking advanced study and professional development in education focusing on Instruction and Curriculum, Instructional Design and Technology, Reading, Early Childhood Education, or Special Education. Specific program requirements for the listed concentrations are found on the ICL website. An option for students seeking the MS degree with a concentration in Instruction and Curriculum is to complete program requirements that prepare students to apply for a Tennessee Library Information Specialist Endorsement.

A. Program Admission

Admission to the Graduate School and admission to a specific ICL graduate program are separate procedures. Applicants must submit the following admissions materials before the application will be reviewed:

1. An application to the Graduate School that includes:
   1. Official report of the Graduate Record Examination (GRE) score (verbal, quantitative, and writing);
   2. Official transcripts of undergraduate and graduate study;
   3. Applicants whose native language is other than English must score at least 550 (or 210 computer-based) on the Test of English as a Foreign Language (TOEFL).
2. Submit the ICL Department MS Application along with two letters of recommendation on letterhead, preferably one from a college/university professor to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave, Memphis, TN 38152). All application information must be received by February 1 for summer semesters, April 1 for fall semesters, and October 1 for spring semesters.
3. The above criteria represent the minimum acceptable admission requirements. Depending on the applicant's educational background, the graduate committee may require additional coursework to prepare the student for advanced master's level studies.

Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point averages, scores of the submitted tests, and letters of recommendation.

B. Program Requirements for the MS degree

1. A minimum of 30 graduate semester hours is required.
2. The major will consist of 18-21 semester hours including ICL 7059 Models of Instruction or an equivalent course identified by the concentration and ICL 7992 Master's Project or ICL 7996 Thesis or IDT 7095 Developing Interactive Learning Environments. Students electing to write a thesis must

3. EDPR 7521 Introduction to Educational Research

4. Three (3)-six (6) semester hours of electives are required. Courses taken depend on the undergraduate background, previous experiences of the student, and the nature of the major area of concentration. These courses must be approved by the assigned advisor and support the major area of study.

IV. MEd Degree Program

This program is based on the assumption that all participants will be fully licensed teachers who are currently teaching in classrooms. Furthermore, this program is based on the assumption that all courses will base course content and learning experiences on the student's work as a classroom teacher. All courses will include assignments that teachers will carry out in their own classrooms.

A. Program Admission

Applicants must submit complete admissions information, including:

1. Application to the Graduate School, including:
   1. Official report of the Graduate Record Examination (GRE) score (verbal, quantitative, and writing).
   2. Official transcripts of undergraduate and graduate study
   3. Applicants whose native language is other than English must score at least 550 (or 210 computer-based) on the Test of English as a Foreign Language (TOEFL)
   4. Copy of a valid teaching license.

2. Submit two letters of recommendation on letterhead, preferably one from a college/university professor, to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave, Memphis, TN 38152).

Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point averages, scores of the submitted tests, and letters of recommendation. Admission to the Graduate School and admission to a specific ICL graduate program are separate procedures.

B. Program Requirements for the MEd degree

1. A minimum of 33 graduate semester hours is required.
2. The degree will consist of all courses associated with the Regents Online Master of Education Degree in Advanced Studies in Teaching and Learning (ASTL).
3. Courses in this program of study cannot be used to satisfy required course work in MAT or MS degree programs.
4. For a list of required courses, please contact the Department of Instruction and Curriculum Leadership or go to www.tn.regentsdegrees.org/.

V. EdD Degree Program
The primary purposes of the doctoral programs in the Department of Instruction and Curriculum Leadership are to prepare candidates for positions as teacher educators and researchers in colleges and universities; or, to produce experts in research and development who can lead initiatives to analyze, implement, and evaluate instructional materials and learning environments.

A. Program Admission
Admission to the Graduate School and admission to a specific ICL graduate program are separate procedures. Applicants must submit the following admissions information:

1. Application to the Graduate School that includes:
   1. Official Graduate Record Examination (GRE) score (verbal, quantitative, and writing)
   2. Official transcripts of undergraduate and graduate study
   3. Applicants whose native language is other than English must score at least 550 (or 210 computer-based) on the Test of English as a Foreign Language (TOEFL).

2. Application to the program in the Department of Instruction and Curriculum Leadership (departmental applications can be obtained via the ICL web site (http://www.memphis.edu/icl/docs/edd_application_pc.docx) that includes:
   1. Two letters of recommendation from people familiar with the applicant's academic background and aptitude for graduate work, specifying in detail the applicant's capabilities for doctoral study and for future performance and scholarship. At least one letter from a college/university professor is preferred.
   2. A written statement of 500 to 1000 words (maximum) indicating the intended area of focus in the doctoral program and the applicant's present interests and career goals.
   3. Interviews with two faculty members (one from the student's area of interest) that must be completed prior to the College deadlines. The doctoral application file must be completed before an interview will be scheduled. Submit the Department of Instruction and Curriculum Leadership application to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave, Memphis, TN 38152).

3. Each student's file will be evaluated prior to full admission to the Department of Instruction and Curriculum Leadership. Only those files that are completed by the admission deadline will be considered. All application information must be received by February 1 for summer semesters, April 1 for fall semesters, and October 1 for the spring semester with the exception of applications for the EdD in the Instructional Design and Technology (IDT) program area, which has a summer admission only with a February 15 deadline.

4. The above criteria represent the minimum acceptable admission requirements. Depending on the applicant's educational background, the graduate committee may require additional coursework to prepare the student for doctoral studies.

B. Program Requirements for the EdD Degree

1. A minimum total of 54 post-master's hours.

2. The major will consist of 42-45 hours, including the department core requirements: Professional Seminar (ICL 8200), The Nature of Knowledge (ICL 8005), 9-12 hours of dissertation credit (ICL 9000), and 3-6 hours of Research Residency Seminar (ICL 8995). A maximum of 15 hours for ICL 8995 and 9000 will be credited toward the degree. NOTE: Students must adhere to the

3. The research requirement for ICL will consist of 9-12 hours which includes EDPR 8541, 8561, and 3-6 additional elective research hours in consultation with advisor. The elective research hours should consist of courses directed toward research and/or statistical techniques and procedures necessary for the discipline and the dissertation topic. (This does not apply to IDT whose doctoral students are expected to follow the program of study for the IDT major concentration.)

4. Approved transfer credit or post-master’s courses may be accepted for not more than 12 semester hours.

5. Completion of the college residency requirements.

Additional information pertaining to the major and concentration areas may be secured from the Chair or Graduate Coordinator of the Department of Instruction and Curriculum Leadership.

VI. Online Certificate in Instructional Design and Technology

A. Admission

Students interested in receiving a Certificate in Instructional Computing Applications must be admitted to this graduate certificate program. The courses may be completed as part of a degree program with the advisor’s approval.

This certificate program has two tracks: (1) K-12 Educational Technology and (2) Design and Development. Each requires 12 credit hours of online coursework as described below.

B. Requirements

Track One: K-12 Educational Technology:

This track is designed for educators who want to integrate the use of computers in the classroom. The focus of these courses is to develop the technology competencies needed for the development, utilization, and integration of instructional computing technology in the classroom.

The following four core courses are required for the Educational Technology Track:

1. IDT 7061/8061 Technology Integration in Classroom
2. IDT 7062/8062 Intro Computer Based Instruction
3. IDT 7063/8063 Seminar Instructional Computing
4. IDT 7064/8064 School Change and the Internet

Track Two: Design and Development:

This track is designed for instructional designers and developers who work in non-education related settings such
as business, government, military, and health care.

The following four courses are required for the Design and Development Track:

1. IDT 7070/8070 Instructional Design Process I
2. IDT 7080/8080 Instructional Design Process II
3. IDT 7063/8063 Seminar Instructional Computing
4. IDT 7090/8090 Dev Interactive Lrng Envirnmt I

More information about the Certificate is located at this web site: www.memphis.edu/idt

C. Graduation Requirements

1. The student must complete all four required courses with a grade of an A or B for each course, for a total of 12 credit hours.
2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to Graduate Analyst in Ball Hall 215 (3798 Walker Ave., Memphis, TN 38152) by the deadline specified by the Graduate School.

VII. Graduate Certificate in Literacy Leadership and Coaching

The Certificate in Literacy Leadership and Coaching will provide teachers the knowledge and experiences to become outstanding literacy leaders in schools and districts. This certificate program recognizes students’ ability to design curriculum, supervise teachers, and act as overall literacy leader. The cohort-based program will be taught completely online by reading faculty within the Department of ICL at the University of Memphis.

The goal of the certificate program is to 1) offer literacy teachers education beyond the state certified reading endorsement to prepare them to address the leadership needs across the region and beyond, 2) provide an accelerated cohort-driven program of study that will enable students to receive a Certificate in Literacy Leadership and Coaching in a timely and meaningful fashion, and 3) give official recognition of an expertise in literacy leadership to help students qualify for jobs both within and outside the United States.

A. Admission

Students interested in receiving a Certificate in Literacy Leadership and Coaching must be admitted to this graduate certificate program and either be admitted to the MS degree program in Reading or have an advanced degree in a related field. The courses may be completed as part of a degree program with the advisor’s approval.

B. Program Requirements:

Completion of 15 semester hours distributed as follows:

Required courses:
RDNG 7540 Literacy Instruction in the Elementary School
RDNG 7541 Literacy Assessment and Intervention
RDNG 7544 Adolescent Literacy Instruction
RDNG 7560 Literacy Leader and Coach
RDNG 7561 Literacy Coach Practicum

C. Graduation Requirements:

1. Must earn state reading endorsement (pass praxis and have two years teaching experience)
2. The student must complete all five required courses with an average grade of B (3.0) or higher, for a total of 15 credit hours.
3. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave, Memphis, TN 38152) by the deadline specified by the Graduate School.

VIII. Graduate Certificate in Urban Education

This certificate program offers an advanced program of study in the expansive and distinct historical and contemporary knowledge, scholarship, and practical issues related to instruction and curriculum leadership in an urban educational context that has a diverse population, is geographically bounded, and is unique in its political, economic and cultural history, relationships, and interactions. It complements existing College of Education, Health and Human Sciences programs by offering a structured, focused course of study, consisting of 12 credit hours of core courses. These courses may be completed as part of a degree program with the advisor’s approval, or as additional course work.

A. Program Admission

Students interested in receiving a Certificate in Urban Education must apply and be admitted to this graduate certificate program and preferably to a College of Education, Health and Human Sciences graduate degree program, such as the master’s or doctoral major in the Department of Instruction and Curriculum Leadership. Application is through the office of Graduate Admissions. Applicants must also complete an interview with the certificate coordinator. The courses may be completed as part of a degree program with the advisor’s approval.

B. Program Requirements

The following four core courses are required for the Certificate in Urban Education:
ICL 7702-8702 Advanced Topics in Instruction & Curriculum: Urban Education
ICL 7701-8701 Advanced Workshop in Instruction & Curriculum: Urban Education
ICL 7706 Family & Community Relations for Teachers
ICL 8082 Seminar in Urban Education

C. Retention Requirements
Same as retention policies applicable to Department of Instruction and Curriculum Leadership graduate degree programs.

D. Graduation Requirements

1. The student must complete all four required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours.
2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the Graduate Analyst in Ball Hall 215 (3798 Walker Ave., Memphis, TN 38152) by the deadline specified by the Graduate School.

IX. Graduate Certificate in Autism Studies

The purpose of the Graduate Certificate in Autism Studies is to provide practical educational training to individuals who are presently working within healthcare, adult disability and/or educational settings. It is estimated that over 336,000 young people (ages 3 to 21) are currently being served in federally supported programs for people with autism in our public schools (NCES, 2011) and close to 1.5 million (NAC, 2009) total individuals live with autism spectrum disorders (ASD) nationwide. In the United States, the Center for Disease Control reported (2012) that instances of autism are rising citing a rate of approximately 1:88 births during surveillance year 2008 vs. 1:110 during surveillance year 2006 (CDC, 2012). As the numbers of those diagnosed with ASD rise, the demand for professionally trained, autism expertise within health, educational and adult day service settings can be expected to mirror that trend.

Individuals completing this post baccalaureate certificate program will be able to:

- Provide evidence-based decisions specific to the treatment and education of people with ASD.
- Design and implement highly specialized evidence based instructional programs for people with ASD.
- Design and implement common behavior management strategies shown to be effective for people with ASD.

A. Program Requirements

- SPED 7600/8600 Introduction to Autism Spectrum Disorders (3)
- SPED 7601/8601 Autism Spectrum Disorders: Classroom Management & Designs (3)
- SPED 7602/8602 Autism Spectrum Disorders: Instructional Methods I (3)
- SPED 7603/8603 Autism Spectrum Disorders: Instructional Methods II (3)

B. Graduation Requirements

In order to graduate with the certificate, students must:

1. Complete all four required courses with an average grade of B (3.0) or higher, for a total of 12 credit
hours.
2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to Graduate Analyst in Ball Hall 215 (3798 Walker Ave., Memphis, TN 38152) by the deadline specified by the Graduate School.

X. Graduate Certificate in STEM (Science, Technology, Engineering, and Mathematics) Teacher Leadership

The goal of the certificate program in STEM (Science, Technology, Engineering, and Mathematics) Teacher Leadership is to develop the knowledge and skills of secondary mathematics, science, and engineering teachers who are currently teaching in local area schools. The coursework is designed to promote in-depth understanding of current standards and instructional practices with a particular focus on building teacher leaders in STEM education.

A. Program Admission:

Students interested in receiving a Certificate in STEM Teacher Leadership must be apply to and be accepted to this graduate certificate program. Applicants must hold a current teaching license. The courses may be completed as part of a degree program with the advisor’s approval.

B. Program Requirements:

A total of twelve (12) credit hours are required to complete this program.

1. ICL 7723/8723, Equity in STEM Education, 3 credits
2. ICL 7722/8722, Teaching and Learning in STEM Classrooms, 3 credits
3. ICL 7720/8720, STEM Curriculum Leadership, 3 credits
4. ICL 7721/8721, Seminar in STEM Teacher Development, 3 credits

C. Graduation Requirements

1. The student must complete all four required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours.
2. In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to Graduate Analyst in Ball Hall 215 (3798 Walker Ave., Memphis, TN 38152) by the deadline specified by the Graduate School.

XI. Graduate Retention Policy

It is the student’s responsibility to obtain a copy of the retention policy from the departmental office.

Click here for course descriptions
Leadership

LARRY McNEAL, PhD
Chair and Coordinator of Graduate Studies
Room 123, Ball Hall
901.678.2369
E-mail: lmcneal1@memphis.edu

http://www.memphis.edu/lead/

I. Master of Science (MS) in Leadership and Policy Studies:

The Department offers the Master of Science degree in Leadership and Policy Studies with concentrations in (1) School Administration and Supervision—a licensing program, (2) Leadership, and (3) Student Personnel.

A. Program Admission

1. Each applicant must submit a completed application packet to the University Graduate School that includes:
   1. A completed admissions application
   2. An official report of the Graduate Record Examination (GRE) score. GRE is required for master's degree even in cases where applicant already has one master's degree.
   3. Official transcripts for all prior undergraduate and graduate courses.
2. In addition, each applicant to the M.S. School Administration and Supervision (SAS) must submit a portfolio to the Department of Leadership that includes:
   1. Letter of application
   2. Professional resume
   3. Three letters of professional recommendation on letterhead
   4. A brief statement of professional goals
   5. Evidence of current teacher certification
   6. Examples of students' work
   7. A personal interview preceded by a writing sample will be scheduled with each applicant and an admission decision will be made following the personal interview. The decision will be based on a holistic profile that includes, but is not limited to, information contained in the completed application packet described above and obtained during the personal interview. Interested applicants are required to contact the departmental office to obtain admission forms and a more complete statement of admission guidelines and requirements for a Tennessee administrative license. All students seeking licensure must take the appropriate state-required examination at the conclusion of their program.
   8. Deadline for submission of all application material is the 3rd Friday in February for the summer semester, the 3rd Friday in June for the fall semester, and the 3rd Friday in September for the spring semester.
3. In addition to #1 above, each applicant to the M.S. in Leadership or M.S. in Student Personnel must submit:
1. Letter of application  
2. Professional resume  
3. Three letters of professional recommendation on letterhead  
4. Brief statement of professional goals  
5. The admission decision will be based on a holistic profile that includes, but is not limited to, information contained in the completed application packet described above. Interested applicants are required to contact the departmental office to obtain admission forms and a more complete statement of admission guidelines.  
6. Deadline for submission of all application material for M.S. Leadership concentration and M.S. Student Personnel concentration is April 1 for summer and fall semesters, and November 1 for spring semester.

Students completing the MS or EdD in Leadership and Policy Studies will: (1) have developed their skills in leadership, change, policy formulation, the student's program and stewardship of a vision of effectiveness that is shared by others in the organization; (2) have had opportunities to analyze data and its relationship to organizational effectiveness; (3) have concentrated their studies in (a) School Administration and Supervision, (b) Leadership, or (c) Student Personnel (MS only); and (4) have concentrated their studies in an area of specialization.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

B. Program Requirements

1. A minimum of 36 semester hours is required of all students to obtain the master's degree.  
2. Students will take 9 hours of the departmental core: LEAD 7000, LEAD 7100, and EDPR 7521; and 27 other hours of approved courses in their concentration.  
3. The following policies in the Department of Leadership are exceptions to the policies of the Graduate School:  
   1. A maximum of six (6) hours of transfer credit can be counted toward the concentration in School Administration and Supervision.  
   2. A maximum of six (6) hours of course work can be validated in the concentration in School Administration and Supervision.  
4. Concentrations and Courses:  
   1. School Administration and Supervision: LDPS 7110, 7120, 7131, 7140, 7141, 7150, 7330; LEAD 7004, 7210  
   2. Leadership: A minimum of 27 semester hours, including LEAD 7500, 7100, 5 additional departmental courses, and a portfolio. A minimum of B must be earned in all courses on the program of study.  
   3. Administration/Supervision Licensure Program: The department maintains a program leading to licensure for students holding an appropriate master's degree  
   4. Student Personnel: A minimum of 27 semester hours, including LEAD 7500; HIAD 7060, 7410,
7440, 7442, 7443, 7444; 2 additional courses; and a portfolio. A minimum of B must be earned in all courses on the program of study.

II. Doctor of Education (EdD) Degree Program

A. Program Admission

1. Each applicant must submit a completed application packet to the University Graduate School that includes:
   1. A completed admissions application.
   2. An official report of the Graduate Record Examination (GRE) score.
   3. Official transcripts for all prior undergraduate and graduate courses.

2. In addition, each applicant to the Ed.D. must submit a portfolio to the Department of Leadership that includes:
   1. Letter of application
   2. Professional resume
   3. Three letters of professional recommendation on letterhead
   4. A brief statement of professional goals
   5. A personal interview preceded by a writing sample will be scheduled with each applicant and admission decision will be made following the personal interview. The decision will be based on a holistic profile that includes, but is not limited to information contained in the completed application packet described above and obtained during the personal interview. Interested applicants are required to contact the departmental office to obtain admission forms and a more complete statement of admission guidelines.

6. Deadline for submission of all application material is the 3rd Friday in February for the summer semester, the 3rd Friday in June for the fall semester, and the 3rd Friday in September for the spring semester.

B. Program Requirements

1. A minimum of 54 semester hours beyond the master’s degree is required of all students.

2. Fifteen hours must be taken in the departmental core: LEAD 8001, 8002, 8003, EDPR 8541 and 8542; 9 hours of dissertation; and 30 additional hours.

3. Doctoral programs are not intended for basic administrative certification. Students wishing certification through this program must complete additional course work approximating the requirements in the Certification program noted above.

4. Concentrations and Courses:
   1. Educational Leadership: LDPS 8121, 8132, and 8181, and 21 hours approved by the student’s advisory committee.
   2. Policy Studies: LDPS 8305, 8310, and 8350, and 21 hours approved by the student’s advisory committee.

III. Doctor of Education (EdD) in Higher Education and Adult Education

Program objectives are: (1) development of skills in leadership, higher education or adult education, policy
formulation, implementation, and evaluation; (2) development of research skills such as data and the relationship to organizational effectiveness; and (3) knowledge and understanding within a concentration area.

A. Program Admission

1. Each applicant must submit a completed application packet to the Graduate School that includes:
   1. A completed admissions application
   2. An official report of Graduate Record Examination (GRE) scores
   3. Official transcripts for all prior undergraduate and graduate courses
   4. In addition, each applicant must submit the following to the Department of Leadership:
      1. A professional resume
      2. A two-three page statement of academic and professional goals
      3. Three letters of recommendation
   5. The admission committee may request a personal interview.
   6. The admission decision will be based on a holistic profile that includes, but is not limited to, information contained in the completed application packet described above and obtained during the personal interview. Interested applicants are encouraged to contact the departmental office to obtain admission forms and a more completed statement of admission guidelines for the higher and adult education program.
   7. Deadline for submission of all application material is April 1 for the summer and fall semesters, and November 1 for the spring semester.

B. Program Requirements

1. A minimum of 54 semester hours beyond the master’s degree, including the core requirements of LEAD 8001, 8003, 8500, HIAD 8412, 8415, 8403, EDPR 8541, 8542, and 1 additional research methods course approved by the advisor; 9 hours of dissertation; and 18 hours approved in the concentration. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write the dissertation.

2. Concentrations
   1. Higher Education: HIAD 8401, 8420, 8422, 8541, and 6 elective hours approved by the student’s advisory committee.
   2. Adult Education: HIAD 8510, 8541, 8542, and 9 elective hours approved by the student’s advisory committee.

3. The following policies in the Department of Leadership are exceptions to the policies of the Graduate School:
   1. Graduate students must complete the doctoral program within ten (10) calendar years.
   2. A maximum of twelve (12) hours of transfer credit/credits earned as nondegree can be counted toward the degree.

4. A minimum of B must be earned in all courses as indicated on the program of study for HIAD doctoral programs.

IV. Certificate in Community College Teaching and Leadership
The Department of Leadership offers a certificate for individuals interested in either a teaching or an administrative career in a community college setting. Consisting of 15-18 hours of course work, this program can be applied to or taken simultaneously with a Master of Science degree in Leadership, Student Personnel Services, or a Doctor of Education degree in Higher and Adult Education. Students not pursuing a degree may apply for admission to the Graduate School as certificate seeking. For more information call 901.678.3531. Click here to view corresponding gainful employment data.

A. Program Admission:

1. Students already enrolled in a graduate degree seeking program at The University of Memphis must contact the office of Graduate Admissions to request a program status change to pursue the Certificate in Community College Teaching and Leadership. Students must also apply to the Department of Leadership (Higher and Adult Education) to be considered for admission to the certificate program (see below).
2. Students who are only applying to the Certificate program must apply to the Graduate School as a Graduate Certificate student.
3. All students interested in the Community College Teaching and Leadership Certificate must undergo departmental review for admission.

The following items must be provided to the Department of Leadership in addition to applying to the Graduate School:

1. Transcripts from your graduate degree or undergraduate degree if a graduate degree has not been earned. Transcripts are not required if your degree was earned from the University of Memphis.
2. Three letters of recommendation;
3. A statement of academic and professional goals detailing how this program will advance your career plans.
4. All departmental materials must be sent to hiad@memphis.edu or delivered to the address below:
   The HIAD Admissions Committee
   The University of Memphis
   Department of Leadership
   311 Browning Hall
   Memphis, TN 38152

Departmental application deadlines are November 1 for the spring term and April 1 for the summer and fall terms. All materials must be received by the deadline to be considered.

B. Program Requirements:

   HIAD 7411-8411, Community Colleges
   HIAD 7511-8511, Administration and Governance in the Community College
   HIAD 7541-8541, College Teaching
HIAD 8415, IT Trends and Issues in Higher Education
LEAD 7500-8500, Adult Learning and Leadership
HIAD 7060-8060, Internship in Higher and Adult Education (may be waived for those with broad experience in community college teaching or administration)

A minimum of "B" must be earned in all courses included in the Community College Certificate program.

Click here for course descriptions
Herff College of Engineering

RICHARD J. SWEIGARD, PhD, P.E.
### Dean

**WARREN O. HAGGARD, PhD**  
*Associate Dean for Research and Graduate Studies*  
Engineering Administration Building  
E-mail: whaggrd1@memphis.edu

www.memphis.edu/herff

### GRADUATE ACADEMIC PROGRAMS

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(4) Transportation Engineering  
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*NOTE: The Master of Science and the Doctor of Philosophy degree in Biomedical Engineering are offered through a joint academic program with The Department of Orthopaedic Surgery and Biomedical Engineering at The University of Tennessee Health Science Center, Memphis.*

Individual program requirements described in The University of Memphis Graduate Catalog, 2015-2016, are subject to change. **Please consult your department or the Office of the Graduate School for changes that may occur before publication of the next issue of this Catalog.** All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued (see departmental listings in this section).

The Herff College of Engineering offers graduate programs at the masters and doctoral levels through its departments of Biomedical, Civil, Electrical and Computer, and Mechanical Engineering. A Graduate Certificate in Imaging and Signal Processing is available through the Department of Electrical and Computer Engineering. A Graduate Certificate in Packaging Engineering is available through the Department of Mechanical Engineering. In addition, the Department of Engineering Technology offers a masters program in engineering technology and a Graduate Certificate in Applied Lean Leadership. Students enrolled in the college at the masters level work toward the Master of Science (MS) degree. The doctoral program of the college leads to the degree of Doctor of Philosophy (PhD) after successful completion of study and research in one of the following five concentrations: biomedical engineering, civil engineering, electrical and computer engineering, mechanical engineering and engineering physics. Candidates for all degrees must follow a curriculum plan that has been approved at the
PPI STATEMENT
All college transcripts and test score information should also be sent directly to Graduate Admissions. **Beginning with summer and fall 2013 admittance**, the Master of Science and PhD programs in the Herff College of Engineering require the ETS® Personal Potential Index (PPI) Evaluation Report containing a minimum of three (3) evaluations from separate evaluators in order to consider your application complete. The PPI is a third-party evaluative tool administered by the ETS (Educational Testing Service) organization. There is no fee to submit the PPI report to the University of Memphis. The PPI process requires two critical steps by you, the applicant. The applicant needs to create an account with evaluator contact information, and you MUST log back into the PPI system after completion of PPI reports to designate the University of Memphis Graduate School Admissions to receive the reports from your evaluators.

You can create an ETS PPI account and review the ETS PPI Information Bulletin, which explains the service, at http://www.ets.org/ppi/applicants/start/.

PPI - Steps At A Glance

- Create an ETS PPI account to begin the process.
- Provide contact information for the evaluators you would like to complete an ETS PPI evaluation.
- ETS sends an email to each evaluator inviting them to access the ETS PPI system and complete your evaluation.
- Each evaluator logs in to the ETS PPI system to rate you on six personal attributes and provide an overall evaluation. Evaluators also may provide optional comments for each attribute as well as for the overall rating.
- You are notified via e-mail each time that one of your evaluators completes their PPI.

**THE MOST IMPORTANT STEP** After all of your evaluators have completed their PPI reports, you must log back into your PPI account, designate the University of Memphis Office of Graduate Admissions to receive an ETS PPI Evaluation Report and select the evaluations that are to be included in the report. The office cannot access your PPI recommendations until you complete this step.
- Once you designate the University of Memphis to receive an ETS PPI Evaluation Report, ETS creates an evaluation report and sends it electronically to the University of Memphis, Office of Graduate Admissions. Allow up to 5 days for the report to be processed and sent to the University of Memphis. View a sample PPI Report.

The evaluators/faculty members who you choose should be individuals that you believe are best able to objectively comment on your intellectual and professional achievements and potential.

We may call or write your recommenders for more information.

**MASTER OF SCIENCE DEGREE PROGRAMS**
The masters degree programs provide opportunity for advanced study in various areas of engineering of current importance. Flexibility is provided in that students have the option of a thesis or non-thesis program.

Program objectives are the ability to: (1) apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for MS graduates; and (3) pursue additional advanced studies if so desired.

**Admission Requirements**

Applicants will be considered for admission to the masters program based upon a common set of criteria. These are the applicant's attainment of an appropriate bachelors degree, the score earned on the Graduate Record Examination (GRE), and the undergraduate grade point average (GPA). The GPA used is either the cumulative or the last 60 semester hours of applicable courses earned toward a degree.

In addition to meeting the University minimum admission requirements, applicants must meet the following criteria established by this College.

The applicant must have:

1. appropriate bachelors degree as determined by the admitting department.
2. an undergraduate GPA that is competitive for the students' bachelors program.
3. an acceptable score on the verbal, quantitative, and analytic portions of the GRE as established by their department or program of study.
4. three PPI evaluation reports submitted to the Graduate Admissions Office.

In addition to meeting the college minimum admission requirements, applicants must meet admission criteria established by their department of study. An applicant who lacks an appropriate bachelors degree may be required to complete undergraduate deficiency courses. If the number of deficiency courses is large, the applicant may be required to complete an undergraduate degree in engineering before seeking admission to the graduate program.

In addition to the above requirements, applicants whose native language is other than English must have a competitive score on the Test of English as a Foreign Language (TOEFL) or The International English Language Testing System (IELTS). Applicants are further advised that the admission requirements for the College are minimum requirements. Meeting minimum requirements does not guarantee admission into a specific departmental masters program.

**Retention Requirements**

Refer to the individual program descriptions of each department.
Graduation Requirements

Refer to the individual program descriptions of each department.

DOCTOR OF PHILOSOPHY DEGREE PROGRAM

The Herff College of Engineering offers a program leading to the degree of Doctor of Philosophy (PhD) with a major in Engineering and concentrations in civil, computer, electrical, mechanical engineering and engineering physics. In addition the College offers a course of study leading to a degree of Doctor of Philosophy (PhD) with a major in Biomedical Engineering through a joint academic program with the Department of Orthopaedic Surgery and Biomedical Engineering at The University of Tennessee Health Science Center.

Program objectives are the ability to: (1) apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for PhD graduates; and (3) pursue additional advanced studies if so desired.

Admission Requirements

Applicants will be considered for admission to the doctoral program based upon a common set of criteria. These are the applicant's educational background, Graduate Record Examination (GRE) score, grade point average (GPA), and three PPI evaluation reports. The GPA used is either the cumulative or the last 60 semester hours of applicable courses earned toward a degree. Admission criteria also depend upon whether the applicant received a degree from an institution that is accredited at the undergraduate level by the Accrediting Board for Engineering and Technology (ABET), www.abet.org.

In most cases, applicants will be considered for admission after completion of a masters degree. However, in certain cases, applicants will be considered for admission to the doctoral program after the attainment of a bachelors degree. It may be suggested that the student complete a masters degree while in pursuit of the doctoral degree. The following criteria will be applied according to the applicant's educational background as categorized below:

A. Masters Degree

1. Masters Degree from a School with an ABET Accredited Undergraduate Program: Applicants who have a masters degree from an engineering program accredited at the undergraduate level by ABET will be considered for admission provided they have an acceptable score on the verbal and quantitative portions of the GRE as established by their department or program of study.

2. Masters Degree from a School with a non-ABET Accredited Undergraduate Program or Bachelors Degree field other than Engineering: Applicants in this category will be considered for admission provided that the GRE scores and undergraduate GPA are acceptable as determined by the
Department of concentration and the University of Memphis.

B. Bachelors Degree

1. Bachelors Degree from an ABET Accredited Program: An applicant who has a bachelors degree from an engineering program accredited at the undergraduate level by ABET will be considered for admission provided he or she has an acceptable score on the verbal and quantitative portions of the GRE as established by their department or program of study.

2. Bachelors Degree from a non-ABET Accredited program or Masters Degree fields other than Engineering: Applicants in this category will be considered for admission provided they have a competitive GPA and acceptable GRE scores as established by their department or program of study.

In addition to the above requirements, all applicants must submit an application for admission to The University of Memphis along with three evaluations through the PPI system from previous instructors attesting to the applicant's academic ability and potential for success in a doctoral program. (See PPI statement above for more information)

Applicants whose native language is other than English must have a competitive score on the Test of English as a Foreign Language (TOEFL) or The International English Language Testing System (IELTS).

The above represent the minimum acceptable admission requirements. In addition to meeting the College minimum admission requirements, applicants must meet admission criteria established by their department or program of study.

Depending on the applicant's educational background, the Advisory Committee for the individual graduate student may require additional coursework to prepare the student for doctoral studies. The Advisory Committee is composed of Graduate Faculty from the College. The Department Chair, the Director of Graduate Studies for the College and the Graduate School will review and approve the Committee.

In unusual circumstances where the above admission requirements cannot be met, an applicant may seek exceptions by contacting the Director of Graduate Studies for the college.

Applicants are further advised that the College reserves the right to deny some applications for admissions because of limited faculty availability and physical facilities to accommodate student research interests.

Retention Requirements

A student will be retained continuously in the program until completion of the degree providing the following conditions are met:

1. All students will be required to maintain a grade point average (GPA) of at least 3.00. Should the student's GPA fall below that mark, a period of one semester or one full summer term will be allowed to correct the deficiency. Failure to regain the minimum 3.00 is considered sufficient reason for being dropped from the program. This period may, at the discretion of the student's advisory committee, be
extended one additional semester or full summer term. If the GPA at the end of this extension is still below 3.00, the student will be dismissed from the program.

2. Accumulation of more than 7 semester hours of cumulative graduate coursework with a grade of "C+" or lower will result in dismissal from the program, i.e., a student who accumulates 6 hours of graduate coursework with a grade of "C+" or lower in a masters program is permitted only one additional hour with a grade of "C+" or lower.

3. All students are required to complete a comprehensive examination with at least a minimum passing score on the written portion and a satisfactory performance on the oral portion of the exam. A second and final attempt to pass this examination may be granted by the student’s Advisory Committee; failure will result in mandatory dismissal from the program.

4. All students must demonstrate reportable activity and progress on their research project to their advisory committee each fall and spring semester after dissertation hours are started. This reportable activity should also be submitted in writing to the Department Chair.

Grade point averages above are based on a 4.00 grading system where A = 4.00. Students presenting transcripts using a different system will be held to similar standards.

**Graduation Requirements**

General Requirements: Each student must earn at least 72 semester hours beyond the bachelors degree or 42 beyond the masters degree (see Table 1A). Credit for the dissertation will be a minimal of 24 semester hours for PhD student admitted with a bachelors degree and a minimum of 18 semester hours for PhD students admitted with a Master’s degree. Early in each student’s program of study, the Director of Graduate Studies upon recommendation of the Departmental Chair will approve the Advisory Committee composed of Graduate Faculty in the College.

At least 48 of the 72 semester hours required, including dissertation and research credit, must be in engineering and at least 24 in biomedical, civil, computer, electrical, or mechanical engineering and physics. No more than 12 semester hours credit of 6000 level courses will count toward the 72-hour PhD degree. (See Table 1B)

**Table 1A) Doctoral Program Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Total Course Hours</th>
<th>Course Hours (excluding Dissertation)</th>
<th>Hours of Dissertation (9000 course)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Bachelor's Degree (BS)</td>
<td>72</td>
<td>48</td>
<td>24</td>
</tr>
<tr>
<td>Post Master's Degree (MS)</td>
<td>42</td>
<td>24</td>
<td>18</td>
</tr>
</tbody>
</table>

**Table 1B) Doctoral Program Course Hours**
### Option Course Hours (excluding dissertation) | Hours of dissertation (9000 courses) | Hours at 6000 (maximum) | Minimum hours at 7000/8000 | Minimum hours 7000/8000 in concentration
--- | --- | --- | --- | ---
Post Bachelor's Degree (BS) | 48 | 24 | 12 | 36 | 24
Post Master's Degree (MS) | 24 | 18 | 6 | 15 | 9

**Residency Requirements:** A minimum of 18 semester hours must be earned while the student is in continuous residence. This may be done in two regular consecutive semesters. If the student is retained as a graduate assistant, the residency requirement may be met over a single continuous twelve-month period provided the student completes 18 semester hours in two successive regular semesters. A student is not eligible to complete the residency requirement until a minimum of 18 semester hours of graduate study have been successfully completed.

**Mathematics Requirements:** Based on the qualifying examination required of all The University of Memphis doctoral students, the advisory committee may stipulate that appropriate mathematics courses be made a part of the student's program.

**Examination Requirements:** All students must take a qualifying examination in accordance with University policy outlined under Minimum Requirements for Doctoral Degrees in this catalog. This examination, which is intended to determine the student's mastery of broad fundamental concepts, will be typically given only after the student has completed between 9 to 27 semester hours of graduate study. For students entering the program with a masters degree, the exam will occur early in their PhD program as directed by the student's Advisor and Advisory Committee. The results will be used to prescribe the remainder of the student's academic program, and successful completion of the qualifying exam is required for admission to candidacy as a doctoral student.

The examination will generally be given in written form. However, the student’s committee may require an oral session before making a final decision on the student’s qualification to continue his/her studies.

After the final semester of coursework, the student will be required to successfully complete written and oral comprehensive examinations that will ascertain the student’s mastery of the theoretical material that will underlie the dissertation topic. The student's Advisory Committee will conduct this oral comprehensive exam.
At the completion of the dissertation, the student must defend the work before the advisory committee and other interested members of the university faculty who may care to question the results of the research. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

Course Requirements: Nine semester hours of major mathematics, physical science and engineering principles core courses that integrate their doctoral experience are required of all doctoral students. This core is developed by the student's graduate Advisory Committee. Each concentration requires a minimum of 48 semester hours of coursework post Bachelor's Degree (and 24 post Masters Degree) and research including the dissertation hours in the chosen field of study. Each student's program of study will be developed with the student's Advisory Committee.

For Engineering Physics concentration, 15 hours in Engineering courses for post-BS and 9 hours in Engineering courses for post-MS candidates are required. Similarly, 24 hours in Physics for post-BS and 9 hours in Physics for post-MS are required. The graduate committee which will be a composition of College of Engineering faculty and Physics Department faculty and this committee will determine the specific Physics and Engineering courses for this proposed concentration to effectively assist the graduate student's academic and research experiences.
Biomedical Engineering

EUGENE C. ECKSTEIN, PhD
I. The Department of Biomedical Engineering at The University of Memphis and the Department of Orthopaedic Surgery and Biomedical Engineering at The University of Tennessee Health Science Center, Memphis, participate in the Joint Program in Biomedical Engineering. The Joint Program offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in Biomedical Engineering. Students may elect courses of study in the following areas: biomaterials, biomechanics, biosensors, cardiopulmonary engineering, cell and tissue engineering, electrophysiology, medical imaging, and orthopedic biomechanics.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

PPI STATEMENT

All college transcripts and test score information should also be sent directly to Graduate Admissions. Beginning with Summer and Fall 2013 admittance, the Master of Science and PhD programs in the Herff College of Engineering require the ETS® Personal Potential Index (PPI) Evaluation Report containing a minimum of three (3) evaluations from separate evaluators in order to consider your application complete. The PPI is a third-party evaluative tool administered by the ETS (Educational Testing Service) organization. There is no fee to submit the PPI report to the University of Memphis.

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- Once you designate the University of Memphis to receive an ETS PPI Evaluation Report, ETS creates an evaluation report and sends it electronically to the University of Memphis, Office of Graduate Admissions. Allow up to 5 days for the report to be processed and sent to the University of Memphis. View a sample PPI Report.

The evaluators/faculty members who you choose should be individuals that you believe are best able to comment objectively on your intellectual and professional achievements and potential.

We may call or write your recommenders for more information.

II. MS Degree Program

Program objectives are: (1) ability to apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for MS graduates; and (3) preparation to pursue additional advanced studies if so desired

A. Admission Requirements

In addition to meeting the minimum admission requirements of the two universities and the Herff College of Engineering, applicants must meet the following criteria:

1. An appropriate bachelor’s degree (biomedical, chemical, electrical, mechanical, or others as defined by the Joint Program);
2. An undergraduate GPA of at least 3.00;
3. Acceptable scores on the GRE.
4. Applicants whose native language is other than English must score at least 550 (or 210 computer-based) on the Test of English as a Foreign Language (TOEFL).

These are the minimum program admission requirements. Meeting minimum requirements does not guarantee admission into the Joint Program. Applicants are further advised that the department reserves the right to deny
some applications for admission because of limited availability of faculty or physical facilities to accommodate the applicant’s research interests. In unusual circumstances where the above admission requirements cannot be met, an applicant may seek exceptions by contacting the Coordinator of Graduate Studies for the Joint Program.

B. Graduation Requirements

Students may elect to graduate from the Joint Program with a Master of Science in Biomedical Engineering through either a thesis or a project option.

1. Thesis Option: Students must complete 30 credit hours, 21 hours of which must be 7000-level or higher course work (or The University of Tennessee equivalent). All students are required to take 6 credit hours in the life sciences area (BIOM 7004 and BIOM 7005), 6 credit hours in mathematics and its applications (BIOM 7101 and another course selected from a list of mathematics courses approved by the Joint Program), 6 credit hours of thesis, and 12 credit hours of engineering electives, of which one course must be BIOM 7209 or BIOM 7105. Oral defense of the thesis to their graduate committee and an oral exam are required. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

2. Project Option: Students will be required to complete 33 credit hours, 24 hours of which must be 7000-level or higher course work (or The University of Tennessee equivalent). All students are required to take 6 credit hours in the life sciences area (BIOM 7004 and BIOM 7005), 6 credit hours in mathematics and its applications (BIOM 7101 and another course selected from a list of mathematics courses approved by the Joint Program), and 18 credit hours of engineering electives, including BIOM 7209 and BIOM 7991. Oral defense of the project to their graduate committee and a written comprehensive exam are required.

C. Retention Policy

1. Students who have been admitted to the program on the condition that they complete prerequisite course work must make satisfactory progress toward this goal each semester of enrollment. Failure to make satisfactory progress may result in dismissal from the program.

2. All students are required to maintain a grade point average (GPA) of at least 3.00. Failure to maintain the minimum GPA is considered sufficient cause for being dismissed from the program. In addition, a student whose GPA falls below 3.0 is ineligible for a graduate assistantship.

3. Students will be permitted two (2) grades of 2.00 in courses taken at the two universities. Students will be evaluated by the Joint Program faculty at the end of the semester in which a third grade of 2.00 or lower is earned for possible dismissal from the program.

II. Accelerated BS/MS Program in Biomedical Engineering

This program allows outstanding undergraduates in biomedical engineering or an approved undergraduate discipline to begin the coursework for the Master of Science in Biomedical Engineering during their senior year. Students are encouraged to begin planning to enter the Accelerated BS/MS program early in their undergraduate career, in consultation with an advisor in the Department of Biomedical Engineering.
Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program begin a carefully tailored course of study that will allow them to complete their BS degree while they also begin the coursework toward their MS.

To apply, students must have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the Biomedical Engineering department. Each applicant will complete an interview with the graduate academic coordinator in biomedical engineering.

Students must also apply to the Graduate School for the accelerated BS/MS program, which allows them to take graduate courses in biomedical engineering. To continue in the program past the BS, students must apply for full admission into the Graduate School and into the Biomedical Engineering department's MS program.

Only in ABM programs, up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs. However, any graduate coursework will not apply to undergraduate GPA.

III. PhD Degree Program

A. Admission Requirements

See the beginning of the College section for admission, retention, and graduate requirements, and program objectives.

B. Graduation Requirements

1. Students admitted to the PhD program with a masters degree must complete 57 hours of course work. This includes 6 credit hours in life sciences; 6 credit hours in mathematics and its applications; 15 credit hours of engineering electives, including BIOM 8209 and BIOM 8105; and up to 30 hours of dissertation (BIOM 9000). NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide.

2. Students admitted to the PhD program with a bachelors degree must complete 90 hours of course work. This includes 12 credit hours in life sciences; 12 credit hours in mathematics and its applications; 24 credit hours of engineering electives, including BIOM 8209 and BIOM 8105; and up to 30 hours of dissertation (BIOM 9000).

3. All PhD students are required to complete a comprehensive examination with at least a minimum passing score on the written portion and a satisfactory performance on the oral portion of the exam. A second and final attempt to pass this examination may be granted by the student’s advisory committee; failure to pass this exam will result in dismissal from the program.

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Degree Planning

Civil Engineering

SHAHRAM PEZESHK, PhD
I. The department of Civil Engineering offers a graduate program leading to a Master of Science degree with a major in Civil Engineering (concentrations in Engineering Seismology, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering, and Water Resources Engineering) and a PhD degree with a major in Engineering (concentration in Civil Engineering).

Program objectives are: (1) ability to apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for M.S. graduates; and (3) preparation to pursue additional advanced studies if so desired.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS Degree Program

A. Program Admission

The Herff College of Engineering has established uniform admissions criteria for all graduate programs. Exceptions to these requirements may be addressed by the Graduate Admissions and Retention Committee of the department and must be approved by the Dean.

B. Program Prerequisites

Bachelor of Science Degree

C. Program Requirements

1. Thesis option: 30 credit hours total. Students electing the thesis option will be required to complete an
independent research project culminating in a master's thesis. Upon completion of the thesis, the student must successfully pass an oral examination to assess mastery of the thesis topic and to evaluate the student's knowledge in Civil Engineering. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

2. Non-thesis option: 33 credit hours total. Students electing the non-thesis option must take CIVL 7001, 7012, and 7993. Upon completion of CIVL 7993, non-thesis students must make an oral presentation of their project and pass a comprehensive examination.

3. A minimum of 18 hours of Civil Engineering course work at the 7000 level will be required for all MS degree programs. No more than 9 hours of committee/advisor-approved course work below the 7000 level will be allowed in any program of study. Classes taken outside the department must be approved by the committee/advisor and must complement the student's program of study in Civil Engineering.

4. Concentrations: Concentration may be made by selection of courses from the following six areas: (No special concentration is required.)

1. Environmental Engineering: 6140, 6143, 6144, 7140, 7141, 7142, 7143, 7144, 7145, 7146, 7147, 7185, 7195, 7196, 7261, 7262, 7264, 7265, 7266, 7991, 7996.
2. Geotechnical Engineering: 6152, 6155, 7132, 7133, 7135, 7137, 7138, 7139, 7182, 7991, 7996.
4. Transportation Engineering: 6155, 6162, 6163, 6164, 7001, 7162, 7163, 7164, 7165, 7166, 7168, 7169, 7991, 7996.
5. Water Resources Engineering: 6180, 6190, 7133, 7153, 7163, 7181, 7182, 7185, 7191, 7192, 7193, 7194, 7195, 7196, 7197, 7991, 7996.

Due to the interdisciplinary nature of the Engineering Seismology concentration, students in that concentration must include at least two of the following courses: CIVL 7124, CIVL 7136, CERI 7104, CERI 7106, CERI 7260.

D. Retention Policy

All students enrolled in the Department of Civil Engineering are expected to attain high academic achievement in all courses taken. The criteria listed below will be used to determine retention status of students enrolled in the program leading to a Master of Science degree in Civil Engineering.

1. Students having been unconditionally admitted to the graduate program in Civil Engineering who maintain a cumulative grade point average of 3.00 or higher will be considered to be in good standing.
2. Students must maintain a cumulative grade point average of 3.00 in all course work at The University of Memphis, in all Civil Engineering course work at The University of Memphis, and for all 7000 level course work at The University of Memphis at the end of each semester of enrollment. Any student not meeting these conditions will be placed on probation.
3. Students admitted on probation must maintain a 3.00 average at the end of each semester until 9 hours of graduate credit are earned. A student having a cumulative grade point average less than 3.00 at the end of the period described will be dismissed. A student having a cumulative grade point
4. A student will be permitted two (2) grades of 2.00 or lower in graduate courses taken at The University of Memphis. A student will be dismissed from the program at the end of the semester in which a third grade of 2.00 or lower is earned.

5. A student who has been dropped from the graduate program in the Department of Civil Engineering will be denied permission to enroll in Civil Engineering courses in semesters subsequent to dismissal from the department.

II. Accelerated BS/MS Program in Civil Engineering

This program allows outstanding undergraduates to earn a bachelor’s degree and master’s degree in Civil Engineering in as little as five years by taking graduate-level technical electives that will count toward both degree programs. Specifically, students who are selected into this program can satisfy the undergraduate requirement of nine hours of technical electives by taking 6000-level courses that will then be counted toward their graduate degree program. However, any graduate coursework will not apply to the undergraduate GPA.

Students are encouraged to begin planning to enter the Accelerated B.S./M.S. program early in their undergraduate career in consultation with their advisor in the Department of Civil Engineering. Students with a minimum GPA of 3.25 may apply for the accelerated program once they have completed 15 credit-hours of 3000-level CIVL course work. In addition to an application form, students must have the recommendation of their undergraduate academic advisor and the concurrence of the department chair and graduate coordinator in the Department of Civil Engineering. In order to remain in the program, students must maintain a GPA of at least 3.25. To continue in the program past the B.S. degree, students must apply for full admission into the Graduate School and the Civil Engineering M.S. program.

III. PhD Degree Program

All doctoral students must take CIVL 8001 and 8012. See the beginning of the College section for admission, retention, program objectives and additional graduation requirements.

Click here for course descriptions
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Electrical and Computer Engineering

RUSSELL J. DEATON, PhD
I. The Department of Electrical and Computer Engineering (EECE) offers graduate programs leading to the Master of Science degree with a major in Electrical and Computer Engineering (concentrations in Computer Engineering and Electrical Engineering) and a PhD degree with a major in Engineering (concentrations in Computer Engineering and Electrical Engineering).

Program objectives are: (1) ability to apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for MS graduates; and (3) preparation to pursue additional advanced studies if so desired.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS Degree Program

A. Admission Requirements

The Herff College of Engineering has established uniform admission criteria for all graduate programs. More information can be found on the department website (http://www.memphis.edu/eece).

B. Program Requirements

1. Students pursuing the Master of Science in Electrical and Computer Engineering must take EECE 7001, either EECE 7100 or EECE 7251, and elect to pursue either a computer engineering or an electrical engineering concentration (multiple concentrations are not permitted). A student can count a maximum of 6 hours of credit for EECE 7991 and 7992.
   1. Computer Engineering Concentration: 9 hours selected from the following courses: EECE 7012,
EECE 7214, EECE 7216, EECE 7217, EECE 7252, EECE 7261, EECE 7262, EECE 7266, EECE 7267, EECE 7268, EECE 7273, EECE 7720, EECE 7740, or approved computer engineering special topics courses.

2. Electrical Engineering Concentration: must take 9 hours selected from the following courses:
   EECE 7211, EECE 7215, EECE 7230, EECE 7231, EECE 7232, EECE 7233, EECE 7243, EECE 7245, EECE 7253, EECE 7254, EECE 7255, EECE 7521, EECE 7522, EECE 7523, EECE 7524, EECE 7269 or approved electrical engineering special topics courses.

2. Thesis option: 30 semester hours, including a thesis (6 semester hours). An average grade of 3.00 must be maintained in all Electrical and Computer Engineering graduate coursework. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
   1. No more than 9 semester hours may be taken outside the department. Advisor’s approval is required.
   2. At least 21 hours at the 7000 level are required, of which at least 18 hours must be in Electrical and Computer Engineering.

3. Non-thesis option: 33 semester hours. An average grade of 3.00 must be maintained in all Electrical and Computer Engineering graduate coursework.
   1. No more than 9 semester hours may be taken outside the department. Advisor’s approval is required.
   2. Each student will be required to complete EECE 7993.
   3. At least 23 semester hours at the 7000 level required, of which at least 18 hours must be in Electrical and Computer Engineering.
   4. All students are required to pass a comprehensive exam during their last semester.

C. Retention Requirements

All students enrolled in the Department of Electrical and Computer Engineering are expected to attain high academic achievement in all courses taken. The criteria listed below will be used to determine retention status of students enrolled in the program leading to a Master of Science degree in Electrical Engineering.

1. Students who maintain a cumulative grade point average of 3.00 ("B") or higher will be considered to be in good standing if no more than 7 hours of "C-," "C" or "C+" or lower have been earned. (See item 3 below and grading system here).
2. Students must maintain a cumulative grade point average of 3.00 at the end of each semester of enrollment in all course work at The University of Memphis, including all Electrical and Computer Engineering course work and all 7000 level course work. Any student not meeting these conditions will be placed on probation by the department.
3. A student will be permitted no more than 7 hours of "C-," "C" or "C+" or lower in graduate courses taken at The University of Memphis. A student will be dismissed at the end of the semester in which a third grade of "C-," "C" or "C+" or lower is earned.
4. Courses applied to the MS degree program requirements must have the advisor’s approval.

III. PhD Degree Program
See the beginning of the College section for admission, retention, program objectives, and graduation requirements.

A. Program Requirements

Students are required to take EECE 8001. Students entering the PhD program must complete the PhD Qualifying Examination procedure prior to registering for their fourth semester in the PhD program. Failure to do so may prevent the student from registering for the fourth semester. More information on departmental procedures can be found at http://www.memphis.edu/eece/eece_phd_info.php.

IV. Graduate Certificate Program in Imaging and Signal Processing

A. Admission Requirements

1. Same as College and University requirements.
2. The certificate can be pursued concurrently with other graduate programs at the University.
3. Non-degree seeking applicants must submit a brief (1-2 pages) statement that describes educational and work experience in engineering, including their background in imaging and signal processing. Acceptance into the certificate program is not an implied acceptance into any master's degree program.

B. Program Requirements

Completion of 12 semester hours chosen from four of the following five courses:

- EECE 6243 Linear Optical Systems
- EECE 7214 Image Processing
- EECE 7215 Digital Signal Processing
- EECE 7217 Multimedia Information Processing
- EECE 7251 Random Signals and Noise

C. Graduate Requirements

1. The student must complete required courses with an average grade of B (3.0) or higher, for a total of 12 credit hours
2. In the semester of graduation, the student must submit an "Apply to Graduate" form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

More information can be found on the department website (http://www.memphis.edu/eece).

V. Accelerated BS/MS Program in Electrical or Computer Engineering
This program allows outstanding undergraduates to begin the coursework for the Master of Science in Electrical or Computer Engineering during their senior year. Students are encouraged to begin planning to enter the Accelerated BS/MS program early in their undergraduate career, in consultation with their advisor in the Department of Electrical and Computer Engineering. Working with the undergraduate and graduate academic coordinators, undergraduates, who are selected into this program, may choose EECE electives at the 6000 level that will allow them to complete their BS degree while also beginning the coursework toward their MS degree. However, any graduate coursework will not apply to the undergraduate GPA.

Students may apply for the program once they have completed one semester of junior course work. In order to remain in the program past the junior year, students must maintain a GPA of at least 3.25. Up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs. To continue in the program past the BS, students must apply for full admission into the Graduate School and either the Electrical or Computer Engineering MS program during their senior year. Students that are eligible for the ABM program will have the GRE requirement waived.

Click here for course descriptions

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**Graduate Catalog**

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**Graduate School**

**2015-2016 Academic Calendar**
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Engineering Technology

SCOTT C. SOUTHALL, MS
I. The Department of Engineering Technology offers a Master of Science degree in Engineering Technology. Individual emphasis can be developed in the curriculum areas of Computer, Electronics, or Manufacturing. The department also offers a graduate certificate in Applied Lean Leadership.

Program objectives for the MS are: (1) ability to apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for MS graduates; and (3) preparation to pursue additional advanced studies if so desired.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS Degree Program

A. Program Admissions

Admission requirements of the College.

B. Program Prerequisites

Applicants must have a bachelor's degree, preferably in an appropriate area of Engineering or Engineering Technology. However, a bachelor's degree in an analytical field with professional experience in a related area is also acceptable.

Candidates with deficiencies in their undergraduate work may be required to pass appropriate undergraduate courses with a C or better to supplement their body of knowledge. Basic competencies are reflected as
prerequisites for courses, but may be waived with appropriate professional experience. All programs emphasize technical and analytical aspects that require strong command of math and science. Key competencies that are needed depend on the student's academic goals and possible focus areas. Examples include:

Computer Engineering Technology courses expect students to already have competency in modern programming as well as basic electronics. Deficiencies may require additional preparation and course work. Modern programming using Java can be taken as a graduate course, TECH 6262, which can count toward the MS degree requirements. Basic electronics, however, may require preparation that includes completion of undergraduate course work that cannot be applied toward the MS semester hour requirement.

Similarly, a focus in Electronics Engineering Technology will require familiarity with electronics prior to enrollment in graduate classes.

Manufacturing Engineering Technology graduate courses expect a familiarity with industrial practices and operations. Course prerequisites are important, but may be fulfilled through experience or completion of appropriate 6000 level courses which may be applied to the MS semester hour requirement.

No more than 9 semester hours of 6000 level course work can be applied toward the MS degree semester-hour requirement.

C. Program Requirements

1. Non-thesis (Project) option: A minimum of 33 semester hours. Students selecting the non-thesis option must complete TECH 7991, Projects I. Projects require a proposal before permits can be issued. Proposals are to provide insight into the scope, depth, and extent of work and how the project relates to coursework that has been completed. Permits must be provided by a graduate faculty member for a section they agree to administer.

2. Thesis option: A minimum of 30 semester hours plus a minimum of 6 semester hours of thesis. Students must complete TECH 7996, Thesis, for six semester hours credit. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

3. Each student must complete the following core courses:
   1. Statistics: TECH 7015 or PRST 7600
   2. Technical writing: TECH 7020 or ENGL 7805 or ENGL 7808
   3. Leadership: TECH 7105 or METH 6381.

4. A minimum of 21 semester hours must be completed from graduate level courses in the Department of Engineering Technology. Courses taken in other colleges/departments, including those for core courses, cannot apply toward the specified minimum.

5. Students may elect to establish an area of emphasis, but this is optional. Courses in each of the three traditional emphasis areas include courses from more than one focal area. Suggested courses in each of the emphasis areas include but are not limited to:
2. Electronics: TECH 6281, 6823, 7263, 7273, 7801, 7822, 7831, 7841.

6. Students are encouraged to develop a plan that includes courses outside the department for a more cross-functional academic experience. While prior permission is required, electives can be selected from other departments in Herff College of Engineering and the Fogelman College of Business and Economics or the Department of Computer Science. Acceptable courses depend upon student-selected emphasis area as well as relevance to the student's academic and professional interest. Examples include the following courses by areas of emphasis:

1. Computer Engineering Technology:
   1. COMP 6262, Programming Unix
   2. MIS 7605, Business Data Base Management
   3. COMP 7120, Cryptography/Data Security
   4. COMP 7125, Computer Forensics
   5. COMP 7150 Method/Comp Applications

2. Manufacturing Engineering Technology
   1. ACCT 7110, Accounting for Decision Making
   2. SCMS 7080, Principles of Production and Operations
   3. SCMS 7310, Seminar in Production Operations Management

8. No more than 9 semester hours of 6000-level courses will count toward the degree. Students cannot receive credit towards graduation for a 6000 level course if they had completed the 4000 cognate of that same course. E.g.: You cannot use TECH 6381 Supervision if you have already completed TECH 4381.

9. Candidates for the degree must average a 3.0 in all Technology courses.

10. Candidates for the degree must pass a comprehensive examination.
   1. Comprehensive examinations may be taken by students in good standing during the term in which core and concentration course work are completed. Exams are not given for TECH 7991, 7992, or 7993.
   2. The comprehensive written examination will be administered Monday of the tenth week of classes during the fall and spring semesters.
   3. A follow-up oral examination is optional with the examining committee.

11. Graduate assistantships will not be awarded to students enrolled in TECH 7993, Internship, unless the combined hours of student work is fewer than 20 hours per week.

III. Graduate Certificate in Applied Lean Leadership

A. Program Admission

Students must have completed a bachelor's degree with a cumulate grade point average of at least 2.5 and apply for admission to the Graduate School with the classification of "Graduate Certificate." To apply students must submit:

1. Transcripts of undergraduate degree program and any prior graduate study to Graduate Admissions;
2. A letter describing their intent to pursue the certificate and its relevance to their career goals to the
Graduate Coordinator for the Department of Engineering Technology;

3. When seeking to waive a course prerequisite, two professional letters of recommendation describing pertinent work experience must be sent to the Graduate Coordinator for the Department of Engineering Technology.

B. Program Requirements

Completion of 12 semester hours distributed as follows:

1. Required courses: Total 6 credits
   - TECH 7105, Project Planning and Scheduling
   - TECH 7401*, Advanced Lean Concepts and Practice
   *Course prerequisites will be waived for students who have demonstrated relevant work experience
2. Electives: 6 credit hours chosen from the following:
   - TECH 7402*, Adv Quality Control
   - TECH 7404*, World-Class Manufacturing
   - TECH 7406*, Materials Handling and Automation
   - TECH 7408, Production Processes
   - TECH 7414*, Manufacturing Strategy and System Design
   *Course prerequisites will be waived for students who have demonstrated relevant work experience

Students may enroll in up to two electives from the Fogelman College of Business and Economics. Selection of the two business electives must be approved by the student's academic advisor and the Associate Dean of the Fogelman College.

A maximum of 9 credit hours of the certificate program may be shared with a master's program.

3. Graduation:
   1. Students must file and "Apply to Graduate" with the Graduate School at the beginning of the semester in which they will complete their 12-semester-hour requirement.
   2. A minimum grade of "B" in each course applicable to the certificate and a minimum overall GPA of 3.0 is required.
   3. Students must also submit a Candidacy Form to the Engineering Technology Graduate Coordinator in order to verify information and collect approvals and signatures required for the Graduate School.

Click here for course descriptions
2015-2016 Academic Calendar
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Mechanical Engineering

SUMANTA ACHARYA, PhD
I. The department of Mechanical Engineering offers a graduate program leading to the Master of Science degree with a major in Mechanical Engineering.

Program objectives are: (1) ability to apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems; (2) meet or exceed the needs and expectations of public and private sector employers for MS graduates; and (3) preparation to pursue additional advanced studies if so desired.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) and the program requirements of the degree being pursued.

II. MS Degree Program

A. Program Admission

The Herff College of Engineering has established uniform admission criteria that identify the pool of master's level applicants from which the department evaluates and recommends qualified applicants to be admitted.

B. Program Requirements

A more detailed description of the information listed below will be given by the Coordinator of Graduate Studies to students admitted into the Mechanical Engineering MS program.

1. Thesis Option: Successful completion of 30 semester hours to include 6 hours in MECH 7996 for thesis and 3 hours each in MECH 7341 and 7342. Of the remaining 18 hours, no more than 9 hours of 6000-level MECH courses or collateral courses may be used in satisfying degree requirements. Only courses in mathematics, the physical sciences, or another engineering discipline may serve as collateral courses; each course must receive prior approval by the departmental graduate coordinator.
for it to be used in satisfying degree requirements. With prior approval, up to 3 hours of 7000-level collateral courses may be used in satisfying degree requirements.

2. Non-Thesis Option: Successful completion of 33 semester hours total to include 3 hours each in MECH 7341 and 7342. Of the remaining 27 hours, no more than 9 hours in 6000 level MECH or collateral courses may be used in satisfying degree requirements. Only courses in mathematics, the physical sciences, or another engineering discipline may serve as collateral courses; each course must receive prior approval by the departmental graduate coordinator for it to be used in satisfying degree requirements. With prior approval, up to 3 hours of 7000-level collateral courses may be used in satisfying degree requirements. With prior approval, up to 3 hours of MECH 7992 may be used in satisfying degree requirements.

3. The department's graduate coordinator may approve transfer credit of up to 12 credit hours previously earned at another institution. For these hours to be used in satisfying degree requirements, appropriate documentation must be provided by the student, and approval granted, not later than the end of the student’s second semester of enrollment.

4. Students selecting the thesis option will be required to complete an independent research project culminating in a masters thesis. Upon completion of the thesis, the student must successfully pass an oral examination to assess mastery of the thesis topic and to evaluate the student’s knowledge in mechanical engineering. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write.

5. Students selecting the non-thesis option must pass an oral comprehensive examination to demonstrate mastery of mechanical engineering topics commensurate with the degree to be awarded.

6. Graduate Assistants must enroll for at least 12 credit hours per semester. A limited number of graduate assistantships are available; contact the departmental graduate coordinator for applications.

7. Students who wish to take mechanical engineering courses must receive approval to register after consultation with the departmental graduate coordinator or with the faculty advisory committee.

C. Retention Policy
A student must maintain a GPA of 3.00 or higher throughout the program. If a student's GPA is below 3.0, that student will be on probation during the following semester. Failure to improve the GPA above 3.0 by the end of the probationary semester will result in dismissal from the program.

D. Graduation Requirements

Refer to "Minimum Degree Requirements--Masters Degrees" for University graduation requirements.

III. PhD Degree Program

See the beginning of the College section for admission, retention, program objectives, and graduation requirements. Note that all doctoral students must take MECH 8341 and MECH 8342. A more detailed description of the information will be given by the Coordinator of Graduate Studies to students admitted into the Mechanical Engineering concentration.

IV. Graduate Certificate in Packaging Engineering
The objectives of the certificate program are: (1). For local practitioners in the packaging and distribution industry to refine their knowledge in packaging engineering, (2). For other professionals with no prior packaging knowledge to look for a career change, (3). For current full time graduate students to expand their engineering knowledge or specialize their skills in packaging, and (4). For students with an undergraduate degree for a transition into graduate school.

A. Admissions Requirements

The certificate program in packaging engineering can be pursued concurrently with other graduate programs at the university. Applicants must have completed a bachelor’s degree with a cumulative grade point average of at least 2.5 and satisfy admission requirements of the Graduate School with the classification of “Graduate Certificate.” To apply for admission, the applicant must submit:

1. Transcripts of undergraduate degree program and any prior graduate study to Graduate Admissions;
2. A letter describing intent to pursue the certificate and its relevance to career goals to the Graduate Coordinator, Department of Mechanical Engineering;
3. Two letters of recommendation describing pertinent professional work experience when seeking to waive a course prerequisite to the Graduate Coordinator, Department of Mechanical Engineering.

B. Program Requirements

Successful completion of 9 hours of graduate credits distributed as follows, maintaining a GPA of at least 3.0 and completing the program within three academic years,

1. Required courses, 6 hours:
   MECH 6342, Introduction to Packaging Engineering
   MECH 7391, Packaging Dynamics/Distribution Packaging
2. Research Project, 3 hours, registered under one of the listed courses and with approval of the program director:
   MECH 7990, Engineering Practicum;
   MECH 7992, Research Project;
   MECH 7994, Independent Study, with a grade of B or better.

All 9 credit hours may be shared with a Master’s program in the Department of Mechanical Engineering upon the approval of the Advisory Committee.

C. Graduation Requirements:

1. Student must file “Apply to Graduate” with Graduate School at beginning of the semester in which he/she will complete the 9-semester hour requirement;
2. A minimum grade of “B” or “S” in each course applicable to the certificate is required;
Student must also submit a Candidacy Form to the Mechanical Engineering Graduate Coordinator in order to verify information and collect approvals and signatures required for the Graduate School.

V. Accelerated B.S.M.E./M.S. Program in Mechanical Engineering

This program allows outstanding undergraduates to begin the coursework for the Master of Science in Mechanical Engineering during their senior year. Students are encouraged to begin planning to enter the Accelerated B.S.M.E./M.S. program early in their undergraduate career, in consultation with their advisor in the Department of Mechanical Engineering.

Working with the undergraduate and graduate academic coordinators, undergraduates selected into this program begin a carefully tailored course of study which will allow them to complete their B.S.M.E. degree while they also begin the coursework toward their M.S.

To apply, students must have a minimum 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the Mechanical Engineering department. Each applicant will complete an interview with the graduate academic coordinator in mechanical engineering.

Students must also apply to the Graduate School for the accelerated B.S.M.E./M.S. program, which allows them to take graduate courses in mechanical engineering. To continue in the program past the B.S.M.E., students must apply for full admission into the Graduate School and into the Mechanical Engineering department's M.S. program.

Only in ABM programs, up to 9 hours of graduate course work may be applied to both the undergraduate and graduate programs. However, any graduate coursework will not apply to undergraduate GPA.

Click here for course descriptions
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I. The Loewenberg School of Nursing offers graduate programs leading to the Master of Science in Nursing with concentrations in (1) Nursing Administration, (2) Nursing Education, (3) Advanced Practice Nursing (Family Nurse Practitioner), 4) Nursing Informatics, and 5) Executive Leadership. A post-baccalaureate certificate is offered in Healthcare Informatics Leadership. A post-master's certificate is offered in the areas of Advanced Practice Nursing (Family Nurse Practitioner), Nursing Administration, Nursing Education, and Nursing Informatics.

In addition, the Master of Science in Nursing (MSN) degree is offered through the Regents Online Campus Collaborative (ROCC) and is delivered following the standard protocol established for the delivery of ROCC courses and programs. The program includes four concentrations: Nursing Education, Nursing Administration, Nursing Informatics, and Family Nurse Practitioner. The MSN Program Outcomes are as follows:

The MSN program prepares the graduate to:

1. Integrate knowledge and theories from nursing and related disciplines into advanced nursing practice roles.
2. Translate best research evidence, informatics, and technologies into advanced nursing practice to improve health and provide safe, high quality, cost-effective care to diverse populations.
3. Practice advanced nursing independently and collaboratively with healthcare teams to address complex situations and coordinate care.
4. Employ advocacy strategies from an advanced practice perspective to shape policy that influences health and healthcare.

Students may not enroll for courses as graduate non-degree except by permission of the instructor and with approval of the Director of Graduate Studies.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MSN Degree
A. Admission

Because the University seeks to provide in as much as possible a reasonably safe environment for its health career students and their patients, students may be required during the course of the program to demonstrate their physical and/or emotional fitness to meet the essential requirements of the program. Such essential requirements include freedom from communicable diseases, the ability to perform certain physical tasks, and suitable emotional fitness. Any appraisal measures used to determine such physical and/or emotional fitness will be in compliance with Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990, so as not to discriminate against any individual on the basis of disability.

Core performance standards for admission and progression:

1. Critical thinking ability sufficient for clinical judgment.
2. Interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds.
3. Communication abilities sufficient for interaction with others in verbal and written form.
4. Physical abilities sufficient to move from room to room and maneuver in small spaces.
5. Gross and fine motor abilities sufficient to provide safe and effective nursing care.
6. Auditory ability sufficient to monitor and assess health needs.
8. Tactile ability sufficient for physical assessment.

Admission Requirements

Admission to both the Graduate School and the Loewenberg School of Nursing is required. Admission to the program will be based on competitive selection from the pool of applicants. Multiple criteria will be used when considering applicant admission including, but not limited to, letter of interest, undergraduate and graduate grade point averages, professional experience, applicant interview, and letters of recommendation.

1. Admission Requirements for MSN Applicants:
   1. Admission to the University of Memphis Graduate School
   2. Admission to the Loewenberg School of Nursing graduate nursing program.
   3. An undergraduate minimum cumulative grade point average of 2.8 on a 4.0 scale.
   4. Letter of interest which discusses prior professional experience, future career goals, and reasons for pursuing graduate study.
   5. Letters of recommendation from three persons qualified and familiar to judge the applicant's academic and professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.
   6. Interview with LSON graduate faculty if requested by Admissions Committee.
   7. Submission of current professional resume
   8. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score: paper based 550 or greater; internet based 79; or 213 computer
9. Eligibility to practice as a Registered Nurse in Tennessee or the state in which the clinical assignments are completed. Appropriate licensure/authorization must be obtained during the first semester following admission to the program.
10. Students transferring from another graduate nursing program must submit a letter of good standing and transcript from the dean/director of the previous nursing program.
11. The standardized admission test is successful completion of the NCLEX licensing examination.
12. Successful completion of 3 semester hour or 4 quarter hour undergraduate statistics course.

2. Admission Requirements for individuals with a BSN Degree
   1. Completion of BSN
   2. An unrestricted registered nursing license to practice in Tennessee or license to practice in the state in which clinical assignments are to be completed.

3. Admission Requirements for Registered Nurse Applicants with a BA/BS non-nursing major
   1. An unrestricted registered nursing license to practice in Tennessee or license to practice in the state in which clinical assignments are to be completed.
   2. Completion of a 12-unit RN/MSN nursing bridge sequence. RN/MSN graduates will not be awarded the BSN degree.

4. Students admitted to MSN program, post baccalaureate certificate program, or post master's certificate programs must have and maintain while in the program:
   1. An unrestricted license to practice as a registered nurse in Tennessee or license to practice in the state in which clinical assignments are to be completed
   2. Current CPR certification
   3. Evidence of Heptavax, MMR, polio, and tetanus vaccination
   4. Rubella and varicella titers
   5. Freedom from tuberculosis as evidenced by a negative PPD or health provider examination
   6. Evidence of current professional malpractice insurance in the amount of $1,000,000 per occurrence and $6,000,000 in the aggregate.

B. MSN Program Requirements- Students enrolled in the MSN program must complete 36-46 semester hours (based on concentration area) with the minimum overall grade point average of 3.0.

1. Nursing Administration Concentration (36 credit hours)

The Masters of Science in Nursing (MSN) with a concentration in Nursing Administration prepares nurses for leadership, management and executive positions in health care system settings. The Nursing Administration program integrates nursing, business and management, leadership, and healthcare principles to prepare nurses in this concentration.

1. Core Curriculum (credit hours in parentheses)
   1. NURS 7001 Healthcare Policy (3)
   2. NURS 7002 Advanced Nursing Research (3)
   3. NURS 7990 Scholarly Synthesis (3)

2. Nursing Administration Concentration Required Courses
   1. NURS 7000 Theoretical Foundations for Advanced Practice (3)
2. NURS 7003 Advanced Role Development (3)
3. NURS 7301 Nursing Administration I (3)
4. NURS 7302 Nursing Administration II (3)
5. NURS 7305 Quality Management (3)
6. Students must select one of the following course combinations:
   1. ACCT 7000 Fundamentals of Accounting (3) and ACCT 7010 Accounting Decision Making (3) or
   2. ACCT 7000 Fundamentals of Accounting (3) and NURS 7332 Resource Allocation in Nursing (3) or
   3. NURS 7303 Healthcare Finance (3) and NURS 7304 Human Resource Management (3)
7. NURS 7307 Nursing Management Practicum (2) (120 clock hours)
8. NURS 7309 Administrative Residency (4) (240 clock hours)

2. Nursing Education Concentration

The MSN with a concentration in Nursing Education prepares the student as a nurse educator to teach in schools of nursing programs and in various health care system settings. Among their course of study, students will learn about nursing and educational theories, learning strategies, curricular development, program planning and evaluation, and develop skills in different teaching methodologies.

1. Core Curriculum (credit hours in parentheses)
   1. NURS 7001 Healthcare Policy (3)
   2. NURS 7002 Advanced Nursing Research (3)
   3. NURS 7990 Scholarly Synthesis (3)

2. Nursing Education Concentration Required Courses:
   1. NURS 7000 Theoretical Foundations for Advanced Practice (3)
   2. NURS 7003 Advanced Role Development (3)
   3. NURS 7103 Advanced Pathophysiology (3)
   4. NURS 7101 Advanced Health Assessment(3)
   5. NURS 7102 Advanced Health Assessment-Clinical (1)
   6. NURS 7104 Advanced Pharmacology (3)
   7. NURS 7204 Curriculum Design and Education Theory (3)
   8. NURS 7205 Evaluation in Nursing Education (3)
   9. One of the following clinical focus courses:
      1. NURS 7505 Adult Health Nursing (3)
      2. NURS 7525 Critical Care (3)
      3. NURS 7635 Pediatric Nursing (3)
      4. NURS 7515 Psych-Mental Health (3)
      5. NURS 7545 Women's Health & Perinatal Nursing (3)
   10. NURS 7207 Clinical Focus Practicum (2) (120 clock hours)
   11. NURS 7209 Education Residency (4) (240 clock hours)

3. Family Nurse Practitioner Concentration
The MSN with a concentration in Advanced Practice Nursing (Family Nurse Practitioner) prepares advanced practice nurses who deliver primary health care to all ages; individuals and families throughout the lifespan and across the health continuum. Among their course of study, students will be provided with knowledge and clinical skills necessary for health promotion, disease prevention, assessment, and management of common acute and chronic illnesses.

1. Core Curriculum (credit hours in parentheses)
   1. NURS 7001 Healthcare Policy (3)
   2. NURS 7002 Advanced Nursing Research (3)
   3. NURS 7990 Scholarly Synthesis (3)

2. Family Nurse Practitioner Concentration Required Courses
   1. NURS 7000 Theoretical Foundations for Advanced Practice (3)
   2. NURS 7003 Advanced Role Development (3)
   3. NURS 7101/02 Advanced Health Assessment (3)/Advanced Health Assessment Clinic (1)
   4. NURS 7103 Advanced Pathophysiology (3)
   5. NURS 7104 Advanced Pharmacology (3)
   6. NURS 7601/7602 Family Nurse Practitioner I (3)/ Family Nurse Practitioner I Clinic (2) (120 clock hours)
   7. NURS 7603/7604 Family Nurse Practitioner II (3)/ Family Nurse Practitioner II Clinic (4) (240 clock hours)
   8. NURS 7605/7606 Family Nurse Practitioner III (3)/ Family Nurse Practitioner III Clinic (2) (120 clock hours)
   9. NURS 7609 Advanced Practice Residency (4) (240 clock hours)

4. Nursing Informatics (No admissions for 2015-2016)

The Masters of Science, Family in Nursing Informatics prepares students to be nursing informatics specialists. The nursing informatics program integrates nursing science, computer science and information science and is designed to assist in the management and processing of nursing data, information and knowledge to support the practice of nursing and the delivery of nursing.

1. Core Curriculum (credit hours in parentheses)
   1. NURS 7001 Healthcare Policy (3)
   2. NURS 7002 Advanced Nursing Research (3)
   3. NURS 7990 Scholarly Synthesis (3)

2. Nursing Informatics Concentration Required Courses
   1. NURS 7000 Theoretical Foundations for Advanced Practice (3)
   2. NURS 7003 Advanced Role Development (3)
   3. NURS 7401 Informatics & Information Management (3)
   4. NURS 7402 Health Care Information Systems (3)
   5. NURS 7403 Analysis & Design of Health Care Information Systems (3)
   6. NURS 7404 Evaluation of Health Care Information Systems (3)
   7. NURS 7406 Health Care Data Analysis Techniques (3)
8. NURS 7407 Informatics Applications (2)
9. NURS 7409 Informatics Applications (2)
10. NURS 7410 Informatics Practicum (4) (240 clock hours)

5. Executive Leadership (Executive MSN)

The Executive MSN program prepares nurses for management and executive nursing positions in various health care setting systems. The Executive Leadership MSN program is based upon well founded principles, including the American Nurse Credentialing Center (ANCC) Magnet® Recognition Program 5 Model Components. The American Organization of Nurse Executive (AONE) Competencies, the Robert Wood Johnson Foundation (RWJF)Executive Nurse Fellows Program, and the American Association of Colleges of Nursing (AACN) Essentials of Master's Education in Nursing. The program is an academic partner of the ANCC Magnet® Recognition Program.

1. Core Curriculum (credit hours in parentheses)
   1. NURS 7001 Healthcare Policy (3)
   2. NURS 7002 Advanced Nursing Research (3)
   3. NURS 7990 Scholarly Synthesis (3)

2. Executive Leadership Concentration Required Courses
   1. NURS 7007 Advanced Role Development for Nurse Executives (3)
   2. NURS 7901 Relationship Building for the Nurse Executive (3)
   3. NURS 7903 Accountability and Advocacy for Nurse Executives (3)
   4. ACCT 7080 Financial/Managerial Account Managers(3)
   5. NURS 7303 Health Care Finance (3)
   6. NURS 7904 Financial Management and Resource Allocation for Patient Care (3)
   7. NURS 7905 Improving Patient Care Delivery (3)
   8. NURS 7907 Evidence Based Leadership Practices (3)
   9. NURS 7909 Nurse Executive Practicum (4) (240 clock hours)

C. Progression and Retention Requirements

1. Students in the Loewenberg School of Nursing graduate program must comply with all retention standards of the University of Memphis Graduate School.

2. Graduate students must maintain a 3.0 GPA ("B"). Grades of "D" and "F" will not apply toward any graduate degree, but will be computed in the GPA. No more than 7 hours of "C-", "C," or "C+" will be applied towards meeting degree requirements.

3. The grade "I" (Incomplete) may be assigned by the faculty member in any course in which the student is unable to complete the work due to extraordinary events beyond the individual's control that are acceptable to the faculty member. The "I" may not be used to extend the term for students who complete the course with an unsatisfactory grade. Unless the student completes the requirements for removal of the "I" within 90 days from the end of the semester or summer session in which it was received (see University Calendar), the "I" will change to an "F," whether or not the student is enrolled. The faculty member may grant up to a 45-day extension if sufficient extenuating circumstances exist. At the end of the extension period, the "I" grade will automatically revert to "F" if the student has not
completed the requirements. The student will be certified for graduation only when all requirements are met, including the removal of "I" grades. If a student has an "I" in a course necessary to fulfill degree requirements in the semester in which he or she expects to graduate, the certification process and graduation will automatically be deferred to the next term.

4. Academic disqualification from the graduate nursing major will occur when the student:
   1. fails to maintain a 3.0 GPA in graduate school.
   2. fails to earn a grade of "B" (3.0) or better when repeating a course.
   3. willfully misrepresents patient data or clinical practice.
   4. willfully places any patient in physical or emotional jeopardy.
   5. is placed on probation by the Tennessee Board of Nursing.
   6. fails to disclose a felony conviction.
   7. fails to disclose disciplinary action or diversion by the Tennessee Board of Nursing.
   8. fails to complete all degree requirements within five years of entering graduate nursing coursework.

5. Before being recommended for graduation, every candidate for the master's degree in nursing is required to either pass a final comprehensive examination or complete the oral defense of a thesis. The written examination will place emphasis on the student's area of concentration and will be administered by selected nursing faculty each semester. The candidate must be registered in the semester the comprehensive exam is taken.

6. When the student elects to complete a thesis, the candidate must enroll for thesis credit each semester until the thesis is completed. Students must register for thesis credit in the semester in which they defend.

7. Family Nurse Practitioner students must complete a minimum of 500 clock hours to meet the academic and practicum requirement for national certification.

8. All requirements for the MSN degree must be completed in 5 calendar years.

III. Family Nurse Practitioner (FNP) Post-Master's Certificate - The Family Nurse Practitioner (FNP) Certificate program provides a formal program of study for master's-prepared nurses interested in taking the national certification exam to practice as a Family Nurse Practitioner. To be eligible to take the national certification exam students must "successfully complete graduate didactic and clinical requirements of a master's nurse practitioner program through a formal graduate-level certificate or Master's level NP program in the desired area of practice." The FNP Certificate program offers a formal program of study to meet this need for students who already have the Master of Science in Nursing degree without requiring a second master's degree.

1. Prerequisites-The following prerequisite courses must be completed at the master's level with a grade of "B" or better prior to admission.
   1. Advanced Health Assessment, (3 semester hours)
   2. Advanced Health Assessment, Clinical or Lab (1 semester hour)
   3. Advanced Pathophysiology, (3 semester hours)
   4. Advanced Pharmacology, (3 semester hours)

2. Program Admission
   Admission to the program is based on competitive selection from the pool of applicants who meet the College of Graduate Studies admission requirements.
Additional admission requirements for the Family Nurse Practitioner Certificate Program include:

1. A Master's degree in nursing from an accredited program (NLNAC or CCNE).
2. Satisfactory completion (B or better) of the following courses at the Master's level:
   1. Advanced Health Assessment: 3 semester hours
   2. Advanced Health Assessment - Clinical or lab: 1 semester hour
   3. Advanced Pathophysiology: 3 semester hours
   4. Advanced Pharmacology: 3 semester hours
3. Eligibility to practice as a Registered Nurse in Tennessee or the state in which clinical assignments are completed. Appropriate licensure/authorization must be obtained prior to the start of the program.
4. Overall G.P.A. of 3.0 on a 4.0 scale
5. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
6. A written document prepared by the applicant that includes a resume, a discussion of prior professional experience, future career goals, and reasons for pursuing graduate study.
7. Letters of recommendation from at least three persons familiar with the applicant's academic and professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.

3. Program Requirements (21 credit hours total)
   1. NURS 7601/7602 Family Nurse Practitioner I (3)/Clinic (2) (120 clock hours)
   2. NURS 7603/7604 Family Nurse Practitioner II (3)/Clinic (4) (240 clock hours)
   3. NURS 7605/7606 Family Nurse Practitioner III (3)/Clinic (2) (120 clock hours)
   4. NURS 7609 Advanced Practice Residency (4) (240 clock hours)

4. Retention
   Retention requirements are the same as for the MSN degree. All requirements for the post master certificate must be completed in 5 calendar years

IV. Nursing Education Post-Master's Certificate

The Nursing Education Certificate program provides a formal program of study for masters prepared nurses interested in obtaining a credential allowing them to teach in School of Nursing. The program provides them with content necessary to teach nursing students in a specific area of nursing. Once students complete the certificate, they would be eligible to sit for the national certification exam in this area.

A. Prerequisites -The following prerequisite courses must be completed at the master's level with a grade of "B" or better prior to admission.

   1. Advanced Health Assessment, (3 credit hours)
   2. Advanced Health Assessment, Clinical or Lab (4 credit hours)
   3. Advanced Pathophysiology, (3 credit hours)
   4. Advanced Pharmacology, (3 credit hours)

B. Program Admission
Admission to the program is based on competitive selection from the pool of applicants who meet the College of Graduate Studies admission requirements.

Additional admission requirements for the Nursing Education Post Masters Certificate Program include:

1. A Master's degree in nursing from an accredited program (NLNAC or CCNE).
2. Satisfactory completion (B or better) of the following courses at the Master's level:
   1. Advanced Health Assessment : 3 semester hours
   2. Advanced Health Assessment - Clinical or lab : 1 semester hour
   3. Advanced Pathophysiology : 3 semester hours
   4. Advanced Pharmacology : 3 semester hours
3. Eligibility to practice as a Registered Nurse in Tennessee or the state in which clinical assignments are completed. Appropriate licensure/authorization must be obtained during the first semester following admission to the program.
4. Overall G.P.A. of 3.0 on a 4.0 scale
5. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
6. A written document prepared by the applicant that includes a resume, a discussion of prior professional experience, future career goals, and reasons for pursuing graduate study.
7. Letters of recommendation from at least three persons familiar with the applicant's academic and/or professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.

C. Program Requirements (15 credit hours total)

1. NURS 7204 Curriculum Design And Education Theory (3)
2. NURS 7205 Evaluation in Nursing Education(3)
3. NURS 7207 Clinical Focus Practicum(2)
4. NURS 7209 Nursing Education Practicum(4)
5. One course from the following:
   1. NURS 7505 Adult Health Nursing(3)
   2. NURS 7525 Critical Care(3)
   3. NURS 7635 Pediatric Nursing(3)
   4. NURS 7515 Psych-Mental Health (3)
   5. NURS 7545 Women's Health & Perinatal Nursing (3)

D. Retention

Retention requirements are the same as for the MSN degree. All requirements for the post master certificate must be completed in 5 calendar years.

V. Nursing Administration Post-Master's Certificate

The Post Master's Certificate in Nursing Administration provides a formal program of study for students who hold a
Master of Science in Nursing degree in another specialty. The program provides them with content that provides a strong foundation in complex systems, organizational theory, financial management, and leadership practice.

A. Program Admission
Admission to the program is based on competitive selection from the pool of applicants who meet the College of Graduate Studies admission requirements.

Additional admission requirements for the Nursing Administration Post-Master's Certificate Program include:

1. A Master's degree in nursing from an accredited program (NLNAC or CCNE).
2. Eligibility to practice as a Registered Nurse in Tennessee or the state in which clinical assignments are completed. Appropriate licensure/authorization must be obtained during the first semester following admission to the program.
3. Overall G.P.A. of 3.0 on a 4.0 scale
4. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
5. A written document prepared by the applicant that includes a resume, a discussion of prior professional experience, future career goals, and reasons for pursuing graduate study.
6. Letters of recommendation from at least three persons (a minimum of one academic) familiar with the applicant's academic and professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.

B. Program Requirement (21 credit hours total)

1. NURS 7301 Nursing Administration I (3)
2. NURS 7302 Nursing Administration II (3)
3. NURS 7303 Health Care Finance (3)
4. NURS 7304 Human Resources Management (3)
5. NURS 7305 Quality Management in Nursing & Health Care (3)
6. NURS 7307 Nursing Management Practicum (3) (120 contact hours)
7. NURS 7309 Nursing Administration Practicum (4)

C. Retention
Retention requirements are the same as for the MSN degree. All requirements for the post master certificate must be completed in 5 calendar year

VI. Nursing Informatics Post-Master's Certificate (No admissions for 2015-2016)

Nursing informatics integrates information science, computer science and more. A Master's prepared nurse who engages in nursing informatics is an informatics nurse specialist. Nurses with a specialty in informatics identify, collect, process and manage data and information to support nursing practice, administration, education, research, and the expansion of nursing knowledge. The Nursing Informatics Post-Master's Certificate program provides a
formal program of study for masters prepared nurses interested in obtaining a certificate in Nursing Informatics.

A. Program Admission

Admission to the program is based on competitive selection from the pool of applicants who meet the College of Graduate Studies admission requirements.

Additional admission requirements for the Nursing Informatics Post Masters Certificate Program include:

1. A Master's degree in nursing from an accredited program (NLNAC or CCNE).
2. Eligibility to practice as a Registered Nurse in Tennessee or the state in which clinical assignments are completed. Appropriate licensure/authorization must be obtained during the first semester following admission to the program.
3. Overall G.P.A. of 3.0 on a 4.0 scale
4. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
5. A written document prepared by the applicant that includes a resume, a discussion of prior professional experience, future career goals, and reasons for pursuing graduate study.
6. Letters of recommendation from at least three persons (a minimum of one academic) familiar with the applicant's academic and professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.

B. Program Requirements (23 credit hours total)

1. NURS 7401 Informatics and Information Management (3)
2. NURS 7402 Healthcare Information Systems & Technology Integration (3)
3. NURS 7403 Analysis and Design of Health Care Information Systems (3)
4. NURS 7404 Implementation and Evaluation of Health Care Information Systems (3)
5. NURS 7406 Healthcare Data Analysis (3)
6. NURS 7407 Informatics Application I (2)
7. NURS 7409 Informatics Application II (2)
8. NURS 7410 Informatics Practicum (4)

C. Retention

Retention requirements are the same as for the MSN degree. All requirements for the post master certificate must be completed in 5 calendar years.

VII. Graduate Certificate (post baccalaureate) in Healthcare Informatics Leadership

The purpose of this interdisciplinary post baccalaureate certificate is twofold: to provide education training to individuals who are presently working in the area of healthcare information technology; and/or prepare a workforce
of individuals to meet the industry’s movement towards electronic healthcare documentation. Based on the Bureau of Labor Statistics, employment in medical and health informatics is expected to increase by 16 percent through the year 2016. That’s faster than the average for all occupations in the United States. Therefore, the Loewenberg School of Nursing and School of Public Health have collaborated to design and provide a course of study that prepares this unique group of professionals.

A. Program Admission:

Admission to the program will be based on competitive selection from the pool of applicants. Students must:

1. Complete admission to The University of Memphis and Loewenberg School of Nursing or School of Public Health
2. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
3. A minimum of a BSN or BS/BA in a related healthcare field with a cumulative GPA 2.8 on a 4.0 point scale.

B. Program Requirements:

Completion of 18 semester hours distributed as follows:

Required courses:

- NURS/HADM 7401, Informatics and Information Management (3)
- HADM 7110, Health Management Leadership (3)
- NURS/HADM 7402, Healthcare Information Systems and Technology Integration (3)
- NURS/HADM 7403, Analysis and Design of Healthcare Information Systems (3)
- NURS/HADM 7404, Evaluation and Implementation of Healthcare Information Systems (3)
- NURS/HADM 7406, Healthcare Data Analysis (3)

C. Graduation Requirements:

1. The student must complete all six required courses with an average grade of B (3.0) or higher.
2. All courses towards certification must be completed within 5 years.

In the semester of graduation, the student must submit the Apply to Graduate form to the Graduate School and a Graduate Certificate Candidacy form to the College Director of Graduate Studies by the deadline specified by the Graduate School.

VIII. Master of Science in Nursing (M.S.N.) Regents Online Campus Collaborative (ROCC)

The Master of Science in Nursing (MSN) degree is offered through the Regents Online Campus Collaborative (ROCC), a collaborative effort among Colleges and Schools for Nursing in the Tennessee Board of Regents system to educate and fill nursing shortages in the healthcare industry. This program and courses are delivered
following the standard protocol established for the delivery of ROCC courses and programs. The program includes four concentrations: Nursing Education, Nursing Administration, Nursing Informatics, and Family Nurse Practitioner. Courses are offered each semester (fall, spring, and summer) through all six Tennessee Board of Regents universities. The program requires completion of 34-46 semester credit hours depending on the concentration. For more information, please visit http://www.org/degree-programs-courses/masters/masters-science-nursing-.

A. Program Admission Requirements

All candidates must apply to the Regents Online Campus Collaborative (ROCC) and deemed eligible before applying to the home school (University of Memphis). Applicants MUST wait for notification of eligibility and designation of the University of Memphis as the home campus assignment before applying to the Graduate Division and Loewenberg School of Nursing at the University of Memphis. The ROCC application can be found at the ROCC homepage (www.rodp.org).

Admission to the program will be based on competitive selection from the pool of applicants who meet the the Graduate Division admission requirements from the designated home school. Additional admission requirements for the Master of Science in Nursing Regents Online Degree Program include:

1. Admission to the University of Memphis Graduate School
2. Admission to the Loewenberg School of Nursing graduate nursing program.
3. An undergraduate minimum cumulative grade point average of 3.0 on a 4.0 scale.
4. Letter of interest which discusses prior professional experience, future career goals, and reasons for pursuing graduate study.
5. Letters of recommendation from three persons familiar with the applicant's academic and professional background and experience in nursing practice, specifying in detail the applicant's capabilities for graduate study and for future practice as an advanced practice nurse.
6. Interview with LSON graduate faculty if requested by Admissions Committee.
7. Submission of current professional resume.
8. Applicants for whom English is not their primary language are required to meet the University’s minimum required TOEFL score: paper based 550; internet based 79; or computer based 213.
9. Eligibility to practice as a Registered Nurse in Tennessee or the state in which the clinical assignments are completed. Appropriate licensure/authorization must be obtained during the first semester following admission to the program.
10. Students transferring from another graduate nursing program must submit a letter of good standing and transcript from the dean/director of the previous nursing program.
11. The standardized admission test is successful completion of the NCLEX licensing examination.
12. Successful completion of a 3 semester hour or 4 quarter hour undergraduate statistics course.

B. Progression Standards - MSN-RODP

1. Students in graduate nursing programs must meet the same requirements of the University of Memphis Graduate Division and the Loewenberg School of Nursing MSN students. See “Progression
and Retention” above.

C. Degree Requirements

Students enrolled in the Nursing Administration specialty must satisfactorily complete 36 credit hours of coursework. Students in the Nursing Informatics specialty must complete 38 credit hours. Students in the Nursing Education specialty must complete 40 credit hours and students in the Advanced Practice specialty must complete 46 credit hours. Specific courses are required of students who plan to take a national certification examination. All students are required to pass a written comprehensive examination or satisfactorily complete culminating experience in the final semester of the program.

Courses are selected and approved in conjunction with the student’s advisor.

D. Concentrations

Students enrolled in the Master of Science in Nursing - Regents Online Degree Program (MSN-RODP) will complete courses as indicated for their selected concentration.

1. NURSING ADMINISTRATION CONCENTRATION

- NURS 7000 - Theoretical Foundations of Advanced Nursing Practice (3 credits)
- NURS 7001 - Health Care Policy (3 credits)
- NURS 7002 - Advanced Nursing Research (3 credits)
- NURS 7003 - Advanced Role Development (3 credits)
- NURS 7990 - Scholarly Synthesis (3 credits)
- NURS 7301 - Nursing Administration I (3 credits)
- NURS 7302 - Nursing Administration II (3 credits)
- NURS 7303 - Health Care Finance (3 credits)
- NURS 7304 - Human Resources Management (3 credits)
- NURS 7305 - Quality Management in Nursing and Health Care (3 credits)
- NURS 7307 - Nursing Management Practicum (2 credits)
- NURS 7309 - Nursing Administration Practicum (4 credits)

2. NURSING INFORMATICS CONCENTRATION

- NURS 7000 - Theoretical Foundations of Advanced Nursing Practice (3 credits)
- NURS 7001 - Health Care Policy (3 credits)
- NURS 7002 - Advanced Nursing Research (3 credits)
- NURS 7003 - Advanced Role Development (3 credits)
- NURS 7990 - Scholarly Synthesis (3 credits)
- NURS 7401 - Informatics and Information Management (3 credits)
- NURS 7402 - Health Care Information Systems (3 credits)
- NURS 7403 - Analysis and Design of Health Care Information Systems (3 credits)
• NURS 7404 - Evaluation of Health Care Information Systems (3 credits)
• NURS 7405 - Health Care Data Analysis Techniques (3 credits)
• NURS 7407 - Informatics Applications I (2 credits)
• NURS 7409 - Informatics Applications II (2 credits)
• NURS 7410 – Informatics Practicum (4 credits)

3. NURSING EDUCATION CONCENTRATION

• NURS 7000 - Theoretical Foundations of Advanced Nursing Practice (3 credits)
• NURS 7001 - Health Care Policy (3 credits)
• NURS 7002 - Advanced Nursing Research (3 credits)
• NURS 7003 - Advanced Role Development (3 credits)
• NURS 7990 - Scholarly Synthesis (3 credits)
• NURS 7101 - Advanced Health Assessment (3 credits)
• NURS 7102 - Advanced Health Assessment Clinical (1 credit)
• NURS 7103 - Advanced Pathophysiology (3 credits)
• NURS 7104 - Advanced Clinical Pharmacology (3 credits)
• NURS 7204 - Curriculum Design and Educational Theory (3 credits)
• NURS 7205 - Evaluation Methods of Nursing Education (3 credits)
• NURS 7207 Clinical Focus Practicum (2 credits)
• NURS 7209 – Nursing Education Practicum (4 credits)

Choose one course from the following 3 credit hour courses:

• NURS 7505 - Advanced Adult Health Nursing (3 credits)
• NURS 7515 - Advanced Psychiatric/Mental Health Nursing (3 credits)
• NURS 7525 - Advanced Critical Care Nursing (3 credits)
• NURS 7545 - Advanced Women’s Health and Perinatal Nursing (3 credits)
• NURS 7635 - Advanced Pediatric Nursing (3 credits)

4. FAMILY NURSE PRACTITIONER CONCENTRATION

• NURS 7000 - Theoretical Foundations of Advanced Nursing Practice (3 credits)
• NURS 7001 - Health Care Policy (3 credits)
• NURS 7002 - Advanced Nursing Research (3 credits)
• NURS 7003 - Advanced Role Development (3 credits)
• NURS 7990 - Scholarly Synthesis (3 credits)
• NURS 7101 - Advanced Health Assessment (3 credits)
• NURS 7102 - Advanced Health Assessment Clinical (1 credit)
• NURS 7103 - Advanced Pathophysiology (3 credits)
• NURS 7104 - Advanced Clinical Pharmacology (3 credits)
• NURS 7601 - Family Nurse Practitioner I (3 credits)
• NURS 7602 - Family Nurse Practitioner I Clinical (2 credits)
• NURS 7603 - Family Nurse Practitioner II (3 credits)
• NURS 7604 - Family Nurse Practitioner II – Clinical (4 credits)
- NURS 7605 - Family Nurse Practitioner III (3 credits)
- NURS 7606 - Family Nurse Practitioner III – Clinical (2 credits)
- NURS 7609 - Advanced Practice Residency (4 credits)

Click here for course descriptions

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**2015-2016 Academic Calendar**
School of Communication Sciences and Disorders - Graduate Catalog - University of Memphis

MAURICE I. MENDEL, PhD
Individual program requirements described in *The University of Memphis Graduate Bulletin, 2015-2016*, are subject to change. Please consult your department or the Graduate School web page for changes that may occur before publication of the next issue of this *Bulletin*. All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

I. The School of Communication Sciences and Disorders offers graduate programs leading to the PhD degree with a major in Communication Sciences and Disorders with concentrations in (1) Hearing Sciences and Disorders or (2) Speech-Language Sciences and Disorders, the AuD degree with a major in Audiology, and the MA degree with a major in Speech-Language Pathology.

The School is accredited by the Council on Academic Accreditation (CAA) from the American Speech-Language-Hearing Association.

Students may not enroll for courses as graduate non-degree except by permission of the instructor and with approval of the Director of Graduate Studies.

II. MA Degree Program

A. Program Admission

1. The admissions committee will review all applications. Students should have a GPA of 3.00 (on a 4 point system). GRE scores are required (General Test). Students are admitted in the fall semester only. Application instructions are available online at [www.memphis.edu/csd/programs/slapmissions.php](http://www.memphis.edu/csd/programs/slapmissions.php). Although applications may be submitted at any time, likelihood of acceptance and financial assistance for the fall semester is greater for applications received prior to February 1.

2. Applicants should submit recommendations from at least three individuals familiar with the applicant's
academic background and aptitude for graduate work in Speech-Language Pathology.
3. Applicant should also submit a personal statement describing his/her professional goals and preparation for study in Speech-Language Pathology.
4. Students are expected to be proficient in understanding and use of English.

B. Background Requirements

1. To be considered for admission, all applicants must have completed or be in the process of completing a baccalaureate degree from an accredited institution of higher learning. Previous academic preparation in audiology/speech-language pathology is not a requirement for admission.
2. Non-CSD basic science coursework necessary to meet U of M graduation, ASHA certification, and State Licensure:
   1. Biological Science (3)
   2. Statistics(3)
   3. Behavioral/Social Science (6)
   4. Physical Science (minimum 1 credit)

If college-level credits for these courses have not been earned upon enrollment, they will need to be completed during the MA graduate program.

C. General Program Requirements

1. Students must complete a minimum of 60 credit hours and meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association. Additional coursework will be required for those students without undergraduate preparation in audiology/speech-language pathology.
2. Full time study requires enrollment in clinical practicum. Students must attain a grade of 3.00 or above in at least 9 semester hours of clinical practicum, and must obtain a 3.00 or above in their last two semesters of clinical practicum. A maximum of 8 credit hours of AUSP 7200, AUSP 7208 and AUSP 8208 may be counted toward the 50-hour requirement.
3. A thesis or non-thesis option is available. Students choosing the non-thesis option must take a minimum of 3 credits of either AUSP 7990 (Special Project) or AUSP 7991 (Clinical-Research Colloquium) or a combination of both. NOTE: Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
4. All students must complete written comprehensive examinations.

D. Retention Requirements

All students enrolled in the School of Communication Sciences and Disorders are expected to attain high academic achievement and maintain professional and ethical conduct. In addition to Graduate School policy the criteria listed below will be used to determine the retention status of students enrolled in the School.

1. General Academic Performance:
   1. Grades of less than 2.0 in required courses are considered unacceptable and must be repeated in order to meet graduation requirements.
   2. A student may count two grades of 2.00 toward their degree. Students have the option of
repeating two courses in which a grade of 2.00 or less was earned. The student will be dismissed at the end of the semester in which a third grade of 2.00 or less has been earned.

3. Students are expected to maintain a cumulative grade point average of 3.00 at the end of each semester of enrollment at the University of Memphis. A GPA below 3.00 across two consecutive semesters may be grounds for dismissal.

2. Professional Performance:
   1. Because the MA in Speech-Language Pathology is a professional practice degree, satisfactory acquisition of knowledge and skills for certification as prescribed by the American Speech-Language-Hearing Association is required. Failure to achieve any of these standards for clinical performance may result in dismissal from the program.

   2. The cumulative grade of the first two semesters of clinical practicum (7200/7208) must be a B- (2.67) or greater. A cumulative clinic grade for the last five semesters must be at least 3.00. Students must obtain a B (3.00) or better in each of their last 2 semesters.

   3. Students may be dismissed for any of the following:
      1. Failure to maintain appropriate standards of academic integrity or CSD Policies.
      2. Failure to follow the ASHA Code of Ethics.
      3. Failure to follow HIPAA guidelines.
      4. A grade of 1.67 or lower in clinic practicum will mandate a review within the School and may be grounds for dismissal.

E. Specific Requirements

1. Professional Background Coursework (6 hours, may be taken at the University of Memphis):
   1. Audiology: Hearing Disorders/Evaluation (3),
   2. Habilitation/Rehabilitation (3)

2. Speech-Language Pathology Minimum Degree Requirements (Required courses are marked with *, all others are electives):
   1. Basic Communication Processes (15 hours minimum):
      *AUSP 7000 Speech Science
      AUSP 7002 Seminar in Communication Sciences
      *AUSP 7003 Anatomy and Physiology of the Speech Mechanism
      *AUSP 7006 Language and Speech Development
      *AUSP 7007 Communicative Interaction
      AUSP 7008 Acoustic and Perceptual Phonetics
      *AUSP 7010 Neurological Bases of Communication
      AUSP 7011 Psycholinguistics
      AUSP 7016 Socio-Cultural Bases of Communication

   2. Speech Disorders (6 hours minimum):
      AUSP 7201 Cleft Palate and Craniofacial Disorders
      AUSP 7202 Motor Speech Disorders in Children
      AUSP 7203 Voice Disorders
      AUSP 7204 Disorders of Phonology and Articulation
      AUSP 7205 Fluency Disorders
      AUSP 7206 Neuromotor Speech Disorders in Adults
AUSP 7209 Dysphagia and Related Disorders  
AUSP 7210 Seminar in Speech Pathology  
AUSP 7212 Autism Spectrum Disorders and Related Disabilities  
AUSP 7309 Speech Rehabilitation for Head/Neck Pathologies

3. Language Disorders (6 hours minimum):  
AUSP 7300 Language Disorders in Children  
AUSP 7302 Language Disorders in Adults I  
AUSP 7303 Language Disorders in Adults II  
AUSP 7304 Seminar in Language Disorders  
AUSP 7305 Language Learning Disabilities

4. Clinical Practicum (14 hours minimum):  
*AUSP 7200 Introduction to Clinical Practice in Speech-Language Pathology  
*AUSP 7208 Clinical Experience in Speech-Language Pathology

5. Other Required Courses (7 hours):  
*AUSP 7500 Evaluating Research in Communication Disorders  
*AUSP 7501 Phonetic Transcription 3 Credits of Research Experience (AUSP 7990, AUSP 7996, or AUSP 7991)

III. Certification and State Licensure

School degree requirements meet the academic and clinical training requirements for certification by the American Speech-Language and Hearing Association, teacher certification, and state licensure.

IV. AuD Program

A. Program Admission

1. The admissions committee will review all applications. Student should have a GPA of 3.00 (on a 4-point system). GRE scores are required (General Test). Students are admitted in the fall semester only. Application instructions are available online at www.memphis.edu/csd/programs/audamissions.php. Although applications may be submitted at any time, likelihood of acceptance and financial assistance for the fall semester is greater for applications received prior to February 1.

2. Applicants should submit recommendations from at least three individuals familiar with the applicant's academic background and aptitude for graduate work in Audiology.

3. Applicant should also submit a personal statement describing his/her professional goals and preparation for study in Audiology.

4. Students are expected to be proficient in understanding and using English.

B. Assumed Background

1. To be considered for admission, all applicants must have completed or be in the process of completing a baccalaureate degree from an accredited institution of higher learning. Previous academic preparation in audiology/speech-language pathology is not a requirement for admission.
2. The AuD program assumes that students have basic coursework in the biological, physical, mathematical, and social/behavioral sciences, as shown below, by the time of graduation. In addition, students are required to have completed two courses in speech-language development/disorders in order to meet program graduate requirements. This coursework should be completed at the undergraduate level. However, if not, this coursework may be taken during the AuD program at the University of Memphis and is not required for admission.

- Biological Science (3)
- Mathematical Science (3)
- Physical Sciences (3)
- Behavioral Sciences (3)
- Normal Speech-Language Development (3)
- Language Disorders (3)

C. General Program Requirements

1. Students must complete a minimum of 99 credit hours and meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association. Additional coursework will be required for those students without undergraduate preparation in audiology/speech-language pathology.

2. A maximum of 24 credit hours in AUSP 8104 and a maximum of 6 credit hours in AUSP 8125 may be counted toward meeting the 99 credit hour graduation requirement.

3. Students must achieve a grade of 3.00 or better in AUSP 8104 in their last two semesters in residence.

4. All students must complete an individual research project (AUSP 8121) for a minimum of 4 hours credit.

5. All students must successfully complete a comprehensive examination containing both written and oral components.

D. Retention Requirements

All students enrolled in the School of Communication Sciences and Disorders are expected to attain high academic achievement in all courses taken. In addition to Graduate School policy, the criteria listed below will be used to determine the retention status of students enrolled in the School.

1. Grades of less than 2.00 in a required course are considered unacceptable. These courses must be repeated with a minimum grade of 2.00 in order to meet graduation requirements.

2. A student may count two grades of 2.00 toward their degree. Students have the option of repeating two courses in which a grade of 2.00 or less was earned. The student will be dismissed at the end of the semester in which a third grade of 2.00 or less has been earned.

3. Students are expected to maintain a cumulative grade point average of 3.00 at the end of each semester of enrollment at the University of Memphis. A GPA below 3.00 across two consecutive semesters may be grounds for dismissal.

4. Students may be dismissed for any of the following:
- Failure to maintain appropriate standards of academic integrity or CSD Policies.
- Failure to follow the ASHA and AAA Codes of Ethics.
- Failure to follow HIPAA guidelines.
- A grade of less than 2.00 in clinic practicum will mandate a review within the School and may be grounds for dismissal.

E. Externship in Audiology

All students will complete an externship during the fourth year of the program, which is consistent with current accreditation requirements. To be eligible for the externship the student must have completed all academic coursework, including the research project, and successfully passed the comprehensive examination. Externship placement may be obtained through a national matching program or in coordination with the Director of Clinical Services in Audiology. Successful completion of the externship must include the approval of the Director of Clinical Services in Audiology and the Director of Graduate Studies. The externship is to provide a comprehensive training environment for students to expand and sharpen their clinical skills. Externships may be in either paid or unpaid positions.

F. Specific Requirements

AuD Degree Requirements (99 hours):

1. Basic Science Coursework (18 Hours):
   - AUSP 8001 Hearing Science (3)
   - AUSP 8007 Communicative Interaction (3)
   - AUSP 8008 Acoustic and Perceptual Phonetics (3)
   - AUSP 8012 Measurement Techniques (3)
   - AUSP 8019 Anatomy and Physiology of the Auditory System I (3)
   - AUSP 8020 Anatomy and Physiology of the Auditory System II (3)

2. Major Area Coursework (48 Hours):
   - AUSP 8101 Audiological Concepts (3)
   - AUSP 8103 Diagnostic and Medical Audiology (3)
   - AUSP 8105 Vestibular Assessment and Rehabilitation (3)
   - AUSP 8107 Cochlear Implants (3)
   - AUSP 8110 Gerald A. Studebaker Lectures (3)
   - AUSP 8113 Rehabilitative Audiology I (3)
   - AUSP 8114 Introduction to Hearing Aids (3)
   - AUSP 8115 Pediatric Audiology (3)
   - AUSP 8116 Hearing Aid Provision (3)
   - AUSP 8118 Electrophysiologic Assessment of the Auditory System (3)
   - AUSP 8119 Hearing Conservation (2)
   - AUSP 8121 Individual Projects in Audiology (3)
   - AUSP 8127 Rehabilitative Audiology II (3)
   - AUSP 8128 Evidence-Based Practice in Amplification (3)
V. PhD Program

A. Program Admission

1. All applications are reviewed by the admissions committee. Students should have a GPA of at least 3.5 (on a 4 point scale). GRE scores are required (General Test). Regular application review is initiated three times a year for applications completed by February 1, June 1, or October 1. Decisions about financial assistance are typically made each year shortly after the February 1 deadline. Decisions about financial assistance through research grants, however, can be made for applications received at any time.
2. Applicants should submit recommendations from at least three individuals familiar with the applicant's academic background and aptitude for PhD work in Audiology or Speech-Language Pathology. The letters should specify in detail the applicant's capabilities for PhD study.
3. Applicants also need to submit a resume/vita describing all educational and work experience and a letter describing research interests and professional goals.
4. In addition, applicants must have an interview with U of M faculty in the student's major area of concentration.
5. Most applicants will have a master's or AuD degree upon admission but this is not a requirement.
6. Students are expected to be proficient in understanding and using English.

B. Graduation Requirements

1. For students entering with a bachelor's degree, a minimum of 81 graduate hours, not including dissertation, is required for the PhD degree in Communication Sciences and Disorders.
2. For students who have completed a master's degree in Audiology or Speech-Language Pathology, a minimum of 57 graduate hours, not including dissertation, will be required for the PhD degree.
3. For students who have completed a master's degree in a field related to Audiology or Speech-Language Pathology, a minimum of 69 graduate hours, not including dissertation, will be required for the PhD degree.
4. For students who have completed an AuD degree, a minimum of 33 hours, not including dissertation, will be required for the PhD degree.
5. 5. A minimum of 9 hours is required for the dissertation. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write the dissertation.
6. Additional coursework, beyond the minimum, may be required at the discretion of the advising committee. Course credit for clinical practicum may not be counted toward the PhD degree.
7. Areas of Concentration: Two areas of concentration are offered, (1) Audiology and (2) Speech-
Language Pathology. A minimum of 24 credit hours must be taken in the student's area of concentration and at least 21 of these hours must be within the School of Communication Sciences and Disorders. This requirement is waived for post-AuD students in the Audiology concentration.

8. **Core Requirements** are designed to ensure that all PhD students will acquire knowledge of the acoustic phonetic structure of speech signals, speech acoustics, professional issues, and the neuroanatomy/neurophysiology related to communication sciences and disorders: All PhD students are required to complete the following:

   - AUSP 8008—Acoustic and Perceptual Phonetics
   - AUSP 8021—Professional Preparation for Scientists (minimum 3 credit hours)
   - AUSP 8010—Neurological Bases of Communication OR
   - AUSP 8020 Anatomy/Physiology of the Auditory System II

   Research Tool—15 credit hours, of which 9 hours must be in statistics and/or research design. Other courses may include those in instrumentation, grant preparation, and computer technology.

9. **Collateral Area:** A minimum of 9 semester hours will be required from a collateral area. A collateral area is defined as a combination of courses based on substantive commonality. This collateral coursework must be taken outside the School of Communication Sciences and Disorders. The collateral area requirement is waived for a student entering with a master's degree in a field related to Audiology or Speech-Language Pathology.

10. **Pre-Candidacy Research Project:** All PhD students will be required to satisfactorily complete a data-based research project prior to candidacy. Students will submit an approved written version of the completed project to the academic advisor and orally present the completed project to a departmental colloquium.

11. **Additional Requirements**

   1. All PhD students are expected to be active in research collaboratively with members of the School faculty each semester they are enrolled.
   2. Students may be permitted to complete the requirements for clinical certification with the approval of their planning committee.
   3. Continuation in the program is contingent upon a satisfactory annual review.

C. **General Program Requirements**

1. **Advisors:** Upon admission each student will be assigned an advisor by the Director of Graduate Studies in consultation with the student. This advisor will serve as the chair of the student's planning committee. The advisor shall be a full member of the graduate faculty of The University of Memphis.

2. **Planning Committee:** The planning committee's charge is to evaluate the student's academic needs and assist in the planning of the student's academic program. Students who have completed a master's or AuD degree will be assessed for currency of knowledge in their concentration to assist in the planning of their academic program. This requirement will not apply to those students who have completed a master's or AuD degree within the School of Communication Sciences and Disorders. The academic program will be tailored to accommodate the individual student's academic interests, background, and professional goals. Within the concentration area, each student will identify an area of special focus. The committee will recommend to the Graduate School those courses, if any, to be transferred toward the PhD, provided that the credit meets general university requirements. The committee, all of whom must be members of the graduate faculty, shall number no less than three, at
least two of whom shall be from the student's area of concentration. The student, in conjunction with
the committee, will develop a final academic plan to be in written form and filed in the dean's office.
This plan is to be signed by each member of the committee and the PhD student. The plan must be
filed no later than the middle of the second semester. The student or a planning committee member
may propose changes after the plan has been filed. However, any resulting change in the student's
plan will require written approval of the committee and the PhD student.

D. Retention Requirements

All students enrolled in the School of Communication Sciences and Disorders are expected to attain high academic
achievement in all courses taken. In addition to Graduate School policy the criteria listed below will be used to
determine the retention status of students enrolled in the School.

1. Grades of less than 2.00 in a required course are considered unacceptable and must be repeated in
   order to meet graduation requirements.
2. Students must maintain a cumulative grade point average of 3.00 at the end of each semester of
   enrollment in all coursework at the University of Memphis. Any student not meeting these conditions
   will be placed on academic probation by the School.
3. Any student who is placed on academic probation for a third time during his/her academic program will
   be dismissed before enrolling in another semester.
4. Students have the option of repeating two courses in which a grade of 2.00 or less was earned. After
   exhausting this option, students are permitted to count only two grades of 2.00 toward graduation. A
   student will be dismissed at the end of the semester in which a third grade of 2.00 or less is earned.

E. Comprehensive Examination Committee

The comprehensive examination committee will consist of members selected by the student in conjunction with the
advisor and the planning committee. The committee will be made up of at least three members from the School of
Communication Sciences and Disorders and one from an academic unit outside the School of Communication
Sciences and Disorders.

F. Comprehensive Examination

The comprehensive examination will consist of a written and oral examination. The written examination will typically
entail 24 hours of writing within a 10-day period, though up to 6 hours may be completed in an alternative manner
(e.g., practical laboratory examination or scholarly paper). The purpose of the comprehensive examination is to
determine adequate knowledge of the field (AUD or SLP), research tools, the collateral area, and mastery of the
area of special focus. Examiners will consider the student’s ability to synthesize, integrate, and critique information
and ideas. Although there will usually be a relationship between doctoral coursework and the comprehensive
examination, the examination is not restricted to course content. The oral examination date shall be within three
weeks of the conclusion of the written examination regardless of the student's performance on the written
examination. The oral examination is a supplement to the written examination and is intended to ensure that the
goals of the comprehensive examination have been met. All of the faculty committee members from within the

School and at least one from outside the School must be present at the oral examination.

The comprehensive examination may be taken upon completion of the PhD student's academic plan or within the last semester of completing his or her academic requirements. This examination will be administered any time within the specified semester subject to the discretion of the comprehensive committee. The committee shall determine the student's status relative to the comprehensive examination after the oral examination. No more than one dissenting vote may be cast for a student to pass. The committee has the authority to specify further stipulations aimed at remedying any deficiencies reflected in the student's comprehensive examination including retaking the entire written and oral examination, enrolling for additional coursework, and preparing one or more scholarly papers. The committee chair shall file in the dean's office a decision in writing concerning the student's comprehensive examination within two weeks after the oral examination.

G. Candidacy

After completion of all academic requirements and successful completion of the comprehensive examination, a PhD student may apply for candidacy.

H. Dissertation Committee

The dissertation committee will consist of a minimum of four faculty members selected by the student in consultation with the dissertation advisor. At least half of the members must be from the School and at least one member must be from a department outside the School of Communication Sciences and Disorders. The chairperson of the dissertation committee must be from the School and must be a full member of the graduate faculty.

I. Dissertation

The student will develop a prospectus in conjunction with the dissertation committee chairman. The prospectus will be reviewed for approval by the committee. After approval the student will conduct the work set forth in the prospectus. NOTE: Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write. The completed dissertation will be defended by the student. The oral defense will be open to the University community, with voting on the acceptability of the defense restricted to dissertation committee members. All members of the committee must be present at the dissertation defense. An affirmative decision will be based on the unanimous decision of the examining committee. After successful defense, any required revision, retyping, and resubmission of the dissertation to the committee chair must be completed prior to the awarding of the degree.

J. Completion of both Research (PhD) and Professional (MA or AuD) Programs

Students applying to the PhD program may also wish to meet the academic and practicum requirements for a professional degree in either Speech-Language Pathology or Audiology. PhD applicants may request consideration
of a combined degree plan in consultation with prospective mentors. PhD admission requirements must be met as stated in Section V.A. above. Combined degree plans require approval by the PhD admissions committee as well as the clinical admissions committee. For MA-PhD students, all degree requirements for both programs remain in effect as specified in Sections II and V above, and for AuD-PhD students, all degree requirements for both programs remain in effect as specified in Sections IV and V above.

Click here for course descriptions

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**Graduate Catalog**
Learn more about our degree programs.

**Graduate School**

**2015-2016 Academic Calendar**
I. The School of Health Studies (HSS) offers two graduate degrees: 1) Master of Science degree in Health and Sport Science with concentrations in Environmental Nutrition (ENVN, online program only), Exercise and Sport Science (EXSS), Health Promotion (HPRO, online program only), Nutrition Science (NSCI), Physical Education Teacher Education (PETE), or Sport Commerce (SPRT); and 2) Master of Science degree in Clinical Nutrition (NUTR).

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

II. MS Degree Program with Major in Health and Sport Science

Program objectives are: (1) to recognize the diverse nature of subject matter embodied in the respective program disciplines; (2) to understand the research findings and theoretical constructs undergirding the corresponding disciplines within the health and sport science umbrella, including the development of specialized skills needed for systematic inquiry; (3) to understand the critical role of diversity in delivering inclusive sport science services; (4) to develop effective leadership skills; and (5) to understand and embrace ethical standards of the respective disciplines.

A. Admission Requirements

1. Prospective students must apply to both the Graduate School and the School of Health Studies. In both cases, the applicant must submit an official transcript for undergraduate and graduate studies.
Additionally, as part of the application to the Graduate School, an official report of Graduate Record Examination (GRE) scores must be submitted except:

1. Physical Education Teacher Education (PETE): An applicant seeking admission to the PETE concentration may opt to submit official scores of the PRAXIS II exams in lieu of the GRE.
2. Sport Commerce (SPRT): An applicant seeking admission to the SPRT concentration is not required to submit GRE scores. However, official GRE, GMAT, LSAT, or other standardized test scores may be requested or submitted to support an application.

2. An applicant must also submit the following to the department: 1) HSS Graduate Admission Application Form, 2) two letters of recommendation, and 3) a 300-500 word statement of goals including identification of the intended area of concentration. (Contact the department's academic services coordinator for application forms. School of Health Studies application forms are also available on-line at http://www.memphis.edu/shs/. (Click on "Advising," then "Graduate Admissions.")

3. An applicant must have graduated with a minimum baccalaureate GPA of 2.5.

4. Completion of an appropriate undergraduate major and a strong background in discipline-specific courses:
   1. Environmental Nutrition: life science-oriented courses such as nutrition, biology, health sciences, public health, health promotion, food service, and anthropology
   2. Exercise and Sport Science: anatomy and physiology, health sciences, exercise physiology, anatomic kinesiology, biomechanics, sport psychology, and motor learning
   3. Health Promotion: science-oriented courses such as, but not limited to, nutrition, biology, biochemistry, health sciences, chemistry, and psychology
   4. Nutrition Science: science-oriented courses such as, but not limited to, nutrition, biology, biochemistry, health sciences, and chemistry
   5. Physical Education Teacher Education: anatomic kinesiology, anatomy and physiology, biology, exercise physiology, health sciences, motor learning, nutrition, and sport psychology
   6. Sport Commerce: sport management, economics, finance, marketing, public relations, commercial recreation, resort management, and tourism

5. Completion of undergraduate work deemed by the concentration committee as prerequisite to graduate courses.

6. Student admissions to the respective programs within the Health and Sport Science (HSS) major are differentially restricted to enable Graduate Faculty within each concentration to closely mentor their students. To ensure maximum consideration for admission into a specific HSS concentration, the following dates are provided: May 1 for summer and fall and November 1 for the spring semester. The admission committee may request a personal interview. Multiple criteria will be used when considering applicant admission, including, but not limited to, undergraduate and graduate grade point average, GRE/GMAT/PRAXIS II scores, personal goals statement, relevant employment history, and letters of recommendation.

B. Program Requirements

1. A minimum of 30 hours is required for the major although respective concentrations may require additional credit hours.

2. Program Research Core (6 hours):
   1. HMSE 7010
2. EDPR 7541

3. Concentration requirements:
   1. Environmental Nutrition (18 hours): NUTR 7182, 7183, 7710, 7712, 7722, 7850
   2. Exercise and Sport Science (18 hours): EDPR 7542 or PUBH 7152; EXSS 7020, 7123, 7163, 7201, 7202
   3. Health Promotion (21 hours): HPRO 7182, 7183, 7710, 7712, 7722, 7780, 7790
   5. Physical Education Teacher Education (18 hours): PETE 7201, 7202, 7203, 7204, 7205, 7501;
   6. Sport Commerce (12 hours): SPRT 7321, 7420, 7440, 7503

4. Guided electives selected with approval of the advisor:
   1. Environmental Nutrition (0-3 hours)
   2. Exercise and Sport Science (6 hours)
   3. Health Promotion (no electives)
   4. Nutrition Science (9 hours)
   5. Physical Education Teacher Education (6 hours)
   6. Sport Commerce Concentration (12 hours)

5. Culminating Experience (3-9 hours)(Consult Graduate School Calendar for submission deadlines - ):
   1. Environmental Nutrition: NUTR 7800 (3-6 hours), and NUTR 7950 (3 hours);
   2. Exercise and Sport Science: HMSE 7996 (6 hours) or EXSS 7950 (6 hours). Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
   3. Health Promotion: HPRO 7950 (6 hours)
   4. Nutrition Science: HMSE 7996 (6 hours) or NUTR 7950 (6 hours). Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.
   5. Physical Education Teacher Education: HMSE 7996 (6 hours) or PETE 7950 (6 hours)
   6. Sport Commerce: HMSE 7996 (6 hours) or SPRT 7605 (3 hours). Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

6. Successful completion of an oral or written comprehensive examination (successful defense of the Applied Project or Thesis may serve this purpose). (Consult Graduate School Calendar for submission deadlines)

7. Consult Graduate School Calendar for Apply to Graduate submission deadlines

8. An Accelerated Bachelor’s/Master’s (ABM) Program is offered by the Department of Health & Sport Sciences in two general program areas:
   1. BSEd, Health & Human Performance (HHP) with a concentration in Exercise & Sport Science (EXSS)/ MS, Health & Sport Science (HSS) with a concentration in Exercise & Sport Science (EXSS)

The Accelerated Bachelor’s/Master’s (ABM) degree program HHP (EXSS)/ HSS (EXSS) provides qualified UM senior undergraduate students the opportunity to satisfy course requirements, including elective hours, for the bachelor’s degree in HHP with a concentration in EXSS that also may be subsequently applied on a prearranged basis to the master’s degree in HSS with a concentration in EXSS that may satisfy some of its degree requirements.
2. BSEd, Sport & Leisure Management (SLM)/MS, Health & Sport Science (HSS) with a concentration in Sport Commerce (SPRT)

The Accelerated Bachelor's/Master's (ABM) degree program SLM/ HSS (SPRT) provides qualified UM senior undergraduate students the opportunity to satisfy course requirements, including elective hours, for the bachelor's degree in SLM that also may be subsequently applied on a prearranged basis to the master's degree in HSS with a concentration in SPRT that may satisfy some of its degree requirements.

For students who work closely with their advisors in planning their course of study in the School of Health Studies, this option offers the opportunity of simultaneously satisfying partial degree requirements for a bachelor's and a master's degree in an accelerated program of study. Upon completion of the undergraduate degree with a satisfactory undergraduate grade point average and a grade of “B” or better in all graduate courses completed, the student may move to full graduate student status, and the preapproved graduate courses taken as an undergraduate may be applied toward the pre-specified graduate program of study.

Students may use up to nine credit hours of designated courses in meeting the requirements of both the HHP/EXSS bachelor's and HSS/EXSS master's degrees or the SLM bachelor's and HSS/SPRT master's degrees. Courses considered for this purpose may include 4000/6000-level cognates and/or 7000-level courses. Undergraduate students will register for the 6000- or 7000-level courses, but fees will be levied at the undergraduate rate.

Students applying for this program must:

1. Have completed at least 18 hours of course work at UM before taking courses as part of the ABM program;
2. Have a UM GPA of 3.25 or better
3. Be within 30 semester hours of graduation
4. Have written approval of the HSS Department Chair, the program coordinator(s) of both the respective undergraduate and graduate programs, and the HSS Academic Services Coordinator in order for specific graduate courses being acceptable for dual credit in the undergraduate and master's degree programs;
5. Meet all requirements for admission (including the GRE for either program or GMAT for SPRT) into the specified graduate program (except for receipt of the undergraduate degree); and
6. Submit an application for admission to the ABM Degree Program, along with all necessary admissions documentation to the Graduate School by the deadline dates listed below.

A maximum total of nine semester hours of preapproved graduate coursework may be considered for dual credit in the undergraduate and graduate degree programs and a maximum total academic load of 15 hours during the semester in which any of the graduate courses are taken.

Students interested in this option must concurrently meet in person with the School of Health Studies Chair, the program coordinator(s) for respective undergraduate and graduate programs in question, as well as the School of Health Studies Academic Services Coordinator, and receive their written approval of the application. Final acceptance into the ABM program is contingent upon approval by the Dean of the Graduate School. Approvals
apply only for the specific programs and courses designated in the application. Stipulated graduate courses for the ABM program are the only ones for which students in the undergraduate program are eligible to enroll, and completion of all allowable graduate courses is optional.

For application materials, contact the School of Health Studies Academic Services Coordinator at 901-678-5037 or go to www.memphis.edu/shs/students/admission_advising.php. Students may not apply online for this program. Submit application materials to the School of Health Studies no later than the following dates, after which departmentally-approved applications will be submitted by the School of Health Studies to the Graduate School for consideration:

- April 15 for Fall term admission
- October 15 for Spring term admission
- April 15 for Summer term admission

Subsequent to admission into the ABM program and satisfactory completion of stipulated coursework approved for the designated programs of study, a maximum of 9 credit hours from the following graduate courses may be applied to the respective programs of study for both the undergraduate and graduate levels as follows:

Health & Sport Science with a concentration in Exercise & Sport Science:

- EXSS 6000 or EXSS 6603
- HMSE 7010
- EXSS 7020

Health & Sport Science with a concentration in Sport Commerce:

- SLC 6001
- SLC 6002
- SLC 6800
- SPRT 7503
- SPRT 7600
- SPRT 7321
- SPRT 7603

C. Program Retention Policy
All MS degree students are regularly monitored for completion of any entry-level deficiencies by graduate faculty.

Program retention committees, comprised of selected graduate faculty within the corresponding programs of study, monitor the academic progress of all MS degree candidates in the respective programs. Each committee determines whether or not the student is making sufficient progress and, in case of deficiencies, may recommend additional work or the dismissal of the student from the program. For any student recommended for dismissal, an appeals process is available.

III. MS Degree Program with Major in Clinical Nutrition

Enrollment is limited to 8 to 12 students per year. Program objectives are: (1) competence in nutrition therapy for individuals and groups; (2) ability to integrate and apply principles of food, nutrition, and management services for individuals and groups; and (3) ability to conduct research which will contribute to the body of knowledge in clinical nutrition and dietetics.

A. Program Prerequisites

1. Completion of an undergraduate major in foods and/or nutrition to include an Academy of Nutrition and Dietetics (AND) approved Didactic Program in Dietetics.
2. Acceptable undergraduate grade point average.
3. Acceptable scores on the Graduate Record Examination.
4. Admission to Graduate School.
5. Demonstrated interest in the field of clinical nutrition by letter, documented work experiences, and evidence of above average performance documented by letters of reference.
6. Payment of internship fees.

B. Program Requirements

A total of 32-42 hours is required for completion of this major, three hours of which must be a culminating experience (thesis or Applied Project in NUTR), and 10 hours of which must be clinical internship and residency.

1. The following 26 credit hours are required:
   NUTR 7204 Perspectives in Nutrition in the Life Cycle (3)
   NUTR 7205 Nutrition Care in Acute and Chronic Illness I (3)
   HPRO 7780 Health Counseling (3)
   NUTR 7305 Nutrition Care in Acute and Chronic Illness II (3)
   NUTR 7405 Pharmacology for Nutrition Professionals (3)
   NUTR 7412 Cellular Nutrition I (3)
   NUTR 7415 Professional Issues in Nutrition (2)
   NUTR 7422 Cellular Nutrition II (3)
   NUTR 7522 Clinical Nutrition and Food Service Management (3)
2. Six hours are required as a research collateral and include the following courses:
   EDPR 7523 Applied Educational Research (3) or HMSE 7010 Research Methods in Health & Sport Science
   and either
   NUTR 7950 Applied Project in NUTR (3) or
   HMSE 7996 Thesis (3).

   Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

3. Ten hours are required as a clinical internship component that includes nine credit hours for the AND-accredited dietetic internship (1200 hours) and one credit hour of advanced clinical practice (120 hours). The required courses include:
   NUTR 7481 Clinical Internship in Nutrition (9)
   NUTR 7482 Clinical Residency in Nutrition (1)

4. The student entering the program, having completed an AND-accredited dietetic internship with proof of registration as a dietitian, may waive Clinical Internship in Nutrition - 9 hours (NUTR 7481 and residency 1 hour NUTR 7482). The registered dietitian status must have been earned within the previous 6 years or the student will be required to verify the work by successful completion of a departmental exam.

5. Successful completion of an oral comprehensive exam. (Consult Graduate School Calendar for submission deadlines)

6. Oral defense of culminating experience (Applied Project in NUTR or thesis). Consult Graduate School Calendar for Apply to Graduate submission deadlines.

Click here for course descriptions
I. Overview

The School of Public Health is dedicated to excellence in education, research, and outreach to improve public health and promote health equity by generating knowledge and translating research discoveries in our community, our state, and throughout the world. We aspire to: (1) Train the next generation of students in population health by providing the highest quality education and practice opportunities in theories, approaches, methods, and other substantive issues pertinent to public health; (2) Create an environment conducive to interdisciplinary public health initiatives, with special emphasis on vulnerable populations who suffer disproportionately from illness and disability; (3) Stimulate collaboration with the community to develop effective partnerships in combating the health challenges in our communities, city, state, and region; (4) Prepare future leaders in public health by supporting interdisciplinary research focused on health equity to develop behavioral, community, structural, and health services interventions that address disparities; and (5) Inform public policy, disseminate health information, and increase awareness of public health concerns through disease surveillance, needs assessments, and program evaluation.

Degrees offered include the Master of Health Administration (MHA), the Master of Public Health (MPH), the PhD in Social and Behavioral Sciences, and the PhD in Epidemiology, and the PhD in Health Systems and Policy. Admission to each graduate program in the School of Public Health is handled separately. Each has its own admission criteria, and application must be made for a particular program before an applicant is considered for that program. Deadlines are November 1 for the Spring term and April 1 for the Fall term (MPH program) April 1 for the Fall term (PhD programs and the MHA program). The MHA and three PhD programs admit new students for fall term only but will consider qualified transfer students for spring semester admissions.

All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.
II. Master of Health Administration (MHA) Program

MARK HENDRICKS, MHA
Instructor and Director of Masters Programs
116 Robison Hall

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130 Robison Hall
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The School of Public Health is proud to have one of only 86 MHA programs in North America that are accredited by the Commission on Accreditation of Healthcare Management Education (CAHME), and the only CAHME-accredited program in the State of Tennessee. The MHA degree program educates students interested in preparing for or furthering careers in a variety of health care settings, including hospital, ambulatory care, and managed care organizations. The program combines interdisciplinary academic preparation with health industry experience.

Program objectives are: (1) development of strategic thinking, legal and ethical decision making, finance, economics, and research, related to health administration; and (2) development of leadership skills in team-oriented environments.

A. Program Admission

Applicants must receive favorable endorsement from the health administration faculty. Admission will be based on applicable test scores (Graduate Record Examination [GRE] or Graduate Management Aptitude Test [GMAT]); undergraduate grade point average; previous education and/or experience; and an ability to articulate career goals and education objectives via a letter of intent. Two letters of recommendation are also required, one of which should be from a professor or instructor familiar with the student’s prior academic history and abilities.

Applicants already holding a doctoral degree or its professional equivalent obtained in the United States may be exempt from the GRE requirement. Professional school standardized test scores (MCAT, DAT, and LSAT) taken in the past five years may be substituted for the GRE by applicants who are enrolled in or who have already earned post-baccalaureate degrees in areas such as medicine, dentistry, or law.

Applicants whose native language is not English are required to submit acceptable scores on the Test of English
as a Foreign Language (TOEFL).

B. Program Prerequisites

Students are accepted from all undergraduate disciplines and professional areas; however, the program determines if students must successfully complete up to nine hours of prerequisite course work before being fully admitted into the program.

C. Program Requirements

The student is required to complete a minimum of fifty-three (53) semester hours. Forty-seven (47) hours are taken in the core curriculum and six (6) hours of electives chosen in consultation with an advisor. The six (6) hours of electives allow the student to extend basic knowledge gained in the core curriculum and can include such areas as health administration, public health, economics, marketing, finance, public policy, public administration, and management. The comprehensive examination must be successfully completed during the semester in which the student expects to graduate.

III. Master of Public Health (MPH) Degree Program

MARK HENDRICKS, MHA
Instructor, Director of Masters Programs and Graduate Coordinator
116 Robison Hall
901.678.2982
Email: mph-admin@memphis.edu

The mission of the Master of Public Health (MPH) program is to provide a stimulating academic environment in a metropolitan setting that supports excellence and innovation in education, research, and service to enhance the lives and health of individuals, families, and communities in the Mid-South. Program objectives are: (1) Prepare future leaders in the field of public health by providing the highest quality education and practice opportunities in theories, approaches, methods, and other substantive issues pertinent to public health; (2) Create and nurture an environment conducive to interdisciplinary public health initiatives, with special emphasis on vulnerable populations who suffer disproportionately from illness and disability; (3) Pursue innovative and rigorous research on critical public health issues to prevent disease and injury, promote well-being, and foster overall physical and mental health; (4) Stimulate collaboration with the community to develop effective partnerships in combating the health challenges in our communities, city, state, and region; and (5) Inform public policy, disseminate health information, and increase awareness of public health concerns through disease surveillance, needs assessments, and program evaluation.

A. Program Admission
A multi-disciplinary faculty admissions committee determines admission to the MPH program. Criteria for the selection process are broad because of the wide range of backgrounds from which students may come. Prior background in public health or health care is not necessary for admission, but may be considered in the admission process. The following is necessary for application:

Applicants must hold a bachelor or graduate degree from an accredited college or university with an undergraduate cumulative grade point average of 3.00 or higher (on a 4.00 scale) or a graduate cumulative grade point average of 3.5 or higher in the major subject area. Current Graduate Record Examination (GRE) scores from within the past five years are required.

Applicants already holding a doctoral degree or its professional equivalent obtained in the United States may be exempt from the GRE requirement. Professional school standardized test scores (MCAT, DAT, and LSAT) may be substituted for the GRE by applicants who are enrolled in or who have already earned post-baccalaureate degrees in areas such as medicine, dentistry, or law. Applicants whose native language is not English are required to submit acceptable scores on the Test of English as a Foreign Language (TOEFL).

Letters of recommendation from at least three persons familiar with the applicant’s academic background or experience in public health related issues, specifying in detail the applicant’s capabilities for graduate study and for future performance as a public health professional, are required. At least one letter from a former professor or instructor is required.

Applicants must also submit a statement of purpose in approximately 400-500 words indicating his or her present interests and career goals, including why s/he wants to pursue an MPH degree.

**B. Program Prerequisites**

All MPH applicants will be expected to have adequate preparation in the sciences, including at least one college-level course in general biology (including human biology), mathematics (e.g., calculus or algebra), and a social science (e.g., sociology, anthropology, or psychology). Basic computer skills are also expected. Courses in health-related fields such as anatomy, physiology, nutrition, chemistry, physics, and statistics are not mandated, but are strongly recommended. Previous professional or other relevant work experience is also highly desirable, but not required.

**C. Program Requirements:** Completion of a total of 42 hours, including 18 hours of core course requirements; 18 hours of electives, 3 hours of practicum/field experience, and 3 hours of a culmination experience in the form of either a thesis or master's project seminar. Students may choose a concentration in any of the following areas: Biostatistics, Environmental Science, Epidemiology, Health Systems Management, or Social and Behavioral Sciences. If a concentration is chosen, instead of taking 18 hours of electives, students will take 12 hours of concentration courses and 6 hours of electives.
Core courses include:
HADM 7105 Health Policy and the Organization of Health Services (3)
PUBH 7120 Environmental Health I (3)
PUBH 7150 Biostatistical Methods I (3)
PUBH 7160 Social and Behavioral Science Principles (3)
PUBH 7170 Epidemiology in Public Health (3)
PUBH 7180 Foundations of Public Health (3)

Concentration courses include:
Biostatistics
PUBH 7309 Applied Survival Analysis in Public Health (3)
PUBH 7311 Applied Categorical Data Analysis (3)
PUBH 7152 Biostatistical Methods II (3)
PUBH 7310 Mixed Model Regression Analysis (3)

Environmental Health
PUBH 7124 Environmental Toxicology (3)
PUBH 7128 Environmental Policy and Decision-Making (3)
PUBH 7129 Environmental Sampling and Analysis (3)
PUBH 7126 Principles of Exposure and Risk Assessment (3)

Epidemiology
PUBH 7152 Biostatistical Methods II (3)
PUBH 7141 Epidemiologic Survey Method (3)
PUBH 7172 Epidemiology in Public Health II (3)
Plus any one of the following 4 applied "topics " courses:
PUBH 7140 Epidemiology of Chronic Disease (3)
PUBH 7174 Epidemiology in Public Health III (3)
PUBH 7442 Cancer Epidemiology (3)
PUBH 7443 Infectious Disease Epidemiology (3)

Social and Behavioral Sciences
PUBH 7014 Public Health Communication (3)*
PUBH 7130 Social Determinants of Health (3)
PUBH 7132 Health Program Evaluation (3)
PUBH 7340 - Behavioral Intervention Development (3)
* PUBH 7345 (Health Literacy) may be substituted for PUBH 7014.

Health Systems Management
PUBH 7710 Health Care Economics (3)
HADM 7115 Public Health Organization and Management (3)
HADM 7204 Quality and Outcomes Management in Health Care (3)
PADM 7602 Public Budgeting and Finance Administration (3)

Electives (18 hours total for the general MPH degree; 6 hours total for students taking a concentration) will be taken with the approval of the faculty advisor.

Possible electives include courses within the concentration areas as well as:
BIOL 7080 Public Health Microbiology (3)
COMM 7012 Seminar in Health Communication (3)
HADM 7107 Health Care Ethics (3)
HADM 7109 Health Care Information Systems (3)
NURS 7811 Global Perspectives on Nursing and Health Policy (3)
NUTR 6602 Community Nutrition (3)
NUTR 6902 Study Tour in Foods and Nutrition (3)
NUTR 7204 Life Span Nutrition (3)
PUBH 7104 Large Data Sets in Public Health (3)
PUBH 7155 SPSS for Health Research (1)
PUBH 7156 SAS for Health Research (1)
PUBH 7161 Advanced Psychosocial Theories of Health and Health Behavior
PUBH 7310 Mixed Model Regression Analysis
PUBH 7311 Applied Categorical Data Analysis
PUBH 7333 Addictive Behaviors
PUBH 7334 Community Based Participatory Research Methods
PUBH 7335 Structural and Environmental Issues in Urban Communities
PUBH 7336 Women’s Health
PUBH 7337 Eating Behaviors, Nutrition, and the Family
PUBH 7338 Critical Issues in Global Health
PUBH 7339 Translational Research Methods in Population Health
PUBH 7340 Behavioral Intervention Development
PUBH 7341 Physical Activity and Public Health
PUBH 7342 Epidemiology of Minority and Ethnic Populations
PUBH 7343 Tobacco Use: Causes, Consequences, and Control
PUBH 7345 Health Literacy
PUBH 7346 Public Mental Health
PUBH 7347 Qualitative Methods in Health Research
PUBH 7348 Health Equity, Cultural Competence, and Social Justice
PUBH 7400 Special Problems
PUBH 7445 Genetic Epidemiology
PUBH 7501 Health Systems Organization
PUBH 7502 Health Policy, Theory and Methods
PUBH 7601 Public Health Preparedness and Response
PUBH 7603 Public Health Leadership in Emergency Response
PUBH 7309 Applied Survival Analysis in Public Health

Satisfy completion of PUBH 7985 Practicum/Field Experience (3)

Satisfy completion of PUBH 7996 Thesis (3) or PUBH 7992 Master's Project Seminar (3). NOTE: Students choosing the thesis option should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

Pass comprehensive examination.

D. Retention Requirements

All students enrolled in the MPH program are expected to attain high academic achievement in all courses taken. The following criteria will be used to determine retention status of students:

Students having been admitted unconditionally who maintain a cumulative GPA of 3.00 or higher will be considered in good standing if not more than 2 (two) grades of 2.00 or lower has been earned.

Students must maintain a GPA of 3.00. In accordance with the Graduate School guidelines, any student not meeting this requirement will be placed on probation. The MPH Graduate Coordinator will review each student's academic record to determine whether to request permission from the Graduate School to allow a student who has not maintained a 3.00 GPA to continue to enroll in classes while on probation. The Graduate Coordinator must approve courses for a student on probation. Probationary status continues even if the student has a grade under appeal. If a student remains on probation for two consecutive semesters or remains on probation after taking three courses (9 semester hours) without raising the overall GPA to 3.00, the student will be suspended from the program. Appeals of suspension must be submitted in writing to the Director of the MPH program.

A student who has been suspended from the MPH program will be denied enrollment in PUBH courses subsequent to suspension.

Elective courses applied to the MPH program requirements must have the advisor's approval.

IV. Doctor of Philosophy (PhD) Program in Social and Behavioral Sciences

SATISH KEDIA, PhD
Professor and Graduate Program Coordinator
205 Robison Hall
The PhD degree in Social and Behavioral Sciences is the highest academic degree for individuals planning to pursue scholarly careers in this discipline. This program is designed for those who intend to teach and conduct original research utilizing rigorous scientific theories and methods to understand and influence the social and behavioral determinants of population health risk factors and outcomes. Graduates of the program are prepared to conduct innovative, interdisciplinary, and translational research in community settings with an emphasis on vulnerable populations, and to design, implement, administer, and evaluate public health interventions and policies. The program will emphasize urban health and health disparities issues in Tennessee and in the Mid-South region.

A. Program Admission

A research-based master's degree in a health-related or social/behavioral field is required for admission. Applicants who possess professional master's degrees (e.g., MPH) will be considered if they have appropriate research experience, such as having completed a thesis during master's training, or being employed in a professional research position. Applicants must show potential for further study by having maintained a GPA of at least a 3.0 average in their master's-level coursework. An acceptable, competitive score on the Graduate Record Examination (GRE) general examination is required. Applicants already holding a doctoral degree or its professional equivalent may be exempted from the GRE requirement. Other professional school standardized test scores (MCAT, DAT, or LSAT,) may be substituted for the GRE by applicants who are working toward or who have already earned post-baccalaureate degrees in medicine, dentistry, management, or law from a United States accredited academic institution. Applicants whose native language is not English will be required to submit acceptable scores on the Test of English as a Foreign Language (TOEFL IBT).

Letters of recommendation from three individuals (at least two letters from former professors or instructors but fewer may be acceptable in extenuating circumstances) familiar with the applicant's academic background or experience in public health related issues, specifying in detail the applicant's capabilities for graduate study and for future performance as a public health scholar, are required. Applicants must also submit a personal statement of purpose of approximately 750 to 1000 words indicating his/her present interests and career goals, including how the PhD in Social and Behavioral Sciences will prepare the candidate to achieve these goals.

Materials submitted will be reviewed by the faculty admissions committee. Admissions decisions are made on the overall quality of the applicant’s scholarship and academic ability (based on GPAs, GRE scores, undergraduate and graduate coursework completed, research conducted, relevant work experience, and recommendations) as well as the applicant's “fit” for the program in terms of academic background, research interests, and career goals. Some applicants may be invited for a face-to-face or telephone interview with representatives of the Admissions Committee.
B. Program Prerequisites

All doctoral students are required to fulfill the following pre-requisites (9 credit hours) or document equivalent coursework. These three courses will not count toward the required 63 hours of doctoral study: PUBH 8150: Biostatistics Methods I; PUBH 8170: Epidemiology in Public Health; and PUBH 8160: Social and Behavioral Science Principles.

C. Program Requirements

Credit Hours: A minimum of 63 semester hours of graduate credit beyond the master’s degree is required for the PhD in Social and Behavioral Sciences. All work for doctoral credit must be approved by, and must be completed at a level of performance satisfactory to, the graduate faculty of the Division of Social and Behavioral Sciences. Students also may take coursework for degree credit outside the School of Public Health with advisor approval.

Transfer Credit: Graduate School regulations must be followed regarding accepting academic credits from another institution. Courses proposed for transfer credit must meet the following two requirements. (a) The Tennessee Board of Regents requires a minimum of 750 contact minutes for each semester credit (2250 for a 3-hour course). (b) The Tennessee Conference of Graduate Schools requires a minimum of 3 hours of class work per week for 3 hours of credit. Grades earned at another institution will not be computed in the University cumulative grade point average, nor will they be accepted for transfer, unless they are "B" (3.0) or better. No credit will be transferred unless it meets with the approval of the major advisor or program graduate coordinator.

Enrollment: Full-time students are expected to carry a minimum of 9 credits per semester, and to devote full time during their enrollment to the pursuit of degree-related activities. Full-time students with graduate assistantships are required to enroll for 9 credits each semester. Part-time students are expected to carry a minimum of 6 credits per semester, unless permission is granted from the advisor for a reduced course load.

Research: All doctoral students are expected to be active in research collaboratively with members of the Division faculty each semester they are enrolled. Students may receive credit for research involvement by enrolling in PUBH 8800 (Guided Research in Public Health).

Comprehensive Examination: Upon completion of required coursework and prior to enrolling in dissertation hours (PUBH 9000), the student must successfully complete a written and oral comprehensive examination. The examination will assess mastery of areas covered in the student’s program. The content of the examination for each student will consist of core competencies in public health, social and behavioral sciences applied to public health, and dissertation topic. The student’s advisory committee will be responsible for organizing and evaluating the comprehensive examination.

Dissertation: To fulfill the requirements for the PhD in Social and Behavioral Sciences, the student must write and defend a dissertation. The dissertation must adhere to the format outlined by the Graduate School. The dissertation
topic will be determined by the student in consultation with the advisor with input from the advisory committee.

Residency Requirements: The last thirty semester hours of credit for the doctoral degree must be earned at the University of Memphis. Only the number of dissertation hours accepted by the program toward the degree will be accepted as part of the last 30 hours.

Curriculum Requirements: The PhD in Social and Behavioral Sciences requires completion of at least 63 semester credit hours beyond the master’s degree. Required courses are organized into four cores plus electives and dissertation, as described below:

Social and Behavioral Sciences Advanced Core: 18 credit hours
The following are required courses:
PUBH 8014 Public Health Communication (3)
PUBH 8130 Social Determinants of Health (3)
PUBH 8131 Social and Behavioral Science Policy Development (3)
PUBH 8132 Health Program Evaluation (3)
PUBH 8340 Behavioral Intervention Development (3)
PUBH 8161 Advanced Psychosocial Theories of Health and Health Behavior (3)

Doctoral Seminar Core: 6 credit hours
PUBH 8900: Science, Theory, and PH Research (3)
PUBH 8901: Professional Development for PUBH Doctoral Students (3)

Research Methods Core: 9 credit hours
(Select two quantitative courses and one qualitative course)
Quantitative Courses (select 2)
HADM 8106 Health Services Research (3)
PUBH 8104 Large Data Sets in Public Health Research (3)
PUBH 8141 Epidemiologic Survey Methods (3)
PUBH 8172 Epidemiology in Public Health II (3)
PUBH 8174 Epidemiology in Public Health III (3)
PUBH 8339 Translational Research Methods in Population Health (3)
PUBH 8444 Fundamentals of Public Health Surveillance (3)
PUBH 8450 Randomized Clinical Trials (3)
PSYC 8301 Research Design and Methods (3)

Qualitative Courses (select 1)
PSYC 8309 Focus Group Research in Psychology (3)
PUBH 8334 Community Based Participatory Research Methods (3)
PUBH 8347 Qualitative Methods in Health Research (3)
Biostatistics Core: 6 credit hours

**Required:**

PUBH 8152 Biostatistical Methods II (3)

**Select one additional course:**

PSYC 8304 Measurement Theory and Psychometrics (3)
PUBH 8305 Quantitative Methods of Review in Research (3)
PSYC 8308 Applied Multivariate Statistics (3)
PUBH 8306 Linear Structural Modeling (3)
PUBH 8310 Mixed Model Regression Analysis (3)
PUBH 8311 Applied Categorical Data Analysis (3)

Electives: 15 Credit hours

At least two of the five elective courses should be taken from within the public health offerings. Electives must be approved by the major advisor. Students entering the program with a completed MPH or other health-related graduate degree may request a waiver for courses that have been completed.

*Public Health Electives:*

PUBH 8140 Epidemiology of Chronic Disease (3)
PUBH 8333 Addictive Behaviors (3)
PUBH 8335 Structural and Environmental Issues in Urban Communities (3)
PUBH 8336 Women’s Health (3)
PUBH 8337 Eating Behaviors, Nutrition, and the Family (3)
PUBH 8338 Critical Issues in Global Health (3)
PUBH 8341 Physical Activity and Public Health (3)
PUBH 8342 Epidemiology of Minority and Ethnic Populations (3)
PUBH 8343 Tobacco Use: Causes, Consequences, and Control (3)
PUBH 8345 Health Literacy (3)
PUBH 8346 Public Mental Health (3)
PUBH 8400 Special Problems (3)
PUBH 8442 Cancer Epidemiology (3)
PUBH 8443 Infectious Disease Epidemiology (3)
PUBH 8445 Genetic Epidemiology (3)
PUBH 8501 Health Systems Organizations (3)
PUBH 8502 Health Policy, Theory and Methods (3)
PUBH 8800 Guided Research in Public Health* (1-3)

*Up to 9 credit hours of PUBH 8800 may be applied toward the Electives requirement.*

*Other Electives:*

COMM 8016 Health Communication Campaigns (3)
EDPR 8109 Infant Development (3)
EDPR 8110 Early Childhood Development (3)
EDPR 8165 Social Development in Children (3)
ENGL 8014 Workshop on Public Health Care Writing (3)
ENGL 8819 Rhetoric of Science (3)
ESCI 8613 GIS and Human Health (3)
PSYC 8217 Social Psychology (3)
PSYC 8416 Child Psychopathology (3)
PSYC 8506 Grant Writing (3)
SOCL 8851 Medical Sociology (3)

Dissertation: 9 credit hours

Dissertation and Final Examination: The dissertation is viewed as the capstone of the student’s academic training, reflecting the student’s capacity for independent research. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Upon completion of an independent dissertation research project acceptable to the faculty, each student will take a final oral examination oriented toward, but not exclusively on, the student’s dissertation research and major area of specialization. Students are required to take 9 credit hours toward their dissertation at The University of Memphis.

V. Doctor of Philosophy (PhD) Program in Epidemiology

FAWAZ MZAYEK, PhD
Associate Professor and Graduate Program Coordinator

Email: sph-admin@memphis.edu

The School of Public Health at The University of Memphis offers a PhD degree in Epidemiology, the highest academic degree for individuals planning to pursue scholarly careers in this discipline. This program is designed for those who intend to teach and conduct original research utilizing rigorous scientific theories and methods, as well as be active in advocating and promoting health policies and intervention programs to improve the general health of societies. The program will emphasize urban health and health disparities issues in Tennessee and in the Mid-South region.

A. Program Admission

A master's degree is required for admission. Applicants must show potential for further study by having maintained a GPA of at least a 3.0 average in their master's-level coursework. The Graduate Record Examination (GRE) completed within the past five years is required. Competitive scores on the GRE are considered in the admissions decision. Applicants already holding a doctoral degree or its professional equivalent may be exempted from the GRE requirement. Other professional school standardized test scores (MCAT, DAT, or LSAT,) may be substituted.
for the GRE by applicants who are working toward or who have already earned post-baccalaureate degrees for example, in medicine, dentistry, management, or law. Test scores must be sent directly to Graduate Admissions by the testing agency. The University of Memphis institution code number for reporting ETS scores is R-1459.

All applicants who will be attending the University on a visa and who are not native speakers of English and are not graduates of the University of Memphis must supply a minimum score of 96 (80%) on the computer-based Test of English as a Foreign Language (TOEFL iBT), or an equivalent score on the paper-based test (TOEFL PBT).

Letters of recommendation from three individuals (at least one letter from a former professor or instructor) familiar with the applicant's academic background or experience in public health related issues, specifying in detail the applicant's capabilities for graduate study and for future performance as a public health scholar, are required. Applicants must also submit a personal statement of approximately 750 to 1000 words indicating his/her present interests and career goals, including how the PhD in Epidemiology will prepare the candidate to achieve these goals.

Materials submitted will be reviewed by the faculty admissions committee. Admissions decisions are made on the overall quality of the applicant's scholarship and academic ability (based on GPAs, GRE scores, undergraduate and graduate coursework completed, research conducted, and recommendations) as well as the applicant's "fit" for the program in terms of research interests and career goals.

B. Program Prerequisites

All doctoral students are required to fulfill the following pre-requisites (6 credit hours) or document equivalent coursework. These two courses will not count toward the required 63 hours of doctoral study:

a) PUBH 8150: Biostatistics Methods I (3)
b) PUBH 8170: Epidemiology in Public Health I (3)

C. Program Requirements

Credit Hours: To qualify for graduation, students need to complete a minimum of 54 semester hours of graduate course work beyond the master's degree plus 9 hours of PUBH 9000 (Doctoral Dissertation), for a minimum of 63 graduate credit hours. No more than 9 hours of dissertation credits will count toward the degree.

Transfer credit: Graduate School regulations must be followed regarding accepting academic credits from another institution. Courses proposed for transfer credit must meet the following two requirements. (a) The Tennessee Board of Regents requires a minimum of 750 contact minutes for each semester credit (2250 for a 3-hour course). (b) The Tennessee Conference of Graduate Schools requires a minimum of 3 hours of class work per week for 3 hours of credit. Grades earned at another institution will not be computed in the University cumulative grade point average, nor will they be accepted for transfer, unless they are "B" (3.0) or better. No credit will be transferred
unless it meets with the approval of the major advisor or program graduate coordinator.

**Enrollment:** Full-time students are expected to carry a minimum of 9 credits per semester, and to devote full time during their enrollment to the pursuit of degree-related activities. Full-time students with graduate assistantships are required to enroll for 9 credits each semester. Part-time students are expected to carry a minimum of 6 credits per semester, unless permission is granted from the advisor for a reduced course load.

**Research:** All doctoral students are expected to be active in research collaboratively with members of the Division faculty each semester they are enrolled. Students may receive credit for research involvement by enrolling in PUBH 8800 (Guided Research in Public Health).

**Retention requirements:** Students must earn a grade of B (3.0) or higher in all required courses. The PhD program will adhere to Graduate School policy regarding course grades and repetition of courses. All courses applied toward PhD degree program requirements must have the advisor's written approval.

**Residency Requirements:** The last 30 credit hours must be earned at The University of Memphis. Credit will be transferred to apply toward a doctoral program upon approval of the student's advisory committee in accordance with Graduate School policy.

**Comprehensive Examination:** Upon completion of required coursework and prior to enrolling in dissertation hours (PUBH 9000), the student must successfully complete a written and oral comprehensive exam. The exam will assess mastery of areas covered in the student's program. The content of the examination for each student will consist of core competencies in public health, epidemiology, and dissertation topic. The student's advisory committee will be responsible for organizing and evaluating the comprehensive examination.

**Dissertation:** To fulfill the requirements for the PhD in Epidemiology, the student must write and defend a dissertation. The dissertation must adhere to the format outlined by the Graduate School. The dissertation topic will be determined by the student in consultation with the advisor and input from the advisory committee.

**D. Program Curriculum:**

**Epidemiology Research Methods Core: 12 credit hours**
- PUBH 8141 Epidemiologic Survey Method (3)
- PUBH 8172 Epidemiology in Public Health II (3)
- PUBH 8174 Epidemiology in Public Health III (3)
- PUBH 8450 Randomized Clinical Trials (3)

**Epidemiology Advanced Core: 9 credit hours**
- NURS 8103 Advanced Pathophysiology (3)
- PUBH 8104 Large Datasets and Public Health Research (3)
PSYC 8305 Quantitative Methods for Reviewing Research (meta-analysis) (3)

**Epidemiology Subject Matter Core: 9 credit hours**
*(Select three)*
- PUBH 8442 Cancer Epidemiology (3)
- PUBH 8443 Infectious Disease Epidemiology (3)
- PUBH 8140 Epidemiology of Chronic Disease (3)
- PUBH 8122 Environmental Health II (3)
- PUBH 8445 Genetic Epidemiology (3)

**Biostatistics Core: 9 credit hours**
*Required:*
- PUBH 8152 Biostatistical Methods II (3)
*Plus, Select two of the following:
- PSYC 8302 Advanced Statistics I (Regression) (3)
- PSYC 8303 Advanced Statistics II (ANOVA) (3)
- PSYC 8304 Measurement Theory and Psychometrics (3)
- PSYC 8305 Quantitative Methods for Research Review (3)
- PSYC 8306 Linear structural modeling (3)
- PSYC 8308 Applied multivariate statistics (3)
- PUBH 8310 Mixed Models Regression (3)
- PUBH 8311 Applied Categorical Data Analysis (3)
- PUBH 8309 Applied Survival Analysis in Public Health (3)

**Doctoral Seminar: 6 credit hours**
- PUBH 8900 Science, Theory and PH Research (3)
- PUBH 8901 Professional Development for Public Health Doctoral Students (3)

**Dissertation: 9 credit hours**
- PUBH 9000 Doctoral Dissertation (9)

**Epidemiology Electives: at least 9 credit hours**
Students entering the program with a completed MPH or other health-related graduate degree may have taken some of the required courses in the epidemiology core, such as Biostatistics Methods II or Survey Methodology or equivalent courses. These students can request a waiver from those courses and take additional courses from epidemiology advanced core, epidemiology subject matter core or electives to meet the 63 credit hour minimum requirement.

**Public Health Electives:**
- PUBH 7200 SPSS for Health Care Professionals (1*)

PUBH 7201 SAS for Health Care Professionals (1*)
PUBH 8130 Social Determinants of Health (3)
PUBH 8132 Health Program Evaluation (3)
PUBH 8135 Social Network Concepts in Public Health (3)
PUBH 8165 Public Health Approaches to HIV/AIDS (3)
PUBH 8161 Advanced Psychosocial Theories of Health and Health Behavior (3)
PUBH 8334 Community Based Participatory Research (3)
PUBH 8335 Structural and Environmental Issues in Urban Communities (3)
PUBH 8336 Women's Health (3)
PUBH 8338 Critical Issues in Global Health (3)
PUBH 8339 Translational Research Methods in Population Health (3)
PUBH 8341 Physical Activity and Public Health (3)
PUBH 8342 Epidemiology of Minority and Ethnic Populations (3)
PUBH 8343 Tobacco Use: Causes, Consequences, and Control (3)
PUBH 8347 Qualitative Methods in Health Research (3)
PUBH 8400 Special Problems (3)
PUBH 8444 Fundamentals of Public Health Surveillance (3)
PUBH 8447 Public Health Genomics (3)
PUBH 8501 Health Systems Organization (3)
PUBH 8502 Health Policy, Theory and Methods (3)
PUBH 8800 Guided Research in Public Health** (1-9)

Other Electives:
BIOL 8080 Public Health Microbiology (3)
ESCI 8613 GIS and Human Health (3)
PSYC 8506 Grant Writing (3)

*Do not count towards graduation
** Up to 9 credit hours of PUBH 8800 may be applied toward the electives requirement

VI. Doctor of Philosophy (PhD) in Health Systems and Policy

DAN GENTRY, PhD
Professor and Graduate Program Coordinator
137 Robison Hall
901.678.3437

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The PhD degree in Health Systems and Policy (HSP) is the highest academic degree for individuals planning to pursue scholarly careers in this discipline. The HSP PhD is designed for those who want to teach and conduct
research utilizing evidence-based best practices and rigorous scientific theories and methods to understand and improve the structure, process, and outcomes of health systems, as well as the transformative nature of healthcare data and evidence; and the need to address health systems issues within the context of improving population health. Graduates of the program will be prepared to conduct innovative, interdisciplinary, and translational research and a variety of academic, government, and non-profit health settings.

A. Program Admission

A master’s degree in a public health, health services administration, health policy or other related health field is required for admission. Applicants for the doctoral program must show potential for further study by having maintained a GPA of at least a 3.0 average in their master’s level coursework. An acceptable, competitive score on the Graduate Record Examination (GRE) from the past five years is required. Applicants already holding a doctoral degree or its professional equivalent from a U.S. university may be exempted from the GRE requirement. Other professional school standardized test scores (MCAT, DAT, GMAT, or LSAT,) may be substituted for the GRE by applicants who are working toward, or who have already earned, post baccalaureate degrees in medicine, dentistry, management, or law earned in the U.S. Test scores must be sent directly to Graduate Admissions by the testing agency. The University of Memphis institution code number for reporting ETS scores is R-1459.

All applicants who will be attending the University on a visa, are non-native English speakers, and are not University of Memphis graduates must supply a minimum score of 96 (80%) on the computer-based Test of English as a Foreign Language (TOEFL iBT) or an equivalent score on the paper-based test (TOEFL PBT).

Letters of recommendation from three professionals (at least two letters from former professors) familiar with the applicant’s academic background or experience in public health related work, specifying in detail the applicant’s capabilities for graduate study and for future performance as a public health scholar, are required. Applicants must also submit a personal statement of approximately 750 to 1000 words indicating his/her present interests and career goals, including how the PhD in Health Systems and Policy will prepare the candidate to achieve these goals.

Materials submitted will be reviewed by the faculty admissions committee. Admission decisions are based upon the overall quality of the applicant’s scholarship and academic ability (i.e., GPAs, GRE scores, undergraduate and graduate coursework completed, research conducted, and recommendations), as well as the applicant’s “fit” for the program in terms of research interests and career goals.

Students are usually admitted to the HSP PhD program for the fall semester. The priority application deadline is December 1, guaranteed consideration deadline is February 1, and final application deadline is April 1.

B. Program Prerequisites
All HSP doctoral students are required to fulfill the following pre-requisites (9 credit hours) or document equivalent coursework. These three courses will not count toward the required 60 hours of doctoral study: PUBH 8150: Biostatistics Methods I; PUBH 8170: Epidemiology in Public Health; and PUBH 8105: Health Policy and the Organization of Health Services.

C. Program Requirements

Credit Hours: A minimum of 60 semester hours of graduate credit beyond the master’s degree is required for the PhD in Health Systems and Policy. All work for doctoral credit must be approved by, and must be completed at a level of performance satisfactory to, the graduate faculty of the Division of Health Systems Management and Policy. Students also may take coursework for degree credit outside the School of Public Health with advisor approval.

Transfer Credit: Graduate School regulations must be followed regarding accepting academic credits from another institution. Courses proposed for transfer credit must meet the following two requirements. (a) The Tennessee Board of Regents requires a minimum of 750 contact minutes for each semester credit (2250 for a 3-hour course). (b) The Tennessee Conference of Graduate Schools requires a minimum of 3 hours of class work per week for 3 hours of credit. Grades earned at another institution will not be computed in the University cumulative grade point average, nor will they be accepted for transfer, unless they are "B" (3.0) or better. No credit will be transferred unless it meets with the approval of the major advisor or program graduate coordinator.

Enrollment: Full-time students are expected to carry a minimum of 9 credits per semester, and to devote full time during their enrollment to the pursuit of degree-related activities. Full-time students with graduate assistantships are required to enroll for 9 credits each semester. Part-time students are expected to carry a minimum of 6 credits per semester, unless permission is granted from the advisor for a reduced course load.

Research: All doctoral students are expected to be active in research collaboratively with members of the Division faculty each semester they are enrolled. Students may receive credit for research involvement by enrolling in PUBH 8800 (Guided Research in Public Health).

Comprehensive Examination: Upon completion of required coursework and prior to enrolling in dissertation hours (PUBH 9000), the student must successfully complete a written and oral comprehensive examination. The examination will assess mastery of areas covered in the student's program. The content of the examination for each student will consist of core competencies in public health and health systems and policy applied to public health, health services and policy, and dissertation topic. The student’s advisory committee will be responsible for organizing and evaluating the comprehensive examination.

Dissertation: To fulfill the requirements for the PhD in Health Systems and Policy, the student must write and defend a dissertation. The dissertation must adhere to the format outlined by the Graduate School. The dissertation topic will be determined by the student in consultation with the advisor with input from the advisory committee.
Residency Requirements: The last thirty semester hours of credit for the doctoral degree must be earned at the University of Memphis. Only the number of dissertation hours accepted by the program toward the degree will be accepted as part of the last 30 hours.

D. Program Curriculum

Curriculum Requirements: The PhD in Health Systems and Policy requires completion of at least 60 semester credit hours beyond the master’s degree. Required courses are organized into four cores plus electives and dissertation, as described below.

Health Systems and Policy Core: 21 credit hours

The following are required courses:

- PUBH 8710 Health Care Economics (3)
- HADM 8102 Health Care Law (3)
- HADM 8204 Quality and Outcomes Management in Health Care (3)
- PUBH 8502 Health Policy, Theory and Methods (3)
- PUBH 8503 Health Systems Decision-Making (3)
- PUBH 8504 IT & Organizational Change (3)
- PUBH 8109 Health Care information Systems (3)

Doctoral Seminar Core: 6 credit hours

The following are required courses:

- PUBH 8900: Science, Theory, and Public Health Research (3)
- PUBH 8901: Professional Development for Public Health Doctoral Students (3)

Research Methods Core: 9 credit hours

Required course:

- HADM 8106 Health Services Research (3)

Select two additional courses (6 credit hours):

- PUBH 8141 Epidemiologic Survey Methods (3)
- PUBH 8172 Epidemiology in Public Health II (3)
- PUBH 8174 Epidemiology in Public Health III (3)
- PUBH 8339 Translational Research Methods in Population Health (3)
- PUBH 8444 Fundamentals of Public Health Surveillance (3)
- PUBH 8450 Randomized Clinical Trials (3)
- PUBH 8334 Community Based Participatory Research Methods (3)
- PUBH 8347 Qualitative Methods in Health Research (3)

Biostatistics Core: 9 credit hours

Required:

- PUBH 8152 Biostatistical Methods II (3)

Select two additional courses (6 credit hours):

- PSYC 8302 Advanced Statistics
- PSYC 8304 Measurement Theory and Psychometrics (3)
- PUBH 8305 Quantitative Methods of Review in Research (3)
- PSYC 8308 Applied Multivariate Statistics (3)
- PUBH 8306 Linear Structural Modeling (3)
- PUBH 8310 Mixed Model Regression Analysis (3)
- PUBH 8311 Applied Categorical Data Analysis (3)
- PSYC 8301 Research Design and Methods
- PUBH 8104 Large Data Sets in Public Health Research (3)

Electives: 6 Credit hours

Electives must be approved by the major advisor. Students entering the program with a completed MPH, MHA, or other health-related graduate degree may request a waiver for courses that have been completed.

Dissertation: 9 credit hours

Required:

- PUBH 9000 Doctoral Dissertation (9)

Dissertation and Final Examination: The dissertation is viewed as the capstone of the student's academic training, reflecting the student's capacity for independent research. Students should familiarize themselves with the Thesis/Dissertation Preparation Guide before beginning to write. Upon completion of an independent dissertation research project acceptable to the faculty, each student will take a final oral examination oriented toward, but not exclusively on, the student's dissertation research and major area of specialization.

Students are required to take 9 credit hours toward their dissertation at the University of Memphis.

VII. Graduate Certificate in Population Health

A. Admissions Requirements:

Students must have completed a bachelor's degree with a cumulative grade point average of at least 2.5 and apply for admission to the Graduate School with the classification of "Graduate Certificate." To apply students must submit:

1. Transcripts of undergraduate degree program and any prior graduate study to Graduate Admissions.
2. An application and one-page letter describing their intent to pursue the certificate and its relevance to their career goals to the Academic Services Coordinator of the School of Public Health.
3. Applicants for whom English is not their primary language are required to meet the University's minimum required TOEFL score.
4. Acceptance into the certificate program is not an implied acceptance into any master's degree program.

B. Program Requirements: Completion of five courses (15 semester credit hours), as follows:

- PUBH 7150 Biostatistical Methods I (3) (Fall)
- PUBH 7170 Epidemiology in Public Health (3) (Fall)
- HADM 7105 Health Policy and Organization of Health Services (3) (Spring)
- PUBH 7160 Social and Behavioral Sciences Principles (3) (Spring)
- PUBH 7120 Environmental Health I (3) (Spring)

C. Graduation Requirements:

1. The student must complete all five required courses with a minimum grade of B in each course.
2. All courses towards certification must be completed within five years.

In the semester of graduation, the student must submit the Apply to Graduate Form to the Graduate School and a Graduate Certificate Candidacy form to the School's Director of Graduate Studies by the deadline specified by the Graduate School.

Click here for course descriptions
Individual program requirements described in *The University of Memphis Graduate Bulletin, 2015-2016*, are subject to change. Please consult your department or the Graduate School web page for changes that may occur before publication of the next issue of this Bulletin. All graduate students must comply with the general requirements of the Graduate School (see Admissions Regulations, Academic Regulations, and Minimum Degree Requirements) as well as the program requirements of the degree being pursued.

The University College offers two graduate degrees: the Master of Arts in Liberal Studies (MALS) and the Master of Professional Studies (MPS) with concentrations in Strategic Leadership, Human Resources Leadership, and Training and Development.

The objectives of the MALS program are to develop: (1) an ability to conceive and develop an interdisciplinary program of study; (2) a high level of proficiency in written and verbal communication skills; (3) an ability to integrate research from various disciplinary perspectives in an interdisciplinary program of study; and (4) an ability to identify and research a topic from interdisciplinary perspectives and communicate the findings in oral and written presentations.

The Master of Professional Studies includes concentrations in Strategic Leadership, Human Resources Leadership, and Training and Development. Each represents an interdisciplinary graduate degree for leaders in the workplace; each concentration includes coursework in leadership, communication, strategic planning and assessment, organizational structure, and research/data analysis.

I. Master of Arts in Liberal Studies (MALS) Degree Program

The Master of Arts in Liberal Studies program at the University of Memphis allows students to customize an interdisciplinary course of study. The program is for those seeking the personal enrichment provided by liberal
learning and the development of intellectual skills necessary to lifelong learning—critical reading, scholarly writing, and the art of interpersonal communication.

A. Program Admission and Prerequisites

Applicants to the program are evaluated as they apply and may be admitted for the fall, spring or summer sessions. Application for admission to the program consists of three steps:

1. Application for admission to the Graduate School: The Graduate School at the University of Memphis accepts applications via electronic submission at www.memphis.edu/admissions/apply.php
2. Application Packet: Instructions for completing this step are available under the MALS admissions information link at www.memphis.edu/univcoll/graduate/mals.php.
3. Personal interview with the MALS Graduate Coordinator.

B. Program Requirements

Because each MALS student follows a unique course of study, students develop a contract with the University College to create a program that satisfies both the interdisciplinary intent of the MALS program and the Graduate School’s requirements for graduation.

At the time of admission to the MALS program, the Graduate Coordinator approves the student’s course of study as reflected on the Coordinated Study Grid that accompanies the application essay. Students then enroll each semester in available courses from the approved plan. Within two weeks after the start of the final semester they must submit a final Program Contract that reiterates the approved academic goals (if necessary, reflecting any changes that have developed since admission) and identifies the Coordinated Study courses actually completed. Major deviations from the original approved plan require department pre-approval and will be addressed at the time of registration each semester.

The program requirements are:

1. Successful completion of the MALS degree requires thirty-three (33) credit hours, with a minimum of 24 credit hours at the 7000 level, twelve (12) of which are included in the MALS core.
2. The MALS core is required of all students, and consists of twelve (12) credit hours including UNIV 7000 Foundations of Liberal Studies, UNIV 7100 Research in Interdisciplinary Studies, UNIV 7200 Liberal Studies Seminar, and UNIV 7996 Special Project (see below for course descriptions).
3. The Coordinated Study is comprised of twenty-one (21) credit hours selected from two or more disciplines, with a maximum of 12 credit hours from any one discipline. At least 12 hours must be 7000-level courses. No more than six (6) credit hours may be from non-core UNIV courses, including UNIV 7796 Independent Study and/or UNIV 7110 Internship.
4. Transfer credit is limited to twelve (12) semester hours. Credit previously earned at another university must be presented for evaluation not later than the end of the student’s second semester of enrollment.
5. Successful completion of UNIV 7996 Capstone Project, followed by an oral comprehensive examination.

II. Master of Professional Studies (MPS) Degree Program

A. Program Admission and Prerequisites

Applicants to the program are evaluated as they apply and may be admitted for the fall, spring or summer sessions. All applicants must meet the following admission requirements:

1. Completion of an undergraduate degree with a grade point average of at least 2.75 on a 4.0 scale from an accredited college or university.
2. An acceptable score on the GRE General Test.
3. Applicants with substantial professional work experience may submit a portfolio in lieu of the GRE. The portfolio is to include: a resume; a 500 to 600 word essay detailing motivation for entering the MPS program and how the program will help the applicant achieve personal and professional goals; and two sealed letters of professional reference. Applicants may also include a detailed description of professional responsibilities, professional achievements, and professional awards/recognitions, if applicable.

B. Program Requirements

1. Completion of MPS program core: PRST 7100 Professional Environment: Issues and Ethics; PRST 7200 Globalization and the Professions; PRST 7300 Research Methods and PRST 7998 Professional Project, followed by an oral comprehensive examination.
2. Completion of 21 semester hours of Concentration Courses (and electives where applicable).
   1. For the Strategic Leadership Concentration, complete at least one course from each of five subject areas and two additional classes from any of the subject areas:
      1. Leadership Theory: PRST 7500 Foundations of Leadership; LDSP 7000 Current Issues and Cases in Leadership; or ELPA 7560 Small Group Leadership
      2. Research/Data Analysis: PRST 7770 Computer-Based Decision Modeling or PRST 7600 Statistical Analysis
      3. Organizational Structure and Change: PRST 7310 Leadership in Organization or PRST 7800 Organizational Skills and Development
      4. Communication: COMM 7110 Leadership and Communication; JOUR 7450 Public Relations Management; or PRST 7700 Conflict Management and Negotiation
      5. Strategic Planning and Assessment: PRST 7105 Project Planning and Scheduling or PRST 7040 Human Resources Management
   2. For the Human Resources Leadership concentration, complete all four of the Concentration Courses, plus one course from number 2 below and two courses from number 3 below:
      1. Concentration Courses: PRST 7040 Human Resources Management; PRST 7600 Statistical Analysis; PRST 7910 Employment and Human Resources Law; and PRST 7920 Diversity in the Workplace
      2. Choose one: PRST 7500 Foundations of Leadership or PRST 7310 Leadership in
Organizations

3. Choose two: PRST 7700 Conflict Management and Negotiation; PRST 7930 Compensation and Benefits; PRST 7940 Recruitment, Selection, and Retention; PRST 7400 Instructional Design for Training and Development

3. For the Training and Development Concentration, Complete five (5) of the concentration courses as noted in #1:

1. Concentration Courses (five courses): PRST 7410 Evaluation of Learning; PRST 7420 Organizational Needs Analysis; PRST 7400 Instructional Design for Training and Development; PRST 7420 Organizational Needs Analysis; PRST 7770 Computer-Based Decision Modeling; PRST 7600 Statistical Analysis

2. Specialization Courses (two courses required): PRST 7105 Project Planning and Scheduling. PRST 7440 Engaging the Adult Online Learner; PRST 7450 Computer-Based Technologies for E-Training; PRST 7430 Advanced Instructional Design for Training and Development; PRST 7040 Human Resources Management; PRST 7910 Employer and Human Resources Law; PRST 7920 Diversity in the Workplace.

3. Successful completion of PRST 7998 Professional Project, followed by an oral comprehensive examination.

III. Experiential Learning

The University of Memphis believes that rigorous professional and/or personal development occurs in settings outside the traditional classroom and grants experiential learning credit (ELC) to students who demonstrate the academic merit of such experiences. These contexts for ELC include both formal and informal learning that results from worksite training, professional organization certification, community volunteering, and unique life experiences. Students may apply ELC toward degree programs granted by University College.

Experiential learning credit for graduate students is awarded for advanced professional/personal development. Students may be expected to demonstrate a leadership or production capacity.

Experiential learning credit can only be awarded for experiences attained prior to the first term of enrollment in a University College graduate program. A favorable portfolio review will result in one (1) to nine (9) credit hours posted to the student’s transcript.

A student may not audit or enroll in a credit course at the University and subsequently seek credit in that course through experiential learning. A student may not earn additional credit for experiences previously awarded ELC.

Graduate students are encouraged to submit notification of intent to apply for ELC no later than the first term of enrollment. Experiential learning credit is only granted upon the written recommendation of the University College Graduate Studies Director (or designated representative). A maximum number of 9 (nine) semester hours of credit can be granted via ELC.

For more details on the systematic process implemented by the University College for evaluating and credentialing
experiential learning, see www.memphis.edu/innovation/elc/experiential_learning.php.

IV. Graduate Certificate Program in Liberal Studies

The Graduate Certificate in Liberal Studies is intended to present graduate background material for those seeking personal enrichment provided by liberal learning and the development of those intellectual skills necessary to lifelong learning—critical reading, scholarly writing, and the art of interpersonal communication. The program consists of four courses: (1) UNIV 7000 Foundations of Liberal Studies; (2) UNIV 7100 Research in Liberal Studies; (3) UNIV 7200 Liberal Studies Seminar; and (4) one elective course.

Foundations, Research, and Seminar are core courses in the Master of Arts in Liberal Studies degree program and thus, those who successfully complete the certificate program will be offered entry to the MALS degree program as well as the opportunity to apply those courses towards graduate degree programs in other departments in consultation with that department’s graduate advisor.

Applying for Admission to the Program

Completion of an undergraduate degree with a cumulative grade point average of 2.75 on a 4.0 scale from an accredited college or university is expected. It should be noted that as applicants are selected on a competitive basis, admission is not granted to all applicants who meet only the minimum requirements.

Application for admission to the program consists of three steps:

Step 1: Application for admission to the Graduate School

The Graduate School at the University of Memphis accepts applications via electronic submission at www.memphis.edu/admissions/apply.php.

Admission deadlines to the program:

- Fall - July 1
- Spring - December 1
- Summer - May 1

Steps 2 and 3: The Application Essay and Letter of Recommendation

As soon as possible after applying to the Graduate School, students interested in the Graduate Certificate in Liberal Studies program should submit to the University College Graduate Programs office the following:

(a) One official letter of recommendation, preferably from a previous or current instructor who can attest to the
student’s capacity for graduate work.

(b) An application essay that addresses the following points:

Why is the Graduate Certificate in Liberal Studies program the best choice for pursuing your personal and intellectual goals?

How have your academic and professional experiences prepared you for this program?

Why do you think you are a good candidate for the Graduate Certificate in Liberal Studies program?

PLEASE NOTE that the University College only has the authority to recommend or deny admission to the Graduate Certificate in Liberal Studies program. The Graduate School makes all final admission decisions, and will notify students once a decision has been reached.

Program Requirements

Successful completion of the Graduate Certificate in Liberal Studies requires twelve (12) credit hours:

- UNIV 7000 Foundations of Liberal Studies (3 hours)
- UNIV 7100 Research in Interdisciplinary Studies (3 hours)
- UNIV 7200 Liberal Studies Seminar (3 hours)
- Elective (3 hours): one elective at the 6000 or 7000 level.

Click here for course descriptions

Graduate Catalog

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Graduate School

2015-2016 Academic Calendar
Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Grade Appeals

This appeal procedure provides any graduate student at The University of Memphis with a clearly defined avenue for appealing the assignment of a course grade that the student believes was based on prejudice, discrimination, arbitrary or capricious action, or some other reason not related to academic performance. In all cases the complaining student shall have the burden of proof with respect to the allegations in the complaint and in the request for a hearing.
The student must institute the appeal process within thirty (30) class days following the University deadline for posting grades in the system. If the instructor, chair, or dean fails to respond to the student's complaint within the time limits, the Graduate Grade Appeals Committee shall act on the student's complaint. The procedure is terminated if the student and the instructor agree on the grade. If neither the student nor the instructor appeals a decision within the appropriate time limit, the disposition of the complaint made in the previous step shall be final.

A written record of all decisions shall be kept with the file at all steps in the process. Copies of all correspondence and records shall be retained in the office in which the complaint is finally resolved. The original documents shall be forwarded to the Graduate School for filing.

All parties must carefully adhere to the following procedure, observing the deadlines.

**STEP 1**

**Time Limitation:** Early enough to meet the deadline in Step 2.

The student shall first consult with the instructor in an effort to provide a satisfactory resolution of the complaint. In the event the student cannot schedule a meeting with the instructor, the student may contact the department chair, who shall schedule the meeting between the student and the instructor. If for any reason the instructor is not available, proceed to Step 2. If agreement is reached between the student and instructor the appeal process ends.

**STEP 2**

**Time Limitation:** Thirty (30) class days from the University deadline for posting grades in the system.

If the complaint is not resolved in Step 1, the student must complete a Graduate Grade Appeal Form (available in PDF format on the Graduate School's homepage, in the departmental office, or in the Graduate School). This form, accompanied by a written statement detailing the factual basis of the complaint along with the instructor's written rebuttal, shall be taken by the student to the chair of the department in which the course was taken. The written complaint must be received by the chair within thirty (30) class days from the University deadline for posting grades in the system. The department chair shall then address the complaint in consultation with the instructor and the student within fifteen (15) class days of the date of submission of the written complaint. If the instructor is unavailable, the chair should proceed with the appeal. The department chair may utilize any resources available to resolve the grade conflict. The chair must provide a written rationale for any decision made, which shall become part of the file.

If the department chair was the instructor of the course involved in the complaint, or if for any reason the chair disqualifies him/herself, the student may proceed to Step 3.
The chair is empowered to change the grade if he/she finds that the original grade was based on prejudice, discrimination, arbitrary or capricious action, or some other reason not related to academic performance. The chair shall notify both the student and the instructor in writing of the action taken. Either the student or the instructor may appeal the chair's decision within five (5) class days by filing a written request for a hearing before the dean of the college.

**STEP 3**

**Time limitation:** Within five (5) class days after the fifteen class-day period above.

If the complaint cannot be resolved at the level of Step 2 within the prescribed fifteen (15) class days, the student or the instructor has five (5) class days to request in writing (with a copy to the Graduate School) that the chair forward the complaint to the dean of the college. The chair shall provide the dean with the Graduate Grade Appeal Form, the chair's written rebuttal, a copy of all correspondence and decisions, along with other records pertaining to the complaint.

The dean may utilize any resources available to resolve the grade conflict within fifteen (15) class days. If the dean finds that the request lacks merit, he or she shall notify the student, the instructor, and the chair in writing; the grade shall remain as recorded. The dean is empowered to change the grade if he/she finds that the original grade was based on prejudice, discrimination, arbitrary or capricious action, or some other reason not related to academic performance. Otherwise the grade shall remain as recorded. The dean must provide a written rationale for any decision made, which shall become part of the file.

Either the student or the instructor may appeal the dean's decision within five (5) class days by filing a written request for a hearing before the Graduate Grade Appeals Committee with the Dean of the Graduate School or designee. This request must be accompanied by the Graduate Grade Appeal Form, a copy of all correspondence, including the dean's written recommendation, and other records pertaining to the complaint.

**STEP 4**

**Time limitation:** Within five (5) class days after the fifteen (15) class-day period above.

The written request for a hearing before the Graduate Grade Appeals Committee should state the factual basis for the appeal of the results of Step 3. All supporting documents, including the Graduate Grade Appeal Form, should be included at the time of submission.

The Dean of the Graduate School shall forward the request to the chair of the Graduate Grade Appeals Committee. The chair shall subsequently distribute copies of the request to the members of the committee for consideration. If the Committee finds the student's or the instructor's request merits a hearing, the Committee shall notify the student, the instructor, the chair, and the college dean of the date, time, and the location of the hearing.
Committee finds that the request does not merit a hearing, the student, the instructor, the chair, and the dean shall be so notified in writing.

The Graduate Grade Appeals Committee may utilize any available resources to resolve the conflict within fifteen (15) class days. To hold a hearing, the seven (7) members of the committee (or appropriate alternates) must be present. The instructor and student will present their cases at the hearing in each other's presence. If a majority of the Committee agrees that the grade should be changed because it was based on prejudice, discrimination, arbitrary or capricious action, or some other reason not related to academic performance, the Committee shall notify the Dean of the Graduate School, who shall be empowered to change the grade without the consent of the instructor, the chair, or the college dean. Otherwise, the grade shall remain as recorded. The decision of the Committee shall be communicated to all parties in writing. The decision of the Graduate Grade Appeals Committee shall be final.

The Graduate Grade Appeals Committee shall be composed of a chair, six members, and six alternates constituted as follows:

A chair designated by the Dean of the Graduate School and selected from the graduate faculty; a graduate faculty member and alternate designated by the Dean of the Graduate School; two graduate faculty members and two alternates elected by the University Council for Graduate Studies; three students and three alternates selected by the Dean of the Graduate School.

The appeals procedure is not complete until all appropriate records are forwarded to the Graduate School Office. At this time, the Dean of the Graduate School shall notify the Office of the Registrar, Corrections, of any grade change. A copy of the Graduate Grade Appeals Form shall become a part of the student's file. A permanent record of all grade appeals reviewed by the Grade Appeals Committee shall be maintained in the Graduate School.

Although the primary responsibility of the committee is to review appeals, the committee shall report any obvious discriminatory or capricious conduct on the part of either the student or the instructor to the Dean of the Graduate School for consideration and action.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Retention Appeals

Any action that results in a student being terminated may be appealed under the following procedures. These actions may include a second failure on comprehensive examinations, failure on a thesis or dissertation oral, a second semester on academic probation, or an action of a program retention committee. Appeals are to be presented and hearings on appeals convened only during periods in which the academic units of the University are in session. All parties concerned must receive copies of:
1. The requests for a hearing;
2. Notices of the time and location of the hearing; and
3. Disposition of the hearing request in each step of the appeal procedure.

As soon as notice is received that the appeal is continuing, copies of all correspondence and other records pertaining to the complaint must be forwarded to all concerned.

**STEP 1**

**A. Time Limitation:** Thirty class days following the semester in which the termination was received.

The student must submit a written request to the department chair for a hearing to appeal termination from the program. The request should state the factual basis for the appeal.

**B. Time Limitation:** Fifteen (15) class days following receipt of the complaint.

In consultation with the student and appropriate departmental committee, the department chair will render a decision on the appeal. The student and departmental committee will be notified in writing of the department chair's decision and reasons supporting the decision.

**STEP 2***

**A. Time Limitation:** Five (5) class days following the announcement of the decision by the chair.

The student or the departmental committee may appeal the decision made in Step 1 by filing, with the director of graduate studies in the student's college, a written request for a hearing before the college council for graduate studies. The request should state the factual basis for the appeal of the chair's decision and include a copy of the chair's decision.

**B. Time Limitation:** Fifteen (15) class days following the receipt of the written request.

The college council for graduate studies will notify the student, departmental committee, and chair of the date, time, and location of the retention appeals hearing. If the college council agrees that the student should be reinstated, the council shall be empowered to reinstate the student. The student, departmental committee, and chair will be notified in writing of the college council's decision and reasons supporting the decision.

[*In the case of programs that are not represented on a college council, Step 2 will be omitted and the appeal will be forwarded to the dean of the department involved.*]
STEP 3

A. **Time Limitation:** Five (5) class days after the announcement of the decision by the college council.

If the complaint cannot be resolved at the level of Step 2, the student or the departmental committee may request in writing that the director of graduate studies in the student's college forward the complaint to the dean of the appropriate college with a copy of the college council's decision.

B. **Time Limitation:** Fifteen (15) class days following the written request for appeal.

The college dean may utilize any resources available to resolve the conflict. The chair, the director of graduate studies in the student's college, the departmental committee, and the student will be notified in writing of the dean's decision.

STEP 4

A. **Time Limitation:** Five (5) class days following the announcement of a decision by the college dean.

If the complaint cannot be resolved at the level of Step 3, the student or the departmental committee may appeal the decision by filing, with the Vice Provost for Graduate Studies, a request for a hearing before the University Council for Graduate Studies. The written request for a hearing must state the factual basis for the appeal and include a copy of the dean's decision.

If the University Council for Graduate Studies finds that the appeal does not merit a hearing, all concerned parties shall be notified by the Vice Provost for Graduate Studies.

B. **Time Limitation:** Fifteen (15) class days following the receipt of the written appeal.

If the University Council for Graduate Studies finds that the appeal merits a hearing, it will notify the college dean, the director of graduate studies in the student's college, the department chair, the departmental committee, and the student of the date, time, and location of the retention appeals hearing. Any available resources may be used by the University Council to resolve the conflict. If the University Council agrees that the student should be reinstated, it shall be empowered to reinstate the student. The Vice Provost for Graduate Studies will notify in writing all concerned parties and the student of the decision and reasons supporting the decision.

The decision of the University Council for Graduate Studies shall be final.
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Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Admission to the Graduate School is open to anyone holding a bachelor's or master's degree from an accredited
college or university. Applicants should have completed undergraduate or graduate work of sufficient quality and scope to enable them to successfully pursue graduate study. The University of Memphis offers equal educational opportunity to all persons, without regard to race, religion, sex, age, creed, color, national origin, or physical handicap.

Students are admitted to the University of Memphis through a cooperative effort of the Graduate School and the departments, colleges, and schools of the University. When the Graduate School receives the student's application material, an official file is established and reviewed. The department then reviews the application file and makes a recommendation to the Graduate School. The Graduate School notifies applicants as soon as a decision has been reached.

Applicants are required to meet admissions criteria established by the Graduate School in order to enroll in graduate courses. In order to be admitted to a degree program in any academic unit, applicants are also required to meet any additional standards set by the unit or college. Applicants are selected on a competitive basis and, therefore, admission is not granted to all applicants who meet only the minimum requirements. Past behavior and classroom performance can be considered in admissions decisions. Some academic programs have individual application forms and additional requirements such as portfolios, proficiency examinations, auditions, etc.

**Individual program requirements described in the University of Memphis Graduate Bulletin 2015-2016, are subject to change. Please contact the academic department or the Graduate School for changes.** Domestic graduate admission applications will only be accepted through Self-Service Banner. The Office of Admissions no longer accepts hard-copy (paper) applications. Please visit the Graduate School web site for program addresses, deadlines, and additional information. Deadlines and requirements may differ for each program.

**Prospective students should check with the appropriate program for specific deadlines and admissions requirements.** For admission to a degree program, applicants should allow approximately three to six weeks from date of receipt of complete application for the necessary credentials to be processed by the appropriate degree program and the Graduate School. Applicants are urged to apply early to ensure full consideration. Late domestic applicants may be admitted as graduate non-degree students and as such are not guaranteed placement in specific programs; some classes may be closed to non-degree students. International applicants should allow at least four months for the application process; they can not be admitted as non-degree students.

All applications must be accompanied by a non-refundable application fee ($35.00 for domestic applicants; $60.00 for international applicants), unless previously paid. Applications received without the application fee will not be processed.

The University of Memphis requires all applicants born after January 1957 to have had the measles (MMR) vaccination after January 1, 1980, in order to be admitted. See "Miscellaneous Information" for additional information.
Return completed applications and required credentials to Graduate Admissions, 200 Wilder Tower, University of Memphis, Memphis, Tennessee 38152-3520. The applicant is advised to have all credentials on file well in advance (preferable six weeks) of the beginning of the term for which application is made.

See "Admission of International Students" for details about additional requirements for international applicants.

All credentials become the property of the University and will not be forwarded or returned. If the applicant does not enroll, credentials will be maintained in active files for 12 months, after which they will be destroyed. After that time, candidates must reapply for admission and submit a new set of credentials if they wish to be admitted to the Graduate School. Students who do not enroll for a Fall or Spring semester must apply for readmission.
Minimum Degree Requirements for Graduate Academic Programs

Graduate students are expected to be aware of and to comply with the general requirements for the degrees they
are pursuing as outlined in the Graduate School Bulletin. In addition to the general requirements, students are expected to conform to any additional requirements set by the student's college or academic unit. The Fogelman College of Business and Economics, the College of Education, Health and Human Sciences, and the Herff College of Engineering have additional college degree requirements. Please see Degree Programs for individual program requirements.

A wide variety of graduate programs of study are offered in The Graduate School at The University of Memphis. Candidates for a degree must design a plan in consultation with their major advisor and then obtain the appropriate approvals.

The University of Memphis offers Master's degrees, Education Specialist degree, Doctoral degrees and graduate certificates.

Minimum Requirements for Master's Degrees
Minimum Requirements for Doctoral Degrees
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
ANTHROPOLOGY (ANTH)

In addition to the courses below, the department may offer the following Special Topics courses:
ANTH 6990-6999. Special Topics in Anthropology. (3). Addresses various areas of anthropology; topics are announced in the online course listing. May be repeated with change of topic.

ANTH 7490-99. Special Topics in Globalization, Development and Culture (3). Topics of special interest in Globalization, Development and Culture. No more than six hours may be counted toward a degree in Anthropology. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 7590-99. Special Topics in Medical Anthropology. (3). Topics in Medical Anthropology. No more than six hours may be counted toward degree requirements in Anthropology. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 7690-99. Special Topics in Anthropology. (3). Topics vary and are announced in the online Course Listing. No more than six hours may be counted toward degree requirements in Anthropology. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 6051 - Anthropology/Education (3)
Advanced study of the cultural transmission process with emphasis on identifying differing behavioral, cognitive, and learning styles of various ethnic groups within American society and selected third world countries. Encounters of U.S. subcultural groups with the public education system. PREREQUISITE: Nonmajors must have permission of instructor.

ANTH 6111 - Human Adaptations (3)
Examines the physical and cultural adaptations of humans in an evolutionary and ecological context; information from primate studies, the archaeological record, and studies of contemporary societies; environmental context of physical adaptations, cultural adaptations, language, social organization.

ANTH 6120 - Africa’s New World Comm (3)
Survey of African-American cultures in the New World emanating from 17th and 18th century slave trade; focus on African Diaspora; Caribbean, Central America, South America, and North America.

ANTH 6220 - Cultural Perspec/Environment (3)
Role of culture in the use and management of natural resources; discusses how societies construct knowledge about nature and attribute value to it; examines how indigenous knowledge, alternative value systems, and traditional management strategies influence policy decisions at the local, national, and international levels.

ANTH 6253 - Anthropology of Religion (3)
Comparative analysis of religious systems and their functional relationships to other cultural institutions; interrelations of myth, magic, and ritual; types of religious institutions and religious practitioners.
ANTH 6270 - Ancient Human Soc/Envir Chng (3)
(Same as ESCI 6270). Examination of past people and their environments from the Ice Age to recent times; archaeological and paleoecological data. Three lecture hours per week.

ANTH 6302 - Native People of North America (3)
Intensive ethnological study of various prehistoric cultures from earliest times until historic contact.

ANTH 6325 - Archaeol Fld/Lab Techn (3)
(Same as ESCI 6325). Instruction in field excavation, specimen preparation, use of survey instruments and photography, map making, archaeological record keeping; methods and techniques in archaeological laboratory analysis; emphasis on organization and supervision of laboratory procedures. PREREQUISITE: permission of instructor.

ANTH 6350 - Archaeology of Collapse (3)
(Same as ESCI 6350). Emphasis on archaeology of regional politics and archaic states throughout the world. Overview of social and political collapse of complex societies.

ANTH 6411 - Urban Anthropology (3)
Anthropological studies of pre-industrial and industrial cities; urbanization, movements of social transformation and other processes of adjustment to an urban milieu; urban slums, ethnic enclaves, and housing developments in cross-cultural perspective; urban and social kinship and social organization; urban community development; urban research techniques.

ANTH 6412 - Neigh Dev/Social Entrep (3)
(Same as PADM 6412). Role of various institutions and their relationship to developmental needs of inner-city neighborhoods; evolution of American cities as context for understanding urban neighborhoods, poverty, and community problem-solving; particular attention given to role of government, corporations, and foundations in shaping policy at local level.

ANTH 6413 - Anth of Tourism/Environment (3)
Anthropological theories on conservation, indigenous rights, sustainability, and development as related to tourism development; assessment of ecotourism strategies, including community-managed conservation tourism, "voluntourism," participatory sustainable tourism, and the role of nongovernmental organizations in tourism management; special emphasis on indigenous rights.

ANTH 6414 - Anthropology of Work (3)
This course provides a survey of anthropological perspectives on work. Topics include: cross-cultural perspectives on work, gender, and personhood; labor migration; formal and informal labor markets; globalization; workplaces as ethnographic field sites; organizational and occupational hierarchies; paid and unpaid labor; occupational health; and work, leisure, and everyday life.
ANTH 6415 - Anthropology Human Rights (3)
Anthropological approaches to critical human rights issues, debates, practices including gender, children, health, land, genocide, resettlement; broadly-defined human rights in specific national and cultural contexts; explores what anthropology, practitioners, and ethnographic methods offer our understanding of how human rights are interpreted and negotiated.

ANTH 6416 - Culture/Identity/Power (3)
Anthropological approaches to human identity in cross-cultural contexts. Examines how culture and power inform understandings and practices related to difference and stratification, and the forces of identity formation and reproduction cross-culturally with emphasis on ways that race, ethnicity, class, gender, sexuality, religion, nation, and community are constructed, negotiated, and resisted.

ANTH 6417 - Food/Culture/Power (3)
Anthropological study at the intersection of the global industrialized food system and emerging alternatives; construction and negotiation of value, taste, and meaning of food throughout the life cycle of the food system, from field to fork and table to trash; marginality, power, and social action in food systems. PREREQUISITE: ANTH 1200 or permission of instructor.

ANTH 6431 - Culture and Consumerism (3)
Advanced study of consumption from an anthropological perspective; contemporary consumer culture in the U S and around the world; emphasis on how consumption shapes/reflects individual identities and cultural trends; consumer movements and anti-consumerism; sociocultural and environmental impacts of consumer behavior; design anthropology and the role of ethnography in market.

ANTH 6510 - Health/Culture/Environ Justice (3)
Creation of health inequalities through socio-cultural forces that shape differential exposure to environmental hazards; basic concepts in cultural ecology and environmental health; anthropological approaches to understanding human biology; race and class as influences of disease risk in U. S. and global south; grassroots and community-based research efforts to combat environmental health inequalities.

ANTH 6511 - Medical Anthropology (3)
Surveys the anthropology of health, illness, and curing systems, and how cultural, evolutionary, and environmental forces shape health and healing. Topics include ethnomedicine, nutrition, mental health, reproduction, addictions, health ecology, and evolutionary medicine. Examines how illness perceptions and health behaviors yield deeper insight into identity, values, agency, and health disparities. Considers roles for applied medical anthropology to improve care.

ANTH 6521 - Culture, Soc & Mental Health (3)
Examination of mental health and illness as a set of subjective experiences, social processes and objects of
knowledge and intervention; cultural models of mental illness and healing; therapy as a cultural practice; substance abuse and addiction; mental health and relations of power; sociocultural dimensions of psycho-pharmacology.

**ANTH 6531 - Alcohol/Drugs/Culture (3)**
Cross-cultural comparison of beliefs, rituals, and meaning of substance use and abuse; examination of biological and cultural evidence on the origin and development of problems; implications for prevention, early intervention, and treatment.

**ANTH 6541 - Nutritional Anth (3)**
Cross-cultural comparison of human diet; assessment; cultural and health value of foods; hunger and malnutrition; acculturation and dietary change.

**ANTH 6551 - Culture/Sex/Childbirth (3)**
Review of biological, environmental, social, and cultural factors influencing human reproduction; comparison of cultural and clinical perspectives on sexual orientation and behavior, sexually transmitted diseases, fertility, birth control, pregnancy, birth, and postpartum care; evaluation of alternative delivery systems in Western and non-Western societies.

**ANTH 6571 - Race and Health Disparities (3)**
History of scientific racism and race in the public and healthcare spheres; current understandings of human biological and genetic variation; role of cultural constructions of race in differential exposures to health hazards and access to health care; racial health disparities; strategies for addressing health inequalities.

**ANTH 6660 - Museum Collections (3)**
(Same as ARTH 6660). Museum collection theory and methods, including collection policy, development, preservation, documentation, and interpretation. PREREQUISITE: Permission of instructor.

**ANTH 6661 - Collections Research (3)**
(Same as ARTH 6661). Introduces students in object-based disciplines to museum collections research methods and their applications to exhibitions, catalogs, and scholarly publications. PREREQUISITE: Permission of instructor.

**ANTH 6662 - Museum Exhibitions (3)**
(Same as ARTH 6662). Museum exhibition methods and theory, including research, design, layout, object selection and handling, installation, public programing, and evaluation. PREREQUISITE: Permission of instructor.

**ANTH 6680 - Applied Archaeology/Museums (3)**
(Same as ESCI 6680). Representations of cultural heritage in a broad array of public venues; repatriation, cultural patrimony, cultural resource management, civic engagement, rights and responsibilities of stakeholders, public involvement in museum representations, performance and education, culture and memory.
ANTH 7002 - Reading For Comps (1-3)
Arranged on individual basis for anthropology graduate students only. May be repeated. PREREQUISITE: Limited to anthropology majors; approval of graduate coordinator. Grades of S, U, or I will be given.

ANTH 7075 - Methods In Anthropology (4)
Critical examination of field methods and research designs in selected areas of anthropology; major trends in contemporary anthropological research as a preparation for applied research. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 7076 - Anth Data Analysis (4)
Construction and analysis of data bases developed from ongoing anthropological projects; review of frequently used statistical techniques in anthropological literature, hypothesis testing, and methods of presentation. PREREQUISITE: ANTH 7075 or permission of instructor.

ANTH 7100 - Sem Biocultural Anth (3)
Topics include principles of human genetics, the biological and cultural aspects of race, the hereditary and environmental factors in modern human variation, medical and nutritional anthropology. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 7200 - History/Anth Theory (3)
Covers growth of anthropology as a discipline nationally and internationally and development of major theoretical paradigms; addresses all subfields of anthropology--cultural, biological, archaeology, linguistic, and applied; designed and required for graduate anthropology students, but open to graduate students in other disciplines.

ANTH 7250 - Comm Culture Evaluation (3)
Cultural perspectives on program evaluation in community settings; theoretical and methodological approaches to evaluation of human service programs; culturally competent evaluations using ethnographic methods; role of anthropology in program evaluation at national and international levels. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 7255 - Applied Anth & Develop (3)
Cross-cultural review of processes of change, grassroots development and planning in industrialized world; models of change, specializations in applied anthropology, and development of public policy on international issues of housing, education, health, and economic development.

ANTH 7400 - Globalization, Dev, & Culture (3)
Surveys the role of anthropology and culture in globalization and development contexts. Topics include: globalization, migration, diaspora, deterritorialization, identity, transnationalism; the anthropology of planning and policy; gender and development; methods and ethics in development anthropology. Emphasis on alternative
development at the local and global level, including participation, community and indigenous technical knowledge, cultural heritage, and environmental justice.

**ANTH 7411 - Urban Anth In Mid-South (3)**
Discussion and analysis of community economic development in the Mid-South region from prehistoric to present time; inter-relationship of cultural values, regional social structures and political economy in terms of international and national industrial trends.

**ANTH 7511 - Medical Anth Theory & Practice (3)**
Concepts and techniques to develop and improve prevention initiatives and health services and access to care, such as medical narrative, needs assessment, health program evaluation, health marketing, and cultural competency. Emphasis is placed on engagement and collaboration, and on applied medical anthropology's influence on policies, programs, and services that advance community wellbeing and reverse health disparities.

PREREQUISITE: Non-majors must have permission of instructor.

**ANTH 7521 - Biocultural Epidemiology (3)**
Concepts and research uniting epidemiology and medical anthropology; explores epidemiologic web of agent, host, and environment in disease; stresses interplay of sociocultural, behavioral, and environmental risk factors; examines applications of epidemiology theory and methods to medical anthropology and global health policy.

**ANTH 7661 - Museum Practices (3)**
(Same as ARTH 7661). Museum administration, finance, collection management, conservation, education, exhibition design, marketing, and visitor services. PREREQUISITE: Permission of instructor.

**ANTH 7662 - Museums & Communities (3)**
(Same as ARTH 7662). History and theory of museums, governance, audiences, and current topics in the profession. PREREQUISITE: Permission of instructor.

**ANTH 7669 - Museum Internship (3-6)**
(Same as ARTH 7669). Structured experience in selected aspects of museum practice. Includes 150 contract hours in museum and colloquium. May be repeated for a maximum of 6 credit hours. PREREQUISITE: ANTH 7661, 7662 and/or permission of instructor. Grades of A-F or IP will be given.

**ANTH 7970 - Directed Indiv Writing (1-3)**
Intensive guided study of original data in areas selected by advanced students and accepted by the instructor; preparation of manuscripts for publication. PREREQUISITE: Permission of instructor. Grades of A-F, or I will be given.

**ANTH 7975 - Directed Indiv Reading (1-3)**
Intensive guided study in areas selected by advanced students and accepted by the staff. PREREQUISITE:
ANTH 7980 - Directed Indiv Research (1-3)
Intensive guided study of original data in areas selected by advanced students and accepted by the staff; preparation for publication. PREREQUISITE: Permission of chair and the designated staff. Grades of A-F, or I will be given.

ANTH 7984 - Practicum Proseminar (1)
Training modules to plan, execute, document, and evaluate effective practicum assignments. Emphasis is placed on collaboration, engagement, and capacity building to benefit community partners, and on designing and conducting projects which strengthen skills, experience, and professionalism in applied anthropology. Grades of S, U, or I will be given.

ANTH 7985 - Practicum (3-6)
Supervised practical experience in the application of anthropological principles in an agency or facility appropriate to applied anthropology. Grades of S, U, or IP will be given.

ANTH 8075 - Methods In Anthropology (4)
Critical examination of field methods and research designs in selected areas of anthropology; major trends in contemporary anthropological research as a preparation for applied research. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 8076 - Anth Data Analysis (4)
Construction and analysis of data bases developed from ongoing anthropological projects; review of frequently used statistical techniques in anthropological literature, hypothesis testing, and methods of presentation. PREREQUISITE: ANTH 7075 or permission of instructor.

ANTH 8100 - Sem Biocultural Anth (3)
Topics include principles of human genetics, the biological and cultural aspects of race, the hereditary and environmental factors in modern human variation, medical and nutritional anthropology. PREREQUISITE: Non-majors must have permission of instructor.

ANTH 8200 - History/Anth Theory (3)
Covers growth of anthropology as a discipline nationally and internationally and development of major theoretical paradigms; addresses all subfields of anthropology—cultural, biological, archaeology, linguistic, and applied; designed and required for graduate anthropology students, but open to graduate students in other disciplines.

ANTH 8250 - Comm Culture Evaluation (3)
Cultural perspectives on program evaluation in community settings; theoretical and methodological approaches to evaluation of human service programs; culturally competent evaluations using ethnographic methods; role of
anthropology in program evaluation at national and international levels. PREREQUISITE: Non-majors must have permission of instructor.

**ANTH 8521 - Biocultural Epidemiolgy (3)**
Concepts and research uniting epidemiology and medical anthropology; explores epidemiologic web of agent, host, and environment in disease; stresses interplay of sociocultural, behavioral, and environmental risk factors; examines applications of epidemiology theory and methods to medical anthropology and global health policy.

**ANTH 8975 - Directed Indiv Reading (1-3)**
Intensive guided study in areas selected by advanced students and accepted by the staff. PREREQUISITE: Permission of staff. Grades of A-F, or I will be given.

**ANTH 8980 - Directed Indiv Research (1-3)**
Intensive guided study of original data in areas selected by advanced students and accepted by the staff; preparation for publication. PREREQUISITE: Permission of chair and the designated staff. Grades of A-F, or I will be given.
BIOINFORMATICS (BINF)
BINF 7092 - Research (1-3)
Non-traditional setting in which master's students develop research in consultation with the instructor and the program director that will lead to development of Master's Thesis or Project. Two written reports are required per semester. May be repeated for a total of 12 semester hours. Up to four credit hours may be applied toward the degree requirement. Grades of S/U, or IP will be given.

BINF 7701 - Intro Genomics/Bioinformatics (3)
Accelerated introduction to molecular and genomic sciences, covering basic concepts of gene and protein structure/ function, genome sequencing and annotation, single nucleotide polymorphism, genetic variation, gene expression, and functional genomics and systems biology. PREREQUISITE: Permission of Instructor.

BINF 7970 - Curr Lit Bioinformatics (1)
Lectures, readings, discussions, and oral presentation from current bioinformatics research articles. One class is required to meet degree requirements. PREREQUISITE: permission of instructor.

BINF 7980 - Rsch Sem/Bioinformatics (1)
Current research topics in Bioinformatics. One class is required to meet degree requirements. PREREQUISITE: Permission of Instructor.

BINF 7991 - Bioinformatics Internship (1-3)
Supervised practical experience conducted in industrial, academic research or clinical research organizations. The project must be approved by the program director and may be supervised by any faculty in the program. A written report is required. Up to three credit hours may be applied toward the degree requirement. Grades of S, U, or IP will be given.

BINF 7992 - Bioinformatics Project (3)
Research project conducted in lieu of a Master's thesis under the supervision of a faculty advisor. The project must be approved by the program director and may be supervised by any faculty in the program. A written report and an oral presentation are required for satisfactory completion of the course. Grades of S, U, or IP will be given.

BINF 7996 - Bioinformatics Thesis (1-6)
Supervised research in preparation for advanced degree thesis. May be repeated for up to 6 hours. Grades of S, U, or IP will be given.

Graduate Catalog
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Graduate School

2015-2016 Academic Calendar
BIOLOGICAL SCIENCES (BIOL)

In addition to the courses below the department may offer the following Special Topics courses:
BIOL 6090-6099. Special Topics. (1-3). Topics are varied and announced in Online course listings; may be repeated with different topics for a maximum of 4 hours. PREREQUISITE: BIOL 1120 and 1121.


BIOL 6051 - Marine Ecology (5)
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Relationship of marine organisms to their environment; effects of temperature, salinity, light, nutrient concentration, currents, food, and competition on abundance and distribution of marine organisms. PREREQUISITE: 16 hours of biology including general zoology, general botany, and invertebrate zoology.

BIOL 6053 - Plant Ecology (4)
Relationships of plants and environmental factors at physiological, population, and community scales; ecosystem dynamics at local and landscape scales; emphasis on field techniques. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

BIOL 6054 - Wetland Ecology (4)
Wetlands and wetland resources; attributes of hydrology, biogeochemistry, and wetland plants with emphasis on bottomland hardwood forests. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3050 and consent of instructor.

BIOL 6055 - Ecological/Environ Issues (3)
Ecological perspective on current environmental issues such as conservation and biodiversity, global climatic change, and regulation of chemicals in the environment. Three lecture hours per week. PREREQUISITE: BIOL 1120 and 1121.

BIOL 6056 - Tropical Ecology (4)
Lecture and field intensive course in ecology of the tropics. International travel required for laboratory portion of course. Two lecture hours, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

BIOL 6071 - Human Genetics (3)
Genetic principles as they apply to humans, including pedigree analysis, genetic counseling, cancer, and genomics. Three lecture hours per week. PREREQUISITE: BIOL 3072.

BIOL 6090 - Molecular Biology of the Gene (3)
This course contains both theoretical and application based approaches to molecular biology and the regulation of gene expression. This course will survey modern methods in research and medicine. Stem cells and cancer cells
will be used as model systems to understand the changes in gene regulation. For example, changes in gene expression between normal mammary epithelia and invasive breast cancers will be examined at the level of the genome, transcriptome, and proteome. three lecture hours per week. PREREQUISITES: BIOL 3072 or permission of the instructor.

**BIOL 6100 - Evolution (3)**
Synthesis of principles and concepts of modern evolutionary theory; geological evolution, biological evolution, and evolution of societies; emphasis on recent developments and current controversies. Three lecture hours per week. PREREQUISITE: BIOL 3072.

**BIOL 6150 - Developmental Biology (3)**
(MMCS 6150). Introduction to study of developing biological systems at cellular and molecular level. Three lecture hours per week. PREREQUISITE: BIOL 3072 and CHEM 3511.

**BIOL 6200 - Marine Botany (4)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Local examples of principal groups of marine algae and maritime flowering plants, treating structure, reproduction, distribution, identification and ecology. PREREQUISITE: ten hours of biology, including introductory botany; permission from instructor.

**BIOL 6230 - Plant Physiology (3)**
Whole plant functioning and plant responses to environmental stresses and pollution. Three lecture hours per week. PREREQUISITE: BIOL 1120 and 1121, or permission of instructor.

**BIOL 6241 - Biogeog/GIS Analyses/Ecology (3)**
(Same as ESCI 6241). Basic principles of interaction between geography, organism diversity and evolution; physical factors limiting species distribution, theories of island biogeography, geographical modes of speciation. Laboratories introduce principles of GIS, basic functions of ArcGIS, and other programs relevant to ecological studies. Two lecture hours, two laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121, or permission of instructor.

**BIOL 6245 - Plant Systematics/Evolution (4)**
Evolution and classification of flowering plants, Angiosperms; diversity of flowering plants on worldwide basis; relationship of major flowering plant families; systems of classification, nomenclature, field collecting techniques, preparation of specimens, family characteristics. Laboratories include practical aspects of flowering plant classification and identification. Three lecture hours and three laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121, or BIOL 3200, or permission of instructor.

**BIOL 6375 - Molec Biol/Parasites (4)**
(MMCS 4375). Parasites with emphasis on molecular and immunological aspects of their biology; parasites of
humans emphasized with some examples of parasites of companion animals and livestock; biology, treatment and prevention of parasitic diseases. Three lecture hours, two laboratory hours per week. PREREQUISITE: BIOL 3130 or 3550.

BIOL 6380 - Histology/Tissue/Organ (4)
(MMCS 6380). Histology, with emphasis on the relationship between structure and function in mammalian tissues and organs; human histology emphasized. Three lecture, three laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

BIOL 6401 - Plant Cell Molec Biol (3)
(MMCS 6400). The cellular and molecular basis of plant development, including plant hormones, signal transduction, regulation by light, plant-microbe interactions, and plant transformation. Three lecture hours per week. PREREQUISITE: BIOL 3130 and BIOL 3072.

BIOL 6440 - Pathogenic Bacteriology (3)
(MMCS 4440). Unifying concepts in bacterial pathogenesis, with emphasis on molecular aspects of pathogenesis and modern approaches to pathogenesis research; introduction to immunology; human microbiota and opportunistic pathogens; pathogen evolution; virulence factor regulation, delivery, and mechanism; antibiotics and antibiotic resistance; vaccination. Three lecture hours per week. PREREQUISITE: BIOL 3550 and CHEM 3511.

BIOL 6445 - Immunology (3)
(MMCS 6445). Antigens, immunoglobulin classes, cells and cytokines of immune response, complement system, hypersensitivities, blood groups, vaccines and immunity. Three lecture hours per week. PREREQUISITE: BIOL 3130 or 3500 and CHEM 3511.

BIOL 6450 - Microbial Ecology (3)
(MMCS 6450). Roles of microorganisms in the environment; microbial processes, interactions with the environment and biota, population ecology, community ecology, and biodegradation. Three lecture hours per week. PREREQUISITE: Consent of instructor.

BIOL 6465 - Adv Medical Microbiol Lab (2)
(MMCS 6465). Application of modern laboratory techniques and instrumentation to experiments in pathogenic bacteriology, immunology, virology, and parasitology. Four laboratory hours per week. PREREQUISITE: BIOL 3500 and 3505.

BIOL 6470 - Molecular Genetics (4)
(MMCS 6470). Structure, function, and replication of DNA, recombination, colinearity of DNA with genetic map, mutagenesis, plasmids, genetic code, protein synthesis, suppression, regulation of gene expression, genetic engineering, and immunogenetics. For students without formal training in molecular genetics. Four lecture hours per week. PREREQUISITE: BIOL 3072 and BIOL 3130 or 3500.
BIOL 6480 - Cellular/Molec Pharmacol (3)
Provides basic understanding of mechanisms by which therapeutic agents regulate physiological function of cells comprising organ systems such as the heart and central nervous system; drug action (pharmacodynamics) addressed at the molecular, cellular, and organ level, as well as common diseases affecting a system. Three lecture hours per week. PREREQUISITE: CHEM 1120 and BIOL 3130.

BIOL 6500 - Marine Microbiology (5)
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Role of microorganisms in overall ecology of oceans and estuaries. PREREQUISITE: general microbiology and environmental microbiology, or permission of instructor.

BIOL 6501 - Virology (3)
(MMCS 6501). Introductory study of viruses of human and veterinary significance, and methods of cultivation, isolation, and characterization; study of pathogenic mechanisms. Three lecture hours per week. PREREQUISITE: BIOL 3130, 3500 or 3550.

BIOL 6503 - Lab Tech In Biochem (2)
(MMCS 6503). (Same as CHEM 6501). Biochemical techniques, analysis and design strategies; properties of protein/enzymes, including binding, catalysis, kinetics, electron and proton transport processes of intermediate metabolism; purification, characterization and assay of enzymes using chromatography, spectroscopy and electrophoresis. Six laboratory hours per week. PREREQUISITE: CHEM 3501. PREREQUISITE OR COREQUISITE: BIOL 6511 or CHEM 6511.

BIOL 6504 - Lab Tech Molecular Biol (2)
(MMCS 6504). Biochemical and molecular biology laboratory techniques; emphasis on nucleic acids and recombinant DNA; vector design and practical incorporation into host systems; product expression, isolation and identification; bioinformatics in research design strategies. Six laboratory hours per week; PREREQUISITE or COREQUISITE: BIOL 6512 or CHEM 6512 or permission of instructor.

BIOL 6511 - Biochemistry I (3)
(MMCS 4511). (Same as CHEM 4511). Chemistry of amino acids and proteins related to their properties in biochemical systems; protein conformation studies; enzymology, coenzymes and their functions; importance of pH and bioenergetics in catalysis; protein and carbohydrate metabolism. Three lecture hours per week. PREREQUISITE: CHEM 3511 with at least a C-.

BIOL 6512 - Biochemistry II (3)
(MMCS 6512). (Same as CHEM 6512). Continuation of BIOL 6511; chemistry of lipids; metabolism, membrane formation and function in cell signaling mechanisms and sensory transduction; chemistry of nucleotides, DNA and
RNA; mechanisms of information storage and transmission; advanced treatment of enzyme kinetics. Three lecture hours per week. PREREQUISITE: BIOL 6511 or CHEM 6511 with at least C-.

**BIOL 6600 - Marine Vert Zoo Ichthy (6)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Marine Chordata, including lower groups and the mammals and birds, with most emphasis on the fishes. PREREQUISITE: 16 hours of zoology including comparative anatomy or consent of the instructor.

**BIOL 6604 - Animal Behavior (4)**
Animal behavior, primarily from ecological, physiological, developmental, and evolutionary perspective. Three lecture, two laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6630 - Gen Endocrinology (3)**
Anatomy and physiology of the organs of internal secretion; role of hormones in metabolism and development. Three lecture-demonstration hours per week. PREREQUISITE: BIOL 3030 or 3730, or permission of instructor.

**BIOL 6635 - Neurobiology (3)**
Basic structure and function of nervous system and its development; resting membrane potential, structure/function of ion channels; mechanisms of action potential conduction, presynaptic neurotransmitter vesicle exocytosis, postsynaptic receptors and signal transduction pathways, synaptic structure and development. Three lecture hours per week. PREREQUISITE: BIOL 3130 or permission of instructor.

**BIOL 6640 - Ornithology (4)**
Biology of birds, with emphasis on avian anatomy, physiology, behavior, and reproductive biology. Field trips emphasize identification of local species and techniques of field study. Two lecture, four field/laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6644 - Ichthyology (4)**
Fishes, with special emphasis upon the kinds that occur in Tennessee; collection, preservation, and identification; life histories, management, and economic importance of fishes. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6646 - Marine Fisheries Mgmt (4)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Overview of practical marine fishery management problems. PREREQUISITE: Consent of instructor.

**BIOL 6651 - Field Tech/Vertebrate Zoology (4-6)**
Techniques in extended field study of vertebrates outside the local area. Credit hours to be determined in
consultation with instructor. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6730 - Urban Ecol/Wildlife Mgmt (3)**
Study of interrelations and management of organisms considered part of the wildlife realm (game and non-game) in urban environments; provides information required to understand ecological and wildlife issues in urban areas and to develop management strategies for maintaining sustainable natural resources on disturbed landscapes. Three lecture hours per week. PREREQUISITE: BIOL 3050 or permission of instructor.

**BIOL 6740 - Mammalogy (4)**
Classification, distribution, life histories, economic importance, techniques of field study, methods of collection and preservation of mammals. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6744 - Herpetology (4)**
Classification, distribution, life histories, techniques of collection and preservation, natural habitats of North American reptiles and amphibians. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6745 - Tropical Herpetology (4)**
Lecture and field-intensive course in herpetology of the tropics; international travel required for laboratory portion of course. Two lecture hours, four laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121.

**BIOL 6800 - Marine Invertebrate Zool (6)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Important free-living, marine and estuarine invertebrates of Mississippi Sound and adjacent continental shelf of northeastern Gulf of Mexico; emphasis on structure, classification, phylogenetic relationships, larval development, and functional processes. PREREQUISITE: 16 hours of zoology including introductory invertebrate zoology.

**BIOL 6840 - Invertebrate Zoology (4)**
Invertebrate phyla with emphasis on phylogeny, embryology, and ecology of selected groups. Extended field trip. Two lecture, four laboratory hours per week. PREREQUISITE: Permission of instructor.

**BIOL 6844 - Parasites Marine Animals (6)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of Memphis residence credit is given through affiliation with the Laboratory. Parasites of marine animals with emphasis on morphology, taxonomy, life histories, and host parasite relationships. Lecture, laboratory and field work. PREREQUISITE: General parasitology or consent of the instructor.

**BIOL 6850 - Fauna/Ecology Tidal Marsh (4)**
This course is taught only at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. University of
Memphis residence credit is given through affiliation with the Laboratory. Survey and discussion of taxonomy, distribution, trophic relationships, reproductive strategies and adaptation of tidal marsh animals; emphasis on those occurring in northern Gulf marshes. PREREQUISITE: 16 hours of biology and junior standing, or permission of instructor.

**BIOL 6900 - Entomology (4)**
Morphology, physiology, behavior, and ecology of insects. Three lecture, two laboratory hours per week; PREREQUISITE: BIOL 1120 and 1121.

**BIOL 7000 - Orientation Grad Stdy (2)**
Source of literature in field of biology, data presentation, graphic techniques, and manuscript preparation. One lecture, two laboratory hours per week. Grades of S, U, or IP will be given.

**BIOL 7004 - College Biol Teaching (1)**
(MMCS 7004-8004). Under faculty supervision, graduate students participate in teaching of laboratory sections of existing undergraduate courses in the biological sciences. Student's performance evaluated by faculty member in charge and appropriate grade assigned. Grades of S, U, or IP will be given.

**BIOL 7006 - Care/Humane Use Lab Animals (2)**
(MMCS 7006-8006). Care and use of live vertebrate animals in research and teaching. Students must enroll in this course before working with live vertebrate animals; fulfills requirements of Federal Animal Welfare Act and NIH Guide. One lecture and two laboratory hours per week. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

**BIOL 7007 - Exp Cell/Molec Biol Tchr (4)**
(MMCS 7010). Developing inquiry-based laboratory activities to teach basic concepts of cell and molecular biology in middle and high school settings; includes basic concepts, fundamental laboratory skills, and methods for designing inquiry-based laboratory exercises. NOTE: May not be applied to degree requirements. Two lecture, six laboratory hours per week.

**BIOL 7008 - Intro Genomics/Bioinformatics (3)**
(Same as BINF 7701) Accelerated introduction to molecular and genomic sciences, covering basic concepts of gene and protein structure/function, genome sequencing and annotation, single nucleotide polymorphism, genetic variation, gene expression, and functional genomics and proteomics. Three lecture hours per week. PREREQUISITE: Permission of instructor.

**BIOL 7010 - Prin Meth Sys Biology (3)**
Systematic philosophies and numerical methods developed to deal with systematic and taxonomic problems; discussions of international rules, concept of species, and the roles and aims of practicing systematists; projects designed to give practical experience in analyzing data. Two lecture, two laboratory hours per week.
BIOL 7011 - Adv Topics Wetland Ecol (3)
Covers a range of current topics related to wetland science and issues at national and regional levels; includes site visits and case studies on selected wetlands. Two hours lecture and one laboratory/field component. PREREQUISITE: BIOL 4054/6054 or equivalent and permission of instructor.

BIOL 7012 - Plant Ecophysiology (3)
Covers various topics on plant responses to environmental factors, effects of global climate changes on plant health and functioning, and techniques used to quantify environmental variables and plant responses. Three lecture hours per week. PREREQUISITE: BIOL 3230 or equivalent and permission of instructor.

BIOL 7014 - Tchng Skills Grad Asst (3)
(MMCS 7003-8003). Strategies and skills for effective college teaching; includes use of innovative approaches and computer-based instructional technology. May be repeated up to 12 credit hours. May not be applied to degree requirements.

BIOL 7015 - Aquaculture (3)
Principles and procedures related to the culture of commercially important freshwater organisms under controlled conditions. Three lecture hours per week.

BIOL 7016 - Mol Syst Ecology (3)
Application of systematic and genetic theory to the understanding of past and present patterns and processes in animals, emphasizing laboratory analysis techniques to address a variety of questions on behavioral, ecological, and evolutionary biology. Two 2-hour combined lab/lectures per week.

BIOL 7017 - Topics In Evolution (1-3)
Lecture, readings, discussion, and oral presentation on evolutionary biology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 7018 - Topics In Physiology (1-3)
Lecture, readings, discussion, and oral presentation on physiology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 7019 - Topics In Animal Behavior (1-3)
Lecture, readings, discussion and oral presentation on animal biology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 7020 - Topics In Ecology (1-3)
Lecture, readings, discussion, and oral presentation on ecology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.
BIOL 7031 - Cell Physiology (3)
(MMCS 7031-8031). Cellular thermodynamics, membrane transport systems, ion channels, oxidative phosphorylation, electron transport, cytoskeleton and mechanochemical coupling systems. Three lecture hours per week. PREREQUISITE: Permission of instructor.

BIOL 7040 - Light Microsc/Theory & Appl (4)
(MMCS 7040-8040). Principles of bright field, fluorescence, confocal, two-photon and super resolution microscopy; methods to prepare specimen for bright field, fluorescence and live microscopy. Three hours lecture and two hours lab per week. PREREQUISITE: Permission of instructor.

BIOL 7051 - Vertebrate Cell Cultr Tech (3)
(MMCS 7051-8051). Theory, principles, and protocols in use of vertebrate cell cultures and cell lines in biomedical research. Three lecture hours per week. PREREQUISITE: Permission of instructor.

BIOL 7080 - Public Health Microbiol (3)
Overview of the nature of diseases threatening the public health of contemporary societies covering fundamental microbiology; microbe-human interactions; and emerging microbial diseases, common food-borne diseases, and pathogens for bioterrorism. Three lecture hours per week. PREREQUISITE: Permission of instructor.

BIOL 7092 - Research (1-6)
Consultation, reading, and laboratory work investigating selected topics in biology. Only 6 semester hours credit may be counted toward degree requirements for MS students seeking a thesis and 3 for MS students seeking a non-thesis degree; 9 semester hours credit for PhD students. Grades of S, U, or IP will be given.

BIOL 7093 - Problems In Zoology (3-6)
Supervised research on specific problems in marine zoology for graduates. PREREQUISITE: BIOL 6800 or 6600. Grades of S, U, or IP will be given.

BIOL 7102 - Thesis Proposal (2)
Preparation of a thesis project proposal in a grant format and an oral defense of the proposal. Students should not be concurrently enrolled for BIOL 7102 and BIOL 7200. PREREQUISITE: BIOL master's student. Grades of S, U, or IP will be given.

BIOL 7130 - Curr Lit Cell & Molec Biol (1)
Lecture, readings, discussion, oral presentation from current cell and molecular biology research articles. May be repeated for a maximum of 3 credit hours for PhD students; 2 credit hours for MS students. PREREQUISITE: Permission of instructor

BIOL 7131 - Cell & Molecular Biol (4)
Introduction to principles of molecular biology as they apply to eukaryotic cells including transcription, translation, regulation of protein function, DNA replication, membrane biogenesis, secretion, hormone action, signal transduction, and ligand receptor interaction. Four lecture hours per week.

**BIOL 7135 - Protein Trafficking (3)**
Modern theories of co-translational and post-translational protein targeting in eukaryotic cells to include function and evolution of classical trafficking pathway elements. Three lecture hours per week. PREREQUISITES: BIOL 3130 and BIOL 4512-6512.

**BIOL 7140 - Receptors & Signaling (3)**
Develops state-of-the-art understanding of issues in cell receptors and signaling, covering receptor-ligand interactions including methods of identification and quantification; emphasizes specific characteristics of G protein-coupled receptors, receptor tyrosine kinases, and ligand-activate transcription factors including mechanisms of action and signaling pathways activated by each receptor. Three lecture hours per week.

**BIOL 7200 - Seminar In Biology (1)**
Student presentations of topics in biology. Open to Biology students only. Only 3 semester hours may be counted toward degree requirements for MS students, 5 for PhD students. Grades of S, U, or IP will be given.

**BIOL 7250 - Comm & Landscape Ecol (4)**
Distributions of organisms on worldwide and local basis with emphasis on factors influencing distribution and growth. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3050 or consent of the instructor.

**BIOL 7290 - Molecular Computing (3)**
(BMCS 7290-8290). Basics of cell biology and genetics (DNA structure and enzymes, replication, and translation); feasible DNA-based solution of hard computational problems; issues in the design of molecular computers; foundations of nanotechnology. PREREQUISITE: COMP 6030 or permission of instructor.

**BIOL 7331 - Photosynthesis (2)**
(BMCS 7331-8331). Lectures and readings on modern theory of photosynthesis; includes such topics as chloroplast structure and function; chemistry and photo-chemistry of chlorophyll; influence of external factors on rate of photosynthesis, absorption, fluorescence, and luminescence; energy storage; efficiency; carbon fixation; photosynthesis in cell extracts; phosphorylation. Two lecture hours per week.

**BIOL 7335 - Hormones And Behavior (3)**
Examines the relationship between endocrinology and behavior in animals and humans and how this relationship underlies survival and reproduction. Three lecture hours per week. PREREQUISITE: Endocrinology (BIOL 4630-6630) or permission of instructor.
BIOL 7338 - Biological Clocks (3)
A consideration of the biological clocks that generate daily, lunar, seasonal and annual rhythms in various animals including people. Emphasis on neuroendocrine substrates, development and adaptive significance of reproductive cycles, feeding rhythms, sleep-wakefulness cycles, hibernation cycles, body weight and migratory cycles. Three lecture hours per week. PREREQUISITE: Graduate standing and Permission of instructor.

BIOL 7340 - Behavioral Ecology (3)
Examines the influence of natural selection on animals' ability to exploit resources, avoid predators, secure mates, rear offspring, and communicate with conspecifics. Three lecture hours per week.

BIOL 7345 - Animal Communication (3)
Examination of the relationship between evolutionary ecology and animal communication to investigate how animal interactions with conspecifics affect their behavior. A rudimentary knowledge of animal behavior, animal psychology, or ecology is recommended. Three lecture hours per week.

BIOL 7350 - Evolutionary Ecology (3)
Provides the basic foundation for applying genetic and evolutionary theory to the ecology of plants and animals; emphasis on genetic and phenotypic adaptations of plants and animals to their environment. Three lecture hours per week.

BIOL 7360 - Plant And Environment (3)
Discusses plant responses to environmental changes and potential effects of global climate changes on plant health and function. Two lecture, two laboratory hours per week. PREREQUISITES: plant physiology (BIOL 3230 or equivalent), plant ecology (BIOL 4053-6053 or equivalent), or permission of instructor.

BIOL 7370 - Wetland Ecol & Mgmt (3)
A wide range of topics relating to wetland science and issues at national and regional levels, including wetland classification, hydrology, and biochemistry, with special emphasis on regional bottomland forests. Two lecture, two laboratory hours per week. PREREQUISITES: wetland ecology (BIOL 4054-6054) or equivalent or permission of instructor.

BIOL 7400 - Comparative Immunology (3)
(MMCS 7400-8400). Phylogenesis and development of the defensive immune systems of invertebrates and the vertebrate classes. Three lecture hours per week. PREREQUISITE: BIOL 4445-6445 or permission of instructor.

BIOL 7440 - Molecular Biol/Cancer (3)
Introduction to molecular basis of cancer, cancer therapy and prevention; includes disease-, chemical carcinogen-, and viral-based views of cancer process; surveys modern tools for identifying cancer susceptibility genes and classifying tumors. Three lecture hours per week. PREREQUISITES: BIOL 4503-6503 or BIOL 4470-6470, or permission of instructor.
BIOL 7464 - Advanced Immunology (4)
(MMCS 7464-8464). Selected topics and laboratories in molecular and cellular immunology, immunobiology, tumor immunology, and medical aspects of immunology. Three lecture, two laboratory hours per week.
PREREQUISITES: BIOL 6445 and 6511 or their equivalent.

BIOL 7470 - Adv Bacterial Genetics (3)
(MMCS 7470-8470). Advanced studies in the molecular basis of bacterial genetics; including mutation and bacterial repair systems, complementation analysis, recombination, gene transfer mechanisms, gene conversion and marker effects, insertional elements, phase variation, and bacteriophage genetics. Three lecture hours per week. PREREQUISITE: BIOL 6470 or equivalent.

BIOL 7530 - Bacterial Physiology (3)
(MMCS 7530-8530). Bacterial physiology including growth, nutrition, biosynthesis, biodegradation, and adaptation. Three lecture hours per week.

BIOL 7550 - Food & Indust Toxicol (3)
(MMCS 7550-8550). Principles and methodology of genotoxicity; assessment of toxic substances in animal and plant foodstuffs, and in industrial wastes; fungal and bacterial contaminants, food additives, and food processing; biotransformation and health impacts are emphasized. Three lecture hours per week.

BIOL 7600 - Seminar In Biology (1)
Selected topics in the biological sciences. Credit is earned when the results of the student's thesis work is presented. Grades of S, U, or IP will be given.

BIOL 7610 - Environ Effects On Devel (2)
Environment-gene interactions and developmental plasticity; evolutionary, physiological, morphological, and ecological consequences of these interactions. Two lecture hours per week.

BIOL 7750 - Population Ecology (3)
Examination and quantification of the processes that influence population dynamics. Three lecture hours per week. PREREQUISITE: BIOL 3050 or equivalent.

BIOL 7751 - Conservation Biology (4)
Application of biological principles towards the conservation of natural systems and the organisms they contain. Two lecture, four laboratory hours per week. PREREQUISITE: Permission of the instructor.

BIOL 7752 - Ecological Genetics (3)
The field of Ecological Genetics sits at the interface of studies of natural genetic variation, molecular function, and the environmental context that surrounds them. We will explore methods that assess genetic diversity and the
adaptive value of ecologically relevant traits. Topics will include population/quantitative genetics, life history variation, natural selection, conservation, and applied ecological genetics. Students will be introduced to computational resources and tools during tutorials. Students will also read relevant primary literature and participate in live chat/discussions with the study authors. PREREQUISITE: Permission of instructor.

BIOL 7996 - Thesis (1-6)
Research contributing to the development of the MS thesis. Only 6 semester hours may be counted toward degree requirements. Grades of S, U, or IP will be given.

BIOL 8000 - Orientation Grad Stdy (2)
Source of literature in field of biology, data presentation, graphic techniques, and manuscript preparation. One lecture, two laboratory hours per week. Grades of S, U, or IP will be given.

BIOL 8004 - College Biol Teaching (1)
(MMCS 7004-8004). Under faculty supervision, graduate students participate in teaching of laboratory sections of existing undergraduate courses in the biological sciences. Student's performance evaluated by faculty member in charge and appropriate grade assigned. Grades of S, U, or IP will be given.

BIOL 8006 - Care/Humane Use Lab Animals (2)
(MMCS 7006-8006). Care and use of live vertebrate animals in research and teaching. Students must enroll in this course before working with live vertebrate animals; fulfills requirements of Federal Animal Welfare Act and NIH Guide. One lecture and two laboratory hours per week. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

BIOL 8007 - Exp Cell/Molec Biol Tchr (4)
(MMCS 7010). Developing inquiry-based laboratory activities to teach basic concepts of cell and molecular biology in middle and high school settings; includes basic concepts, fundamental laboratory skills, and methods for designing inquiry-based laboratory exercises. NOTE: May not be applied to degree requirements. Two lecture, six laboratory hours per week.

BIOL 8010 - Prin Meth Sys Biology (3)
Systematic philosophies and numerical methods developed to deal with systematic and taxonomic problems; discussions of international rules, concept of species, and the roles and aims of practicing systematists; projects designed to give practical experience in analyzing data. Two lecture, two laboratory hours per week.

BIOL 8011 - Adv Topics Wetland Ecol (3)
Covers a range of current topics related to wetland science and issues at national and regional levels; includes site visits and case studies on selected wetlands. Two hours lecture and one laboratory/field component. PREREQUISITE: BIOL 4054/6054 or equivalent and permission of instructor.
BIOL 8012 - Plant Ecophysiology (3)
Covers various topics on plant responses to environmental factors, effects of global climate changes on plant health and functioning, and techniques used to quantify environmental variables and plant responses. Three lecture hours per week. PREREQUISITE: BIOL 3230 or equivalent and permission of instructor.

BIOL 8014 - Tchng Skills Grad Asst (3)
(MMCS 7003-8003). Strategies and skills for effective college teaching; includes use of innovative approaches and computer-based instructional technology. May be repeated up to 12 credit hours. May not be applied to degree requirements.

BIOL 8015 - Aquaculture (3)
Principles and procedures related to the culture of commercially important freshwater organisms under controlled conditions. Three lecture hours per week.

BIOL 8016 - Mol Syst Ecology (3)
Application of systematic and genetic theory to the understanding of past and present patterns and processes in animals, emphasizing laboratory analysis techniques to address a variety of questions on behavioral, ecological, and evolutionary biology. Two 2-hour combined lab/lectures per week.

BIOL 8017 - Topics In Evolution (1-3)
Lecture, readings, discussion, and oral presentation on evolutionary biology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 8018 - Topics In Physiology (1-3)
Lecture, readings, discussion, and oral presentation on physiology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 8019 - Topics In Animal Behavior (1-3)
Lecture, readings, discussion and oral presentation on animal biology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 8020 - Topics In Ecology (1-3)
Lecture, readings, discussion , and oral presentation on ecology. May be repeated for a maximum of 9 credit hours for PhD students; 6 credit hours for MS students. PREREQUISITE: Permission of instructor.

BIOL 8031 - Cell Physiology (3)
(MMCS 7031-8031). Cellular thermodynamics, membrane transport systems, ion channels, oxidative phosphorylation, electron transport, cytoskeleton and mechanochemical coupling systems. Three lecture hours per week. PREREQUISITE: Permission of instructor.
BIOL 8040 - Light Microsc/Theory & Appl (4)
(MMCS 7040-8040). Principles of bright field, fluorescence, confocal, two-photons and super resolution microscopy; methods to prepare specimen for bright field, fluorescence and live microscopy. Three hours lecture and two hours lab per week. PREREQUISITE: Permission of instructor.

BIOL 8051 - Vertebrate Cell Cultr Tech (3)
(MMCS 7051-8051). Theory, principles, and protocols in use of vertebrate cell cultures and cell lines in biomedical research. Three lecture hours per week. PREREQUISITE: Permission of instructor.

BIOL 8080 - Public Health Microbiol (3)
Overview of the nature of diseases threatening the public health of contemporary societies covering fundamental microbiology; microbe-human interactions; and emerging microbial diseases, common food-borne diseases, and pathogens for bioterrorism. Three lecture hours per week. PREREQUISITE: Permission of instructor.

BIOL 8092 - Research (1-6)
Consultation, reading, and laboratory work investigating selected topics in biology. Only 6 semester hours credit may be counted toward degree requirements for MS students seeking a thesis and 3 for MS students seeking a non-thesis degree; 9 semester hours credit for PhD students. Grades of S, U, or IP will be given.

BIOL 8103 - Dissertation Proposal (3)
(MMCS 8100). Preparation of a dissertation project proposal in the NIH grant format and an oral defense of the proposal. PREREQUISITE: BIOL doctoral student. Grades of S, U, or IP will be given.

BIOL 8130 - Curr Lit Cell & Molec Biol (1)
Lecture, readings, discussion, oral presentation from current cell and molecular biology research articles. May be repeated for a maximum of 3 credit hours for PhD students; 2 credit hours for MS students. PREREQUISITE: Permission of instructor

BIOL 8131 - Cell & Molecular Biol (4)
(MMCS 7131-8131). Introduction to principles of molecular biology as they apply to eukaryotic cells including transcription, translation, regulation of protein function, DNA replication, membrane biogenesis, secretion, hormone action, signal transduction, and ligand receptor interaction. Four lecture hours per week.

BIOL 8135 - Protein Trafficking (3)
Modern theories of co-translational and post-translational protein targeting in eukaryotic cells to include function and evolution of classical trafficking pathway elements. Three lecture hours per week. PREREQUISITES: BIOL 3130 and BIOL 4512-6512.

BIOL 8140 - Receptors & Signaling (3)
Develops state-of-the-art understanding of issues in cell receptors and signaling, covering receptor-ligand
interactions including methods of identification and quantification; emphasizes specific characteristics of G protein-coupled receptors, receptor tyrosine kinases, and ligand-activate transcription factors including mechanisms of action and signaling pathways activated by each receptor. Three lecture hours per week.

**BIOL 8200 - Seminar In Biology (1)**
Student presentations of topics in biology. Open to Biology students only. Only 3 semester hours may be counted toward degree requirements for MS students, 5 for PhD students. Grades of S, U, or IP will be given.

**BIOL 8250 - Comm & Landscape Ecol (4)**
Distributions of organisms on worldwide and local basis with emphasis on factors influencing distribution and growth. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3050 or consent of the instructor.

**BIOL 8290 - Molecular Computing (3)**
(Same as COMP 7290-8290). Basics of cell biology and genetics (DNA structure and enzymes, replication, and translation); feasible DNA-based solution of hard computational problems; issues in the design of molecular computers; foundations of nanotechnology. PREREQUISITE: COMP 6030 or permission of instructor.

**BIOL 8331 - Photosynthesis (2)**
(LMCS 7331-8331). Lectures and readings on modern theory of photosynthesis; includes such topics as chloroplast structure and function; chemistry and photo-chemistry of chlorophyll; influence of external factors on rate of photosynthesis, absorption, fluorescence, and luminescence; energy storage; efficiency; carbon fixation; photosynthesis in cell extracts; phosphorylation. Two lecture hours per week.

**BIOL 8335 - Hormones And Behavior (3)**
Examines the relationship between endocrinology and behavior in animals and humans and how this relationship underlies survival and reproduction. Three lecture hours per week. PREREQUISITE: Endocrinology (BIOL 4630-6630) or permission of instructor.

**BIOL 8338 - Biological Clocks (3)**
A consideration of the biological clocks that generate daily, lunar, seasonal and annual rhythms in various animals including people. Emphasis on neuroendocrine substrates, development and adaptive significance of reproductive cycles, feeding rhythms, sleep-wakefulness cycles, hibernation cycles, body weight and migratory cycles. Three lecture hours per week. PREREQUISITE: Graduate standing and Permission of instructor.

**BIOL 8340 - Behavioral Ecology (3)**
Examines the influence of natural selection on animals' ability to exploit resources, avoid predators, secure mates, rear offspring, and communicate with conspecifics. Three lecture hours per week.

**BIOL 8345 - Animal Communication (3)**
Examination of the relationship between evolutionary ecology and animal communication to investigate how animal interactions with conspecifics affect their behavior. A rudimentary knowledge of animal behavior, animal psychology, or ecology is recommended. Three lecture hours per week.

**BIOL 8350 - Evolutionary Ecology (3)**
Provides the basic foundation for applying genetic and evolutionary theory to the ecology of plants and animals; emphasis on genetic and phenotypic adaptations of plants and animals to their environment. Three lecture hours per week.

**BIOL 8360 - Plant And Environment (3)**
Discusses plant responses to environmental changes and potential effects of global climate changes on plant health and function. Two lecture, two laboratory hours per week. PREREQUISITES: plant physiology (BIOL 3230 or equivalent), plant ecology (BIOL 4053-6053 or equivalent), or permission of instructor.

**BIOL 8370 - Wetland Ecol & Mgmt (3)**
A wide range of topics relating to wetland science and issues at national and regional levels, including wetland classification, hydrology, and biochemistry, with special emphasis on regional bottomland forests. Two lecture, two laboratory hours per week. PREREQUISITES: wetland ecology (BIOL 4054-6054) or equivalent or permission of instructor.

**BIOL 8400 - Comparative Immunology (3)**
(MMCS 7400-8400). Phylogenesis and development of the defensive immune systems of invertebrates and the vertebrate classes. Three lecture hours per week. PREREQUISITE: BIOL 4445-6445 or permission of instructor.

**BIOL 8440 - Molecular Biol/Cancer (3)**
Introduction to molecular basis of cancer, cancer therapy and prevention; includes disease-, chemical carcinogen-, and viral-based views of cancer process; surveys modern tools for identifying cancer susceptibility genes and classifying tumors. Three lecture hours per week. PREREQUISITES: BIOL 4503-6503 or BIOL 4470-6470, or permission of instructor.

**BIOL 8464 - Advanced Immunology (4)**
(MMCS 7464-8464). Selected topics and laboratories in molecular and cellular immunology, immunobiology, tumor immunology, and medical aspects of immunology. Three lecture, two laboratory hours per week. PREREQUISITES: BIOL 6445 and 6511 or their equivalent.

**BIOL 8470 - Adv Bacterial Genetics (3)**
(MMCS 7470-8470). Advanced studies in the molecular basis of bacterial genetics; including mutation and bacterial repair systems, complementation analysis, recombination, gene transfer mechanisms, gene conversion and marker effects, insertional elements, phase variation, and bacteriophage genetics. Three lecture hours per week. PREREQUISITE: BIOL 6470 or equivalent.
BIOL 8530 - Bacterial Physiology (3)
(MMCS 7530-8530). Bacterial physiology including growth, nutrition, biosynthesis, biodegradation, and adaptation. Three lecture hours per week.

BIOL 8550 - Food & Indust Toxicol (3)
(MMCS 7550-8550). Principles and methodology of genotoxicity; assessment of toxic substances in animal and plant foodstuffs, and in industrial wastes; fungal and bacterial contaminants, food additives, and food processing; biotransformation and health impacts are emphasized. Three lecture hours per week.

BIOL 8600 - Seminar In Biology (1)
Selected topics in the biological sciences. Credit is earned when the results of the student's thesis work is presented. Grades of S, U, or IP will be given.

BIOL 8610 - Environ Effects On Devel (2)
Environment-gene interactions and developmental plasticity; evolutionary, physiological, morphological, and ecological consequences of these interactions. Two lecture hours per week.

BIOL 8750 - Population Ecology (3)
Examination and quantification of the processes that influence population dynamics. Three lecture hours per week. PREREQUISITE: BIOL 3050 or equivalent.

BIOL 8751 - Conservation Biology (4)
Application of biological principles towards the conservation of natural systems and the organisms they contain. Two lecture, four laboratory hours per week. PREREQUISITE: Permission of the instructor.

BIOL 8752 - Ecological Genetics (3)
The field of Ecological Genetics sits at the interface of studies of natural genetic variation, molecular function, and the environmental context that surrounds them. We will explore methods that assess genetic diversity and the adaptive value of ecologically relevant traits. Topics will include population/quantitative genetics, life history variation, natural selection, conservation, and applied ecological genetics. Students will be introduced to computational resources and tools during tutorials. Students will also read relevant primary literature and participate in live chat/discussions with the study authors. PREREQUISITE: Permission of instructor.

BIOL 9000 - Doc Res & Dissert (1-10)
The dissertation must be an independent research project applying a mastery of the techniques of scientific research. It must be a distinct and new contribution to the body of scientific knowledge. A maximum total of 18 hours may be counted toward degree requirements. Grades of S, U, or IP will be given.
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2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
CERI 7020 - Earthquake Surface Processes (3)
Overview of the surface and near-surface geological conditions that are associated with earthquake occurrence. Evidence for past large earthquakes as written in the geological record. Hands-on experience will be obtained through field work. PREREQUISITE: Permission of the instructor

CERI 7021 - Near Surface Processes (4)
This class will focus on the application of various geophysical methods to investigate the distribution of materials and their physical properties in the shallow subsurface essential for environment. Students will become familiar with the common geophysical field techniques (seismic, gravity, electric, magnetic, etc.,) in terms of the basic theory, data collection, data analysis, and interpretation of results. Emphasis will be placed on the application of several different techniques independently or jointly to better characterize a site or a region in various topics such as mineral resources, active fault, basement configuration, buried dump site, underground water, landslide, archeology site, salt dome, cavity, natural gases, etc. The only way to learn something ?applied? is by doing it. Therefore this will be a hands-on class. Without driving far, we will be restricted to studying soils and shallow unconsolidated sediments. While such environments are important to study in and of themselves, the principles and many of the techniques we learn will be just as applicable in other geological environments. Similarly, while we will focus on the shallow subsurface, the same techniques can be applied on a larger scale to study deeper and larger-scale problems.

CERI 7022 - Introduction to Global Geophys (3)
Overview of the important physical characteristics of the solid Earth; major topics include gravity and the figure of the Earth, the age of the Earth and geochronology, magnetic field and paleomagnetism, plate tectonics, heat energy of the Earth, and the internal structure of the Earth. PREREQUISITE: Permission of instructor.

CERI 7104 - Data Analysis in Geophysics (3)
(ESCI 7205). Overview of data analysis techniques and common tools in geophysics; includes working with the UNIX/LINUX environment; understanding shells; basic programming using Fortran, C, C++, and Perl; generating publishable graphics; emphasis on seismic data analysis using Matlab and Seismic Analysis Code. PREREQUISITE: Permission of instructor.

CERI 7105 - Global Seismology (3)
(ESCI 7401). Provides foundation for advanced graduate research, including fundamentals of continuum mechanics, vector calculus, and solutions of the vector wave equation in homogeneous and inhomogeneous media; understanding of current theories of earthquake occurrence and wave propagation within the earth. PREREQUISITE: Differential equations.

CERI 7106 - Signal Processing Earth Sci (3)
CERI 7124 - Earthquake Ground Motion Simul (3)
(Same as CIVL 7125-8125). Contemporary methods in earthquake ground motion simulation, applications in seismic hazard analysis and engineering, state-of-the-art simulation software. Three lecture hours per week. PREREQUISITE: Permission of the instructor.

CERI 7204 - Prob Earthquake Hazard Anal (3)
(Same as CIVL 7136; same as ESCI 7204) Fundamentals of basic probability, seismicity analysis, ground motion attenuation and site effects, seismic hazard analysis, and uncertainty analysis; students will perform a probabilistic seismic hazard analysis for a region of their interest. PREREQUISITE: Permission of instructor.

CERI 7230 - Exploration Seismology (4)
(ESCI 7404) Examines the reflective seismic approach to mineral exploration, and environmental and tectonic imaging; covers seismic data processing, data visualization, and acquisition procedures, including field equipment; hands-on experience analyzing seismic reflection records. Three lecture, two laboratory hours per week. PREREQUISITE: Permission of instructor.

CERI 7244 - Regional Geop Synthesis (3)
(GEOP 7112; ESCI 7112). Theoretical and practical aspects of geophysics applied to determining earth structure and investigating tectonic processes at a regional scale; major topics include gravity, magnetism, heat flow, geoelectric, and seismic methods, and their implications for lithospheric structure and deformational processes. PREREQUISITE: permission of instructor.

CERI 7260 - Inverse Methods in Geophysics (3)
(GEOP 7603; ESCI 7603). Methods for parameter estimation in earth sciences, including review of linear algebra and vector spaces, introduction to probability and statistics, and solution of inverse linear and nonlinear problems; students will solve an inverse problem in their field of interest. PREREQUISITE: Linear Algebra (MATH 3242 or equivalent) or permission of instructor.

CERI 7270 - Earthquake Source Physics (3)
Develops the tools for quantitative study of earthquakes and faulting. Covers kinematic moment tensor and finite fault representations of earthquakes, elastodynamics including common models for friction and fracture, and earthquake ground motions in the near source region. Prerequisites: partial differential equations and a basic background in numerical methods.

CERI 7315 - Comp Methods in Geodynamics (3)
(GEOL 7315-8315; ESCI 7315-8315). Introduces concepts of models and modeling; students will learn to develop
and use a broad spectrum of modeling techniques, from simple mathematical models to more sophisticated finite element, finite difference models, and statistical modeling. PREREQUISITE: Permission of instructor.

**CERI 7353 - Geodynamics (3)**
(Same as ESCI 7353) Physical principles necessary for understanding plate tectonics and geological phenomena; major topics include stress and strain in earth’s crust, bending of lithosphere, heat conduction in lithosphere, and mantel convection, solidification of magmas, mechanical behavior of faults, and subsidence of sedimentary basins. PREREQUISITE: Permission of instructor.

**CERI 7355 - Apps Space-Base Geodesy (3)**
(GEOP 7355; ESCI 7355) Emphasizes detecting, quantifying, and modeling changes in the geoid and earth’s shape associated with geodynamic processes such as the seismic cycle and earth’s response to loading; concentrates on techniques such as VLBI, SLR, and INSAR. The relationship to traditional geodesy and application of GPS data to earth and space weather are also developed.

**CERI 7375 - Method/Math Physics I (3)**
(GEOP 7376; ESCI 7375; same as MATH 7375). Vector space, matrices, tensors, vector fields, function spaces, differential and integral operators, transform theory, partial differential equations. PREREQUISITE: MATH 3120, 4242 and 4350 or permission of the instructor.

**CERI 7376 - Method/Math Physics II (3)**
(GEOP 7376; ESCI 7376; same as MATH 7376, PHYS 7376). Complex variables, asymptotic expansions, special functions, calculus of variations, additional topics on matrices and operators, topics in non-linear analysis. PREREQUISITE: MATH 7375.

**CERI 7402 - Intermediate Seismology (3)**
(GEOP 7402; ESCI 7402). Provides foundation in seismic wave propagation based on thorough understanding of point source radiation, plane wave theory, optic ray theory, and point sources in plane-layered media. PREREQUISITE: A course in partial differential equations.

**CERI 7403 - Advanced Topics in Geophysics (3)**
(GEOP 7403; ESCI 7403-8403). Topics may include aspects of theoretical seismology, rock rheology and convection, faulting mechanics, advanced potential field techniques, or advanced field methods. PREREQUISITE: Permission of Instructor.

**CERI 7405 - Struct Interp Seism Reflec Dat (3)**
(ESCI 7405-8405) Practical application of reflection seismic method used in tectonic analysis of deformed belts and sedimentary basins, including case studies from around the world that emphasize integration of seismic reflection data with other surface and subsurface geological/ geophysical information, as well as use of restorable structural sections; basics of seismic processing are introduced in the framework of interpretation problems.
CERI 7621 - Independent Study (1-3)
Independent investigation of a research problem selected in consultation with the instructor. May be repeated for a maximum of 6 credit hours. Grades of S/U or IP will be given.

CERI 7701 - Seminar in Geophysics (3)
(GEOL 7641, GEOP 7701, ESCI 7701).

CERI 7702 - Seminar in Seismology (3)
(GEOP 7702-8702; ESCI 7702-8702).

CERI 7996 - Thesis (1-6)
Student must research, write, and defend a thesis on a topic approved by major professor and advisory committee. Grades of S, U, or IP will be given.

CERI 8021 - Near Surface Processes (4)
This class will focus on the application of various geophysical methods to investigate the distribution of materials and their physical properties in the shallow subsurface essential for environment. Students will become familiar with the common geophysical field techniques (seismic, gravity, electric, magnetic, etc.,) in terms of the basic theory, data collection, data analysis, and interpretation of results. Emphasis will be placed on the application of several different techniques independently or jointly to better characterize a site or a region in various topics such as mineral resources, active fault, basement configuration, buried dump site, underground water, landslide, archeology site, salt dome, cavity, natural gases, etc. The only way to learn something ?applied? is by doing it. Therefore this will be a hands-on class. Without driving far, we will be restricted to studying soils and shallow unconsolidated sediments. While such environments are important to study in and of themselves, the principles and many of the techniques we learn will be just as applicable in other geological environments. Similarly, while we will focus on the shallow subsurface, the same techniques can be applied on a larger scale to study deeper and larger-scale problems.

CERI 8022 - Introduction to Global Geophys (3)
Overview of the important physical characteristics of the solid Earth; major topics include gravity and the figure of the Earth, the age of the Earth and geochronology, magnetic field and paleomagnetism, plate tectonics, heat energy of the Earth, and the internal structure of the Earth. PREREQUISITE: Permission of instructor.

CERI 8104 - Data Analysis in Geophysics (3)
(ESCI 7205). Overview of data analysis techniques and common tools in geophysics; includes working with the UNIX/LINUX environment; understanding shells; basic programming using Fortran, C, C++, and Perl; generating publishable graphics; emphasis on seismic data analysis using Matlab and Seismic Analysis Code. PREREQUISITE: Permission of instructor.
CERI 8105 - Global Seismology (3)
(ESCI 7401). Provides foundation for advanced graduate research, including fundamentals of continuum mechanics, vector calculus, and solutions of the vector wave equation in homogeneous and inhomogeneous media; understanding of current theories of earthquake occurrence and wave propagation within the earth. PREREQUISITE: Differential equations.

CERI 8106 - Signal Processing Earth Sci (3)
(GEOP 7602; GEOL 7358; ESCI 7602). Fundamentals of digital processing of geophysical data, both purely mathematical and applied aspects with attention to digital seismograms and gravity and magnetic data. PREREQUISITE: MATH 1920 or equivalent.

CERI 8124 - Earthquake Ground Motion Simul (3)
(= CIVL 7125-8125). Contemporary methods in earthquake ground motion simulation, applications in seismic hazard analysis and engineering, state-of-the-art simulation software. Three lecture hours per week. PREREQUISITE: Permission of the instructor.

CERI 8204 - Prob Earthquake Hazard Anal (3)
(= CIVL 7136; same as ESCI 7204) Fundamentals of basic probability, seismicity analysis, ground motion attenuation and site effects, seismic hazard analysis, and uncertainty analysis; students will perform a probabilistic seismic hazard analysis for a region of their interest. PREREQUISITE: Permission of instructor.

CERI 8230 - Exploration Seismology (4)
(ESCI 7404) Examines the reflective seismic approach to mineral exploration, and environmental and tectonic imaging; covers seismic data processing, data visualization, and acquisition procedures, including field equipment; hands-on experience analyzing seismic reflection records. Three lecture, two laboratory hours per week. PREREQUISITE: Permission of instructor.

CERI 8244 - Regional Geop Synthesis (3)
(GEOP 7112; ESCI 7112). Theoretical and practical aspects of geophysics applied to determining earth structure and investigating tectonic processes at a regional scale; major topics include gravity, magnetism, heat flow, geoelectric, and seismic methods, and their implications for lithospheric structure and deformational processes. PREREQUISITE: permission of instructor.

CERI 8260 - Inverse Methods in Geophysics (3)
(GEOP 7603; ESCI 7603). Methods for parameter estimation in earth sciences, including review of linear algebra and vector spaces, introduction to probability and statistics, and solution of inverse linear and nonlinear problems; students will solve an inverse problem in their field of interest. PREREQUISITE: Linear Algebra (MATH 3242 or equivalent) or permission of instructor.
CERI 8270 - Earthquake Source Physics (3)
Develops the tools for quantitative study of earthquakes and faulting. Covers kinematic moment tensor and finite fault representations of earthquakes, elastodynamics including common models for friction and fracture, and earthquake ground motions in the near source region. Prerequisites: partial differential equations and a basic background in numerical methods.

CERI 8315 - Comp Methods in Geodynamics (3)
(GEOL 7315-8315; ESCI 7315-8315). Introduces concepts of models and modeling; students will learn to develop and use a broad spectrum of modeling techniques, from simple mathematical models to more sophisticated finite element, finite difference models, and statistical modeling. PREREQUISITE: Permission of instructor.

CERI 8353 - Geodynamics (3)
( Same as ESCI 7353) Physical principles necessary for understanding plate tectonics and geological phenomena; major topics include stress and strain in earth's crust, bending of lithosphere, heat conduction in lithosphere, and mantel convection, solidification of magmas, mechanical behavior of faults, and subsidence of sedimentary basins. PREREQUISITE: Permission of instructor.

CERI 8355 - Appls Space-Base Geodesy (3)
(GEOP 7355; ESCI 7355) Emphasizes detecting, quantifying, and modeling changes in the geoid and earth's shape associated with geodynamic processes such as the seismic cycle and earth's response to loading; concentrates on techniques such as VLBI, SLR, and INSAR. The relationship to traditional geodesy and application of GPS data to earth and space weather are also developed.

CERI 8402 - Intermediate Seismology (3)
(GEOP 7402; ESCI 7402). Provides foundation in seismic wave propagation based on thorough understanding of point source radiation, plane wave theory, optic ray theory, and point sources in plane-layered media. PREREQUISITE: A course in partial differential equations.

CERI 8403 - Advanced Topics in Geophysics (3)
(GEOP 7403; ESCI 7403-8403). Topics may include aspects of theoretical seismology, rock rheology and convection, faulting mechanics, advanced potential field techniques, or advanced field methods. PREREQUISITE: Permission of Instructor.

CERI 8405 - Struct Interp Seism Reflec Dat (3)
(ESCI 7405-8405) Practical application of reflection seismic method used in tectonic analysis of deformed belts and sedimentary basins, including case studies from around the world that emphasize integration of seismic reflection data with other surface and subsurface geological/ geophysical information, as well as use of restorable structural sections; basics of seismic processing are introduced in the framework of interpretation problems. PREREQUISITE: Permission of instructor.
CERI 8701 - Seminar in Geophysics (3)
(GEOL 7641, GEOP 7701, ESCI 7701).

CERI 8702 - Seminar in Seismology (3)
(GEOP 7702-8702; ESCI 7702-8702).

CERI 9000 - Dissertation (1-9)
Student must research, write, and defend a thesis on a topic approved by major professor and advisory committee. Grades of S, U, or IP will be given.
CHEMISTRY (CHEM)

In addition to the courses below, the department may offer the following Special Topics courses:
CHEM 6180-99. Special Topics in Inorganic Chemistry. (1-3). Topics are varied and announced in online list of classes.

CHEM 6280-99. Special Topics in Analytical Chemistry. (1-3). Topics are varied and announced in online course listings.

CHEM 6380-99. Special Topics in Organic Chemistry. (1-3). Topics are varied and announced in online course listings.

CHEM 6480-99. Special Topics in Physical Chemistry. (1-3). Topics are varied and announced in online course listings.

CHEM 6580-99. Special Topics in Biochemistry. (1-3). Topics are varied and announced in online course listings.

CHEM 7100–09–8100-09. Special Topics in Inorganic Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including equilibrium, titrimetric, electroanalytical, and spectral methods, separation and radio-chemical techniques, microanalysis, statistics and data analysis, and electrode kinetics). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 7200-09–8200-09. Special Topics in Analytical Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including equilibrium, titrimetric, electroanalytical, and spectral methods, separation and radio-chemical techniques, microanalysis, statistics and data analysis, and electrode kinetics). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 7300-09–8300-8309. Special Topics in Organic Chemistry. (1-3). Lecture and conferences covering selected areas of current interest (including heterocyclic chemistry, organometallic compounds, organosulfur compounds, alkaloids, steroids, terpenes, photochemistry, biosynthesis, stereochemistry, carbohydrates, new synthetic methods, high polymers, and advanced physicalorganic chemistry). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 7400-09–8400-09. Special Topics in Physical Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including non-aqueous solutions, surface chemistry, x-ray crystallography, theoretical spectroscopy, nuclear chemistry, molecular structure of macromolecules, colloid chemistry, statistical thermodynamics, esr, and nmr). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 7500-09–8500-09. Special Topics in Biochemistry. (1-3). Lectures and conferences covering selected areas of current interest (including enzymology, protein and nucleic acid chemistry, physical chemistry of biochemical macromolecules, lipid, carbohydrate, and amino acid metabolism, biochemical energetics, and
metabolic regulation). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 8700–09. Special Topics in Computational Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including artificial intelligence methods, molecular computing, semi-empirical quantum mechanics, combinatorial chemistry, computer-aided drug design, analysis of chemical databases, correlated methods, chemometrics, and parallel computing). May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

CHEM 6001 - Environmental Chemistry (3)
Chemical phenomena occurring in soil, atmospheric, and aquatic environments; consideration of natural resources and environment. PREREQUISITE: CHEM 3310 and CHEM 3211.

CHEM 6111 - Intermediate Inorganic CHEM (3)
Theoretical and applied inorganic chemistry, stressing the relationship of structure and bonding to the properties of elements and compounds; topics include introductory molecular orbital theory, coordination compounds and organometallics, ligand field theory, nonaqueous solvent systems, and reaction mechanisms. PREREQUISITE: CHEM 3111, or permission of the instructor.

CHEM 6201 - Instrumental Analysis Lab (1)
Application of techniques of instrumental analysis in areas of atomic and molecular spectroscopy, mass spectrometry, electroanalytical chemistry and chromatography. Three laboratory hours per week. PREREQUISITE: CHEM 3211 with at least C-, or COREQUISITE: CHEM 4211.

CHEM 6211 - Instrumental Analysis (3)
Topics in modern analytical instrumental analysis; atomic and molecular spectroscopy, mass spectrometry, electroanalytical chemistry and chromatography. Three lectures hours per week. PREREQUISITE: CHEM 3211 with at least C-.

CHEM 6311 - Physical Organic Chemistry (3)
Theory of electronic structure organic compounds, relation between structure and reactivity of organic compounds, mechanisms of common organic reactions. Three lecture hours per week. PREREQUISITE: CHEM 3310 and 3511 with at least a C-. Repeat no more than two times.

CHEM 6315 - Organic Medicinal Chem (3)
Introduction to principles of medicinal chemistry; structure, synthesis, and biochemical mechanism of action of major drug classes. PREREQUISITE: CHEM 3511.

CHEM 6406 - Molecular Spectroscopy Lab (1)
Determination of molecular structure of compounds using nuclear magnetic resonance spectroscopy, infrared spectroscopy, and mass spectrometry. Three laboratory hours per week. PREREQUISITE: CHEM 3301 with at least C-. PREREQUISITE or COREQUISITE: CHEM 6416.

CHEM 6411 - Advanced Physical Chem (3)
Advanced topics in physical chemistry, including statistical mechanics and thermodynamics plus selected topics in kinetic theory of gases, condensed phases, and non-equilibrium processes. PREREQUISITE: CHEM 3411 or permission of instructor.

CHEM 6415 - Computational Chemistry (3)
Application of computers to problems in organic and inorganic chemistry; use of quantum chemistry codes to solve problems related to electronic, molecular, and vibrational structure. PREREQUISITE: CHEM 3411 or permission of instructor.

CHEM 6416 - Molecular Spectroscopy (3)
Theory, instrumentation and applications of NMR, FT-IR, mass spectrometry, and UV-visible spectroscopy. Application and theory of other spectroscopic methods will be discussed briefly. Three lecture hours per week. PREREQUISITE: CHEM 3310 and 3411.

CHEM 6501 - Lab Tech In Biochem (2)
(Same as BIOL 6503). Biochemical techniques, analysis and design strategies; emphasis on properties of proteins/enzymes, including binding, catalysis, kinetics, electron and proton transport processes of intermediate metabolism; purification, characterization, and assay of enzymes using chromatography, spectroscopy, electrophoresis. Six laboratory hours per week; $50 material fee. PREREQUISITE: CHEM 3501; PREREQUISITE OR COREQUISITE: CHEM 6511.

CHEM 6511 - Biochemistry I (3)
(Same as BIOL 6511). Chemistry of amino acids and proteins as related to their properties in biochemical systems; protein conformation studies; enzymology; coenzymes and their functions; importance of pH and bioenergetics in catalysis; protein and carbohydrate metabolism. Three lecture hours per week. PREREQUISITE: CHEM 3511 with at least a C-.

CHEM 6512 - Biochemistry II (3)
(Same as BIOL 6512). Continuation of CHEM 6511; chemistry of lipids: metabolism, membrane formation and function in cell signaling mechanisms and sensory transduction; chemistry of nucleotides, DNA, and RNA; mechanisms of information storage and transmission; advanced treatment of enzyme kinetics. Three lecture hours per week. PREREQUISITE: CHEM 6511 or BIOL 6511 with at least a C-.

CHEM 6603 - Materials Synthesis Lab (1)
Practical application of modern chemical synthesis; experimental studies in synthetic organic, organometallic,
inorganic, polymer, and nanomaterial chemistry. Three laboratory hours per week. PREREQUISITE: CHEM 3301.
PREREQUISITE or COREQUISITE: CHEM 4613

CHEM 6604 - Instrumental Methods (3)
Analytical instrumental techniques including molecular spectroscopy, chromatography, atomic spectroscopy, and
electrochemical analysis. Two lecture, three laboratory hours per week; $25 material fee. PREREQUISITES:
Permission of instructor.

CHEM 6613 - Materials Synthesis (3)
Principles, methods and applications of modern chemical synthesis; organic, organometallic, inorganic, polymer,
and nanomaterial synthetic reactions and techniques; multi-step and interdisciplinary synthesis. Three lecture
hours per week. PREREQUISITE: CHEM 3111 and CHEM 3310.

CHEM 6614 - Polymer Chemistry (3)
Fundamental concepts in polymer chemistry and polymer physics with focus on synthesis, characterization,
structure and properties of polymeric materials. Three lecture hours per week. PREREQUISITE: CHEM 3310 and
CHEM 3411.

CHEM 6615 - Biophysical Chemistry (3)
Study of biomolecular structures and properties; emphasis on biophysical techniques applicable to study of
biomolecular structures and properties. Three lecture hours per week. PREREQUISITE: CHEM 3411 and 3510.

CHEM 7001 - Directed Research (1-10)
An original investigation undertaken with the supervision of a member of the graduate staff to be the basis of a
contribution to the chemical literature. May be repeated for a maximum of 30 credit hours.

CHEM 7111 - Systematic Inor Chem (3)
Survey of inorganic chemistry, including electronic structure, bonding, stereochemistry, symmetry, and the physical
and chemical properties of the elements and their compounds. PREREQUISITE: CHEM 6111 or permission of
instructor.

CHEM 7211 - Adv Analytical Chem I (3)
Advanced treatment of topics in atomic and molecular spectroscopy, mass spectrometry, and surface analysis
techniques. PREREQUISITE: CHEM 6211 or permission of instructor.

CHEM 7212 - Adv Analytical Chem II (3)
Advanced treatment of topics in electrochemical methods and separation techniques. PREREQUISITE: CHEM
6211 or permission of instructor.

CHEM 7311 - Adv Organic Chemistry (3)
Physical approach to organic reaction mechanisms; reactive intermediates, aromaticity, and pericyclic reactions; introduction to advanced spectroscopic techniques and synthetic philosophy. PREREQUISITE: CHEM 6311 or permission of instructor.

CHEM 7312 - Synthetic Organic Chem (3)
Principles of synthesis of complex organic molecules. PREREQUISITE: CHEM 6311 or permission of instructor.

CHEM 7314 - Heterocyclic Chemistry (3)
Reactions, synthesis, uses, and physical properties of heterocyclic compounds.

CHEM 7411 - Elect Structure & Sym (3)
Basic quantum chemistry with applications to simple systems; group theory and its applications; molecular orbital theory including Hückel, SCF-LCAO-MO, and Qualitative MO methods. PREREQUISITE: CHEM 6411 or permission of instructor.

CHEM 7414 - Adv Quantum Chemistry (3)
Advanced treatment of topics in quantum chemistry with emphasis on electronic structure theories.

CHEM 7600 - Intro Grad Study Chem (2)
Laboratory instruction emphasizing communication skills, laboratory conduct and safety, and evaluation of performance. Two laboratory hours per week. Grades of S, U, or IP will be given.

CHEM 7711 - Approx Chem Model Meth (3)
Development of approximate classical and quantum mechanical techniques for modeling chemical systems, molecular mechanics, semiempirical quantum mechanics. PREREQUISITE: CHEM 7411 or permission of instructor.

CHEM 7713 - Adv Solid St Phys/Chem (3)
Quantum mechanical treatment of electronic and vibrational states of metals, semiconductors and insulators, transport phenomena, superconductivity, physics of defects in solids. PREREQUISITE: CHEM 7411 or permission of instructor.

CHEM 7910 - Spec Prob In Chem (1-12)
Individual investigation and report under the guidance of the student's major advisor. Grades of S, U, or IP will be given.

CHEM 7911 - Presentation (1)
Preparation and presentation of a short talk or lecture based on a laboratory or library project. Topic chosen in consultation with advisor. Grades of S, U, or IP will be given.
CHEM 7913 - Chemistry Seminar (1)
Formal meetings, presentation, and discussion of current topics of interest; students, faculty, and visiting scientists participate. Required of all regularly enrolled graduate students. A maximum of 4 credit hours from a combination of CHEM 6911, 7911, 8911, and 7-8913 may be counted toward the degree. Grades of S, U, or IP will be given.

CHEM 7996 - Thesis (1-6)
An original investigation undertaken with the supervision of a member of the graduate staff. The investigation will be the basis of a thesis. A maximum of 6 credit hours can be counted toward the thesis Master's degree. Grades of S, U, or IP will be given.

CHEM 8001 - Directed Research (1-10)
An original investigation undertaken with the supervision of a member of the graduate staff to be the basis of a contribution to the chemical literature. May be repeated for a maximum of 30 credit hours.

CHEM 8111 - Systematic Inor Chem (3)
Survey of inorganic chemistry, including electronic structure, bonding, stereochemistry, symmetry, and the physical and chemical properties of the elements and their compounds. PREREQUISITE: CHEM 6111 or permission of instructor.

CHEM 8112 - Structural Inor Chem (3)
Principles and applications of spectroscopic and physical methods to the solution of inorganic and organometallic problems, including electronic absorption spectra, photoelectron spectra, resonance Raman, NMR, EPR, Mossbauer Spectroscopy, EXAFS/XANES, X-ray diffraction. PREREQUISITE: CHEM 6111 or permission of instructor.

CHEM 8211 - Adv Analytical Chem I (3)
Advanced treatment of topics in atomic and molecular spectroscopy, mass spectrometry, and surface analysis techniques. PREREQUISITE: CHEM 6211 or permission of instructor.

CHEM 8212 - Adv Analytical Chem II (3)
Advanced treatment of topics in electrochemical methods and separation techniques. PREREQUISITE: CHEM 6211 or permission of instructor.

CHEM 8311 - Adv Organic Chemistry (3)
Physical approach to organic reaction mechanisms; reactive intermediates, aromaticity, and pericyclic reactions; introduction to advanced spectroscopic techniques and synthetic philosophy. PREREQUISITE: CHEM 6311 or permission of instructor.

CHEM 8312 - Synthetic Organic Chem (3)
Principles of synthesis of complex organic molecules. PREREQUISITE: CHEM 6311 or permission of instructor.
CHEM 8314 - Heterocyclic Chemistry (3)
Reactions, synthesis, uses, and physical properties of heterocyclic compounds.

CHEM 8405 - Adv Biophysical Chemistry (3)
Advanced study of biomolecular structures, properties and mechanism; Emphasis on how to utilize various techniques to study biological properties and mechanism. This course utilizes mixed-mode instruction. PREREQUISITE: CHEM 6411 or permission of instructor.

CHEM 8411 - Elect Structure & Sym (3)
Basic quantum chemistry with applications to simple systems; group theory and its applications; molecular orbital theory including Huckel, SCF-LCAO-MO, and Qualitative MO methods. PREREQUISITE: CHEM 6411 or permission of instructor.

CHEM 8414 - Adv Quantum Chemistry (3)
Advanced treatment of topics in quantum chemistry with emphasis on electronic structure theories.

CHEM 8711 - Approx Chem Model Meth (3)
Development of approximate classical and quantum mechanical techniques for modeling chemical systems, molecular mechanics, semiempirical quantum mechanics. PREREQUISITE: CHEM 7411 or permission of instructor.

CHEM 8713 - Adv Solid St Phys/Chem (3)
Quantum mechanical treatment of electronic and vibrational states of metals, semiconductors and insulators, transport phenomena, superconductivity, physics of defects in solids. PREREQUISITE: CHEM 7411 or permission of instructor.

CHEM 8910 - Spec Prob In Chem (1-12)
Individual investigation and report under the guidance of the student's major advisor. Grades of S, U, or IP will be given.

CHEM 8911 - Advanced Presentation (1)
Preparation and presentation of one-hour lecture as regularly scheduled department seminar. Topic chosen in consultation with advisor. Grades of S, U, or IP will be given.

CHEM 8913 - Chemistry Seminar (1)
Formal meetings, presentation, and discussion of current topics of interest; students, faculty, and visiting scientists participate. Required of all regularly enrolled graduate students. A maximum of 4 credit hours from a combination of CHEM 6911, 7911, 8911, and 7-8913 may be counted toward the degree. Grades of S, U, or IP will be given.
CHEM 9000 - Dissertation (1-10)
A maximum of 32 dissertation hours is permitted. A minimum of 6 credit hours is required for the doctoral degree. Grades of S, U, or IP will be given.
COMPUTER SCIENCE (COMP)

In addition to the courses below, the department may offer the following Special Topics courses:
COMP 6990-6999. Topics in Computer Science. (1-3). Topics are varied and announced in the online course listing. PREREQUISITE: Permission of instructor.


COMP 6001 - Computer Programming (3)
Basic concepts in computer programming. Incorporates object oriented concepts, variables, flow control statements, arrays and lists, debugging and testing. NOTE: This course may not be used to fulfill requirements for the Computer Science major or Computer Science minor. PREREQUISITE: MATH 1710 or MATH 1910 or MATH 1421 or permission of instructor.

COMP 6005 - Web Design/Development (3)
Web interface development using HTML, XML, CSS, JavaScript, and AJAX; technological issues in web page design and data visualization; web servers and their features; web services. NOTE: This course may not be used to fulfill requirements for the Computer Science major or Computer Science minor. PREREQUISITE: COMP 6001, or one other course in computer programming, or permission of instructor.

COMP 6014 - Intro Java Programming (3)
Java problem-solving strategies with emphasis in fundamental programming skills, primitive data types, control structures, arrays, strings, I/O, basic recursion, documentation, testing and debugging techniques; introduction to object-oriented concepts. NOTE: This course may not be used to fulfill degree requirements.

COMP 6030 - Design/Analysis Algorithms (3)
Asymptotic behavior of programs; basic paradigms in algorithm design: greedy, divide-and-conquer, dynamic programming; analysis of efficiency, and optimality of representative algorithms, including graph, pattern matching, numerical, randomized, and approximation algorithms; approaches to lower bound analysis; basic parallel algorithms. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 2700 or permission of instructor.

COMP 6040 - Programming Languages (3)
Comparative features, syntax, and applicability of high-level programming languages such as FORTRAN, PASCAL, LISP, Scheme, ADA, C, C++, Java, PHP, JavaScript, Perl, Prolog, and FORTH data types, data structures, and dataflow; procedures, recursion, runtime environment, string manipulation, list processing, array processing, documentation, programming style. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 2150, or permission of instructor.

COMP 6041 - Intro To Compilers (3)
Finite state recognizers, lexical scanners, symbol tables, context-free methods such as recursive descent, LL(K),
precedence, LR(K), SLR(K); language translation, generation and improvement of machine independent codes, inherited and synthesized attributes syntax directed translation schema. PREREQUISITE: COMP 3410, 6040 and 6030.

**COMP 6242 - Intro Computer Graphics (3)**
Characteristics of graphics I/O devices; 2D/3D transformation including scaling, translation, and rotation; graphics pipeline; data structures for graphics; geometry representation; OpenGL programming; vertex processing; lighting and shading; rasterization including line and polygon drawing; ray casting; ray tracing; computer graphics in games; visualization. PREREQUISITE: COMP 3150 and MATH 3242 or permission of instructor.

**COMP 6270 - Operating Systems (3)**
Hierarchy of storage devices, I/O buffering, interrupts, channels; multi-programming, processor and job scheduling, memory management: paging, segmentation, virtual memory; management of asynchronous processes: interrupt procedure calls, process state and automatic switch instructions, semaphores, concurrency; security and recovery procedures. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITES: COMP 2150 and either COMP 3410 or EECE 4278.

**COMP 6272 - System Admin and Unix Prog (3)**
Fundamental of UNIX and operating systems principles; scripting; principles and practices of systems administration and management; network file systems; account management; OS installation; startup and shutdown, booting, backup, restore; system administration tools; web administration; duties and responsibilities of a system administrator. PREREQUISITE: COMP 6270 or permission of instructor.

**COMP 6302 - Web Service/Internet (3)**
Design and implementation of Web services, including Internet architecture and protocol layering; client-server application design; peer-peer application design; World Wide Web programming using HTML, XML, Java, and advanced scripting languages; security issues. PREREQUISITE: COMP 3115, or permission of instructor.

**COMP 6310 - Wireless Mobile Comp (3)**
Internet architecture and design, IPv4 and IPv6, routing algorithms, TCP congestion control, peer-to-peer applications, wireless LAN, mobile IP, mobile ad hoc networks, wireless sensor networks. PREREQUISITE: COMP 3825.

**COMP 6410 - Computer Security (3)**
Computer security; confidentiality, integrity, availability, methods and protocols in cryptography, digital signature, authentication, bit commitment; security in computing, programs, databases, operating systems; secure communication, secure channel, public key infrastructure, certificates; digital evidence, forensics tools; monitor and response; legal and ethical issues; risk management, security administration. PREREQUISITE: COMP 3825, or permission of instructor.
COMP 6601 - Models Of Computation (3)
Computer models as a basis of the understanding and analysis of programming: computation and complexity: machine models (finite-state, stack and Turing machines), linguistic models (grammars, lambda calculus, and predicate calculi); biologically-inspired models (e.g.: neural nets or genetic algorithms); unsolvability, universality, decidability, and feasibility. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 6030, or permission of instructor

COMP 6720 - Intro Artificial Intlg (3)
(Same as EECE 6720.) Fundamentals of programming in LISP; central ideas of artificial intelligence, including heuristic search, problem solving, slot-and-filler structures and knowledge representation. PREREQUISITE: COMP 4040 or permission of instructor.

COMP 6730 - Expert Systems (3)
(Same as EECE 6730.) Fundamentals of programming in PROLOG, central ideas of expert system development, including knowledge representation, control structures, tools, knowledge acquisition, and knowledge engineering. PREREQUISITE: COMP 4030, or permission of instructor.

COMP 6731 - Data Visualization (3)
(Same as EECE 6731). Terminology, methodology, and applications of data visualization; methods for visualizing data from a variety of engineering and scientific fields including both static and time varying data and methods for generating both surface and volume visualizations. PREREQUISITES: EECE 3221 or COMP 2150 or permission of instructor.

COMP 6901 - Ind Study Computer Sci (1-3)
Directed individual study of selected areas of computer science. Repeatable by permission to 6 semester hours. PREREQUISITE: Permission of instructor.

COMP 6911 - Internshp Com Science (1-6)
Practical experience in computer science; students are placed with governmental or private organizations; project must be approved and supervised by department faculty; academic credit granted on certification of cooperating agency and acceptance by the supervising faculty of written report. May be repeated for total of 6 semester hours credit. PREREQUISITE: Permission of instructor.

COMP 7012 - Fndtns/Software Engr (3)
(Same as EECE 7012-8012). Covers project management; software disciplines (requirements, analysis, design, implementation, testing); software modeling notations; mapping designs to code. Students work in teams to develop a significant software system. PREREQUISITE: COMP 2150 or permission of the instructor.

COMP 7041 - Compiler Design (3)
Translation of computer source language--including compiling of interpreters, scanning, and code generation--for
arithmetical and Boolean expressions, arrays, conditional and iterative statements using recursive and nonrecursive compiling techniques; construction of automated compiler given a source language in form of a context-free grammar and a target in the form of actions to be performed when rules of grammar are satisfied. PREREQUISITE: COMP 6041.

COMP 7081 - Software Engr Methodologies (3)
Common software engineering methodologies, such as waterfall, prototyping, iterative and incremental development, spiral development, rapid application development, and extreme programming; advanced object-oriented analysis and design methods, reuse, and testing. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 7083 - Engineering Secure Software (3)
Development of secure software systems; writing secure code; vulnerability detection; limiting the impact of security vulnerabilities, balancing security properties (confidentiality, integrity, availability); cryptography concepts, trust versus trustworthiness, attack vectors/surface, malware detection/defense, risk and threat intelligence. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 7085 - Program Comprehension (3)
Cognitive and mental models of how people learn to program and how people understand existing large software systems; software environments to assist software developers build, maintain, and evolve software systems; how visualization of software systems aids in program comprehension. PREREQUISITES: COMP 7012 or permission of instructor.

COMP 7087 - Topics Software Engr (3)
Recent theoretical and practical issues in software engineering. May be repeated for a maximum of 6 credit hours with permission of the department. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 7115 - Database Systems (3)
Review of the relational model; query processing and optimization; physical database design and tuning; transaction processing; concurrency control; crash recovery; database buffer management; database security. PREREQUISITE: COMP 3115 or permission of instructor.

COMP 7116 - Adv Database Systems (3)
Advanced data modeling; object-oriented and object-relational databases; indexing of complex data; advanced transaction processing; on-line analytical processing and data warehousing; distributed database processing. PREREQUISITE: COMP 7115 or permission of instructor.

COMP 7117 - Topic Database Mgmt Sys (3)
Advanced current research topics in database and information management, with emphasis on nontraditional data and applications. PREREQUISITE: COMP 7116 or permission of instructor.
COMP 7118 - Topics In Data Mining (3)
Approaches to data mining and knowledge discovery (graphical, statistical, combinatorial, heuristic); classification and clustering; time series analysis; spatial data mining; data mining applications. PREREQUISITE: COMP 2150 or permission of instructor.

COMP 7120 - Cryptgrphy/Data Security (3)
(Same as MIS 7670-8670). Ancient and modern cryptology and ciphers; security problems in computing; basic encryption and decryption; public-key cryptography, notions of security in computing environments; encryption, protocols; security for programs, OSs, data bases, PCs, networks and communication; legal, ethical and human factors in computer security. PREREQUISITE: permission of instructor; COMP 2700 recommended.

COMP 7125 - Computer Forensics (3)
Societal and legal impact of computer activity: computer crime, intellectual property, privacy issues, legal codes; risks, vulnerabilities, and countermeasures; methods and standards for extraction, preservation, and deposition of legal evidence in a court of law. PREREQUISITE: COMP 7105 or equivalent, or permission of instructor.

COMP 7130 - Inform Retrieval/Web Search (3)
Computational aspects, algorithms, and techniques for information retrieval from large collections of documents; major topics include ad-hoc retrieval, text processing, classical models of retrieval, term-weighting schemes, query operations, web search, text categorization, and text classification. PREREQUISITES: COMP 6040 or COMP 6041, or permission of instructor.

COMP 7150 - Methods for Data Analysis (3)
Methods and models for data analysis and management; the data life cycle; statistical methods, hypothesis testing, experimental design; data collection, cleansing, organization and mining; software tools such as statistical packages, nonrelational databases and computer simulations. PREREQUISITES: An undergraduate course in descriptive statistics, or permission of instructor.

COMP 7212 - Operating/Distrib Sys (3)
Overview of operating system architecture for centralized and distributed systems; storage device and file systems; process management, scheduling, synchronization, interprocess communications and security; case studies of selected operating systems. PREREQUISITES: COMP 2150 and 3410 or permission of instructor.

COMP 7272 - Parallel Computing (3)
Introduction to parallel and distributed computing; various aspects of parallel programming including architecture, communication, algorithms, performance, and programming; distributed computing architectures such as client-server and CORBA; synchronization, replication, and distributed file systems; benchmark applications. PREREQUISITES: COMP 2150 and 7212 or permission of instructor.
COMP 7274 - Topics Distrib Computng (3)
Introduction to emerging topics in distributed computing; heterogeneous computing and middleware over the Internet and the World-Wide Web; distributed cache coherency problem; wireless computing and wearable devices; avatar computing; application of distributed computing to E-commerce and other fields.
PREREQUISITES: COMP 7/8272 or permission of instructor.

COMP 7282 - Evolutionry Computation (3)
Computational implementation of biological analogies, such as genetic algorithms, genetic programming, embryonics, evolutionary engineering; representation, fitness functions, fitness landscapes, automatically defined functions; applications to optimization, machine learning, software development. PREREQUISITE: COMP 6601 or permission of instructor.

COMP 7290 - Molecular Computing (3)
(= Same as MMCS 7290-8290). Basics of cell biology and genetics (DNA structure and enzymes, replication and translation); feasible DNA-based solution of hard computational problems; issues in the design of molecular computers; foundations of nanotechnology. PREREQUISITE: COMP 7712 or permission of instructor.

COMP 7295 - Algorithms Comp Biol/Bioinform (3)
Algorithms for problems arising in molecular biology, such as sequence matching, alignment, gene finding, sequence assembly, phylogeny, and structure prediction; internet resources; statistical analysis of DNA, RNA, and protein sequences. PREREQUISITE: COMP 6030 or permission of instructor.

COMP 7311 - Adv Computer Networks (3)
Internet architecture and layering; intra-domain and inter-domain routing protocols; congestion control; network QoS; peer-to-peer networks; overlay networks; wireless and sensor networks. PREREQUISITE: COMP 3825, or permission of instructor.

COMP 7313 - Network Model/Perf Analysis (3)
Mathematical modeling of networking problems; proving correctness of networking algorithms; applying optimization techniques to solving networking problems; deriving deterministic bounds on performance (approximation factors) for hard networking systems; deriving probabilistic guarantees on the performance of networking systems. PREREQUISITE: COMP 7612

COMP 7327 - Network/Internet Secrty (3)
Concepts of network security; survey of security software packages; security in Java; intrusion-detection systems; current security issues on Internet and electronic commerce. PREREQUISITES: COMP 6310 and 7120 or permission of instructor.

COMP 7514 - Cognitive Science Sem (3)
Systematic study of current topics in Cognitive Science; student required to make presentations and prepare
research paper or project. No more than 3 hours may be applied to MS with computer science concentration. PREREQUISITE: Permission of instructor.

**COMP 7515 - Complex Systems Sem (3)**
Systematic study of information processing, broadly construed, natural or artificial, occurring in complex systemic interactions, such as those encountered in dynamical, neural, biological, social, evolutionary, and cyberspatial systems. PREREQUISITES: COMP 6601 or permission of instructor.

**COMP 7517 - Human/Comptr Interact (3)**
Facts, theories, and issues about human sensation, perception, and interaction for developing more ergonomic and human-like computer interfaces; interactive platforms in use or under development. PREREQUISITE: COMP 2150 or equivalent, or permission of instructor.

**COMP 7601 - Topics Discrete Modelng (3)**
Application of computer models to problem solving in natural language processing, decision making, pattern recognition, image processing, and phenomena in physics, chemistry and biology. PREREQUISITE: COMP 6601 or permission of instructor.

**COMP 7612 - Foundations of Computing (3)**
Review of basic models of computation and complexity; measures and modes of complexity analyses, both logical and experimental; average case analysis of algorithms; information complexity and its applications to coding; deterministic and stochastic methods for data analysis and compaction, hypothesis testing, and estimation. PREREQUISITE: COMP 6030, or permission of instructor.

**COMP 7712 - Algorithms/Prob Solv (3)**
Covers algorithms problems, techniques, and design emphasizing problem solving and implementation skills; topics include advanced data structures, graph algorithms, string matching, network flow, dynamic programming, and randomized algorithms. PREREQUISITE: COMP 2150 or permission of instructor.

**COMP 7713 - Advanced Topics Algorithms (3)**
Advanced methods and data structures in sequential algorithms, including amortized analysis, backtracking, and branch-and-bound, heuristics, randomized algorithms, derandomization, approximation, and approximability; basic parallel models and algorithms, including sorting and searching, numerical, symbolic, and probabilistic algorithms. PREREQUISITES: COMP 7712 or permission of instructor.

**COMP 7717 - Topics In Algorithms (3)**
Recent developments and practical issues in algorithms and data structures. PREREQUISITE: COMP 7713 or permission of instructor.

**COMP 7719 - Combinatorial Optimiztn (3)**
Computational complexity: reductions, oracles and NP-completeness; five basic problems on convex sets in Euclidean spaces; pivoting, ellipsoid, and basis reductions methods; optimization on graphs; matching and stable set polytopes; algorithms on perfect graphs. PREREQUISITES: COMP 7713 or COMP 7715 or permission of instructor.

COMP 7720 - Artificial Intelligence (3)
( Same as EECE 7720-8720). Central issues of artificial intelligence, including game playing, planning, machine learning, common-sense reasoning, perception and action; implementations in LISP. PREREQUISITE: COMP 6720.

COMP 7740 - Neural Networks (3)
( Same as EECE 7740-8740). Learning algorithms for multilayer perceptrons, least-mean squares, backpropagation and its variants, cascade-correlation, other supervised learning algorithms; unsupervised methods, including Hebbian, competitive, and reinforcement learning; applications to associative memories, combinatorial optimization, component analysis, function approximation, pattern classification; theory of neurodynamics, including equilibrium, stability, and computational power. PREREQUISITE: COMP 6030, or permission of instructor.

COMP 7745 - Machine Learning (3)
An introduction to machine learning: hypothesis spaces, formation and evaluation; concept learning, decision trees, linear regression and perceptrons; graphical models (naive Bayes, Bayes Nets, Hidden Markov Models); computational learning theory; Support Vector Machines; instance-based learning. PREREQUISITES: COMP 7740, or permission of instructor.

COMP 7747 - Adv Topics in Machine Learning (3)
Advanced concepts in machine learning, including: inference and learning in graphical models, reinforcement learning, Markov decision processes, active learning, unsupervised learning, deep learning, autoencoders, Boltzmann machines. PREREQUISITE: COMP 7745 or permission of instructor.

COMP 7760 - Control Auto Agents (3)
Exploration and current applications of nontraditional control methods for design of autonomous agents, both in hardware and software, capable of operating in unusual and complex environments, such as subsumption architectures, adaptive fuzzy systems and software agents; novel learning and action selection paradigms. PREREQUISITE: COMP 6001 or permission of instructor.

COMP 7770 - Knowledge Rep/Reason (3)
Focuses on long-standing issues of knowledge representation, including ontologies; knowledge structures; and representing events, actions, time, space, geometry, and common-sense knowledge. Student will complete a project using declarative language. PREREQUISITES: COMP 6730 or 6720 or permission of instructor.

COMP 7780 - Natural Lang Processng (3)
(Same as PSYC 7221-8221). Computational aspects, algorithms, and techniques for human language processing; topics include lexical analysis, syntactic parsing, semantics, word sense disambiguation, logic forms, dialog, and pragmatics; applications include question answering and information extraction among others. PREREQUISITES: COMP 6040 or 6041 or permission of instructor.

COMP 7820 - Pci Algrths/Mach Visn (3)
Image formation and sensing in vision systems; basic algorithms for processing continuous and discrete images; edge detection; shape detection vs. brightness, lightness, shading, and color; reflectance maps; stereoscopic systems; pattern classification; representation problems; basic concepts and applications of computational geometry; passive navigation and motion planning. PREREQUISITE: COMP 7713 or permission of instructor.

COMP 7900 - Cyber Ethics (3)
Issues, concepts, and frameworks for cyber ethics: privacy, intellectual property, professionalism, code of ethics and professional practices, software developers' obligations to different stakeholders, freedom of speech on Internet; case studies of ethical tradeoffs in technical decisions. PREREQUISITE: 9 hours of graduate studies, or permission of instructor.

COMP 7901 - Ind Studies Comp Sci (1-4)
Directed independent problem research and program design, writing, and documentation in an area selected by student with approval of both adviser and supervising staff members. Repeatable by permission. PREREQUISITE: Permission of instructor.

COMP 7950 - Research Methods Comp Sci (1)
Overview of research methods in computer science; how to read and write research papers in computer science; presentation skills for technical presentations; software tools for research in computer science. NOTE: Open to Computer Science majors only.

COMP 7960 - Sem Teaching/Res/Consult (3)
Non-traditional setting in which masters students develop skills in areas of teaching, research, and consulting. Required of all graduate assistants in the department. NOTE: Computer Science majors may not use this course to fulfill degree requirements.

COMP 7980 - Master's Project (1-3)
Research for specific projects under the supervision of a faculty member and possibly a liaison from commerce or industry. Each section of this class will be designated for a special area. PREREQUISITE: Permission of project advisor. Grading of A-F, IP.

COMP 7996 - Thesis (1-6)
Grades of S, U, of IP will be given
COMP 8012 - Fndtns/Software Engr (3)
( Same as EECE 7012-8012). Covers project management; software disciplines (requirements, analysis, design, implementation, testing); software modeling notations; mapping designs to code. Students work in teams to develop a significant software system. PREREQUISITE: COMP 2150 or permission of the instructor.

COMP 8041 - Compiler Design (3)
Translation of computer source language--including compiling of interpreters, scanning, and code generation--for arithmetical and Boolean expressions, arrays, conditional and iterative statements using recursive and nonrecursive compiling techniques; construction of automated compiler given a source language in form of a context-free grammar and a target in the form of actions to be performed when rules of grammar are satisfied. PREREQUISITE: COMP 6041.

COMP 8081 - Software Engr Methodologies (3)
Common software engineering methodologies, such as waterfall, prototyping, iterative and incremental development, spiral development, rapid application development, and extreme programming; advanced object-oriented analysis and design methods, reuse, and testing. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 8083 - Engineering Secure Software (3)
Development of secure software systems; writing secure code; vulnerability detection; limiting the impact of security vulnerabilities, balancing security properties (confidentiality, integrity, availability); cryptography concepts, trust versus trustworthiness, attack vectors/surface, malware detection/defense, risk and threat intelligence. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 8085 - Program Comprehension (3)
Cognitive and mental models of how people learn to program and how people understand existing large software systems; software environments to assist software developers build, maintain, and evolve software systems; how visualization of software systems aids in program comprehension. PREREQUISITES: COMP 7012 or permission of instructor.

COMP 8087 - Topics Software Engr (3)
Recent theoretical and practical issues in software engineering. May be repeated for a maximum of 6 credit hours with permission of the department. PREREQUISITE: COMP 7012 or permission of instructor.

COMP 8116 - Adv Database Systems (3)
Advanced data modeling; object-oriented and object-relational databases; indexing of complex data; advanced transaction processing; on-line analytical processing and data warehousing; distributed database processing. PREREQUISITE: COMP 7115 or permission of instructor.

COMP 8117 - Topic Database Mgmt Sys (3)
Advanced current research topics in database and information management, with emphasis on nontraditional data and applications. PREREQUISITE: COMP 7116 or permission of instructor.

**COMP 8118 - Topics In Data Mining (3)**
Approaches to data mining and knowledge discovery (graphical, statistical, combinatorial, heuristic); classification and clustering; time series analysis; spatial data mining; data mining applications. PREREQUISITE: COMP 2150 or permission of instructor.

**COMP 8120 - Cryptgrphy/Data Securty (3)**
(Same as MIS 7670-8670). Ancient and modern cryptology and ciphers; security problems in computing; basic encryption and decryption; public-key cryptography, notions of security in computing environments; encryption, protocols; security for programs, OSs, data bases, PCs, networks and communication; legal, ethical and human factors in computer security. PREREQUISITE: permission of instructor; COMP 2700 recommended.

**COMP 8130 - Inform Retrieval/Web Search (3)**
Computational aspects, algorithms, and techniques for information retrieval from large collections of documents; major topics include ad-hoc retrieval, text processing, classical models of retrieval, term-weighting schemes, query operations, web search, text categorization, and text classification. PREREQUISITES: COMP 6040 or COMP 6041, or permission of insructor.

**COMP 8150 - Methods for Data Analysis (3)**
Methods and models for data analysis and management; the data life cycle; statistical methods, hypothesis testing, experimental design; data collection, cleansing, organization and mining; software tools such as statistical packages, nonrelational databases and computer simulations. PREREQUISITES: An undergraduate course in descriptive statistics, or permission of instructor.

**COMP 8212 - Operating/Distrib Sys (3)**
Overview of operating system architecture for centralized and distributed systems; storage device and file systems; process management, scheduling, synchronization, interprocess communications and security; case studies of selected operating systems. PREREQUISITES: COMP 2150 and 3410 or permission of instructor.

**COMP 8272 - Parallel Computing (3)**
Introduction to parallel and distributed computing; various aspects of parallel programming including architecture, communication, algorithms, performance, and programming; distributed computing architectures such as client-server and CORBA; synchronization, replication, and distributed file systems; benchmark applications. PREREQUISITES: COMP 2150 and 7212 or permission of instructor.

**COMP 8274 - Topics Distrib Computng (3)**
Introduction to emerging topics in distributed computing; heterogeneous computing and middleware over the Internet and the World-Wide Web; distributed cache coherency problem; wireless computing and wearable
devices; avatar computing; application of distributed computing to E-commerce and other fields. PREREQUISITES: COMP 7/8272 or permission of instructor.

COMP 8282 - Evolutionary Computation (3)
Computational implementation of biological analogies, such as genetic algorithms, genetic programming, embryonics, evolutionary engineering; representation, fitness functions, fitness landscapes, automatically defined functions; applications to optimization, machine learning, software development. PREREQUISITE: COMP 6601 or permission of instructor.

COMP 8290 - Molecular Computing (3)
(Same as MMCS 7290-8290). Basics of cell biology and genetics (DNA structure and enzymes, replication and translation); feasible DNA-based solution of hard computational problems; issues in the design of molecular computers; foundations of nanotechnology. PREREQUISITE: COMP 7712 or permission of instructor.

COMP 8295 - Algorithms Comp Biol/Bioinform (3)
Algorithms for problems arising in molecular biology, such as sequence matching, alignment, gene finding, sequence assembly, phylogeny, and structure prediction; internet resources; statistical analysis of DNA, RNA, and protein sequences. PREREQUISITE: COMP 6030 or permission of instructor.

COMP 8311 - Adv Computer Networks (3)
Internet architecture and layering; intra-domain and inter-domain routing protocols; congestion control; network QoS; peer-to-peer networks; overlay networks; wireless and sensor networks. PREREQUISITE: COMP 3825, or permission of instructor.

COMP 8313 - Ntwrk Dsgn/Perf Anlys (3)
Mathematical modeling of networking problems; proving correctness of networking algorithms; applying optimization techniques to solving networking problems; deriving deterministic bounds on performance (approximation factors) for hard networking systems; deriving probabilistic guarantees on the performance of networking systems. PREREQUISITE: COMP 7612

COMP 8327 - Network/Internet Secrty (3)
Concepts of network security; survey of security software packages; security in Java; intrusion-detection systems; current security issues on Internet and electronic commerce. PREREQUISITES: COMP 6310 and 7120 or permission of instructor.

COMP 8514 - Cognitive Science Sem (3)
Systematic study of current topics in Cognitive Science; student required to make presentations and prepare research paper or project. No more than 3 hours may be applied to MS with computer science concentration. PREREQUISITE: Permission of instructor.
COMP 8515 - Complex Systems Sem (3)
Systematic study of information processing, broadly construed, natural or artificial, occurring in complex systemic interactions, such as those encountered in dynamical, neural, biological, social, evolutionary, and cyberspatial systems. PREREQUISITES: COMP 6601 or permission of instructor.

COMP 8517 - Human/Comptr Interact (3)
Facts, theories, and issues about human sensation, perception, and interaction for developing more ergonomic and human-like computer interfaces; interactive platforms in use or under development. PREREQUISITE: COMP 2150 or equivalent, or permission of instructor.

COMP 8601 - Topics Discrete Modelng (3)
Application of computer models to problem solving in natural language processing, decision making, pattern recognition, image processing, and phenomena in physics, chemistry and biology. PREREQUISITE: COMP 6601 or permission of instructor.

COMP 8612 - Foundations of Computing (3)
Review of basic models of computation and complexity; measures and modes of complexity analyses, both logical and experimental; average case analysis of algorithms; information complexity and its applications to coding; deterministic and stochastic methods for data analysis and compaction, hypothesis testing, and estimation. PREREQUISITE: COMP 6030, or permission of instructor.

COMP 8712 - Algorithms/Prob Solv (3)
Covers algorithms problems, techniques, and design emphasizing problem solving and implementation skills; topics include advanced data structures, graph algorithms, string matching, network flow, dynamic programming, and randomized algorithms. PREREQUISITE: COMP 2150 or permission of instructor.

COMP 8713 - Advanced Topics Algorithms (3)
Advanced methods and data structures in sequential algorithms, including amortized analysis, backtracking, and branch-and-bound, heuristics, randomized algorithms, derandomization, approximation, and approximability; basic parallel models and algorithms, including sorting and searching, numerical, symbolic, and probabilistic algorithms. PREREQUISITES: COMP 7712 or permission of instructor.

COMP 8717 - Topics In Algorithms (3)
Recent developments and practical issues in algorithms and data structures. PREREQUISITE: COMP 7713 or permission of instructor.

COMP 8719 - Combinatorial Optimiztn (3)
Computational complexity: reductions, oracles and NP-completeness; five basic problems on convex sets in Euclidean spaces; pivoting, ellipsoid, and basis reductions methods; optimization on graphs; matching and stable set polytopes; algorithms on perfect graphs. PREREQUISITES: COMP 7713 or COMP 7715 or permission of
COMP 8720 - Artificial Intelligence (3)
(Same as EECE 7720-8720). Central issues of artificial intelligence, including game playing, planning, machine learning, common-sense reasoning, perception and action; implementations in LISP. PREREQUISITE: COMP 6720.

COMP 8740 - Neural Networks (3)
(Same as EECE 7740-8740). Learning algorithms for multilayer perceptrons, least-mean squares, backpropagation and its variants, cascade-correlation, other supervised learning algorithms; unsupervised methods, including Hebbian, competitive, and reinforcement learning; applications to associative memories, combinatorial optimization, component analysis, function approximation, pattern classification; theory of neurodynamics, including equilibrium, stability, and computational power. PREREQUISITE: COMP 6030, or permission of instructor.

COMP 8745 - Machine Learning (3)
An introduction to machine learning: hypothesis spaces, formation and evaluation; concept learning, decision trees, linear regression and perceptrons; graphical models (naive Bayes, Bayes Nets, Hidden Markov Models); computational learning theory; Support Vector Machines; instance-based learning. PREREQUISITES: COMP 7740, or permission of instructor.

COMP 8747 - Adv Topics in Machine Learning (3)
Advanced concepts in machine learning, including: inference and learning in graphical models, reinforcement learning, Markov decision processes, active learning, unsupervised learning, deep learning, autoencoders, Boltzmann machines. PREREQUISITE: COMP 7745 or permission of instructor.

COMP 8760 - Control Auto Agents (3)
Exploration and current applications of nontraditional control methods for design of autonomous agents, both in hardware and software, capable of operating in unusual and complex environments, such as subsumption architectures, adaptive fuzzy systems and software agents; novel learning and action selection paradigms. PREREQUISITE: COMP 6001 or permission of instructor.

COMP 8770 - Knowledge Rep/Reason (3)
Focuses on long-standing issues of knowledge representation, including ontologies; knowledge structures; and representing events, actions, time, space, geometry, and common-sense knowledge. Student will complete a project using declarative language. PREREQUISITES: COMP 6730 or 6720 or permission of instructor.

COMP 8780 - Natural Lang Processng (3)
(Same as PSYC 7221-8221). Computational aspects, algorithms, and techniques for human language processing; topics include lexical analysis, syntactic parsing, semantics, word sense disambiguation, logic forms, dialog, and pragmatics; applications include question answering and information extraction among others. PREREQUISITES:
COMP 6040 or 6041 or permission of instructor.

COMP 8820 - Pci Algrthms/Mach Visn (3)
Image formation and sensing in vision systems; basic algorithms for processing continuous and discrete images; edge detection; shape detection vs. brightness, lightness, shading, and color; reflectance maps; stereoscopic systems; pattern classification; representation problems; basic concepts and applications of computational geometry; passive navigation and motion planning. PREREQUISITE: COMP 7713 or permission of instructor.

COMP 8901 - Ind Studies Comp Sci (1-4)
Directed independent problem research and program design, writing, and documentation in an area selected by student with approval of both adviser and supervising staff members. Repeatable by permission. PREREQUISITE: Permission of instructor.

COMP 8960 - Sem Teaching/Res/Consult (3)
Non-traditional setting in which masters students develop skills in areas of teaching, research, and consulting. Required of all graduate assistants in the department. NOTE: Computer Science majors may not use this course to fulfill degree requirements.

COMP 9000 - Dissertation (1-12)
Independent research for the PhD degree. Grades of S, U, or IP will be given.

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Graduate School

2015-2016 Academic Calendar
EARTH SCIENCES (ESCI)

In addition to the courses below, the department may offer the following Special Topics courses:
ESCI 6308-12. Special Topics in Regional Geography. (3) Geographic analysis of physical, cultural, and economic characteristics of selected regions of the world.

ESCI 6370-6379. Special Topics in Archaeology. (3). Addresses various areas of archaeology; topics are announced in the online course listing. May be repeated with change of topic.

ESCI 6610-19. Special Topics in Geography. (3). Topics are varied and announced in online course listings.


ESCI 7390-99. Special Topics in Archaeology. (3-6). (ANTH 7380-89). Provides understanding of archaeological interpretation through detailed examination of current archaeological issues and topics. No more than 6 hours may be counted toward degree requirements in Earth Sciences.

ESCI 6122 - Soils & Soil Processes (3) (GEOG 6122). Processes and dynamics of soil profile development; major models of soil development examined and applied to soil genesis in Tennessee; application of soil techniques to archaeology, planning, earth sciences, and soil conservation and erosion problems; emphasis on field and laboratory techniques with field work in soil mapping and soil taxonomy. Two lecture, two laboratory hours per week. PREREQUISITE: ESCI 1020 or ESCI 1040.

ESCI 6201 - Urbanization/Environment (3) (GEOG 6201; same as PLAN 6201). A study of the ways humans have changed the natural environment by urbanization and how physical features and processes influence the development and function of cities.

ESCI 6202 - Geomorphology (4) (GEOL 6202). Description, origin, and interpretation of landforms and their relationships to underlying structure and geologic history; processes acting on earth's surface including active tectonics, weathering, mass-wasting, climate change, and fluvial, shoreline, and glacial processes. Three lecture, two laboratory hours per week; $25 material fee. PREREQUISITE: ESCI 1020 or ESCI 1040.

ESCI 6211 - Physical Hydrology (4) (GEOL 6211). Physical hydrogeology and development of groundwater; groundwater in hydrologic cycle; aquifer characteristics and tests. Three lectures and two laboratory hours each week; $25 material fee. PREREQUISITES: ESCI 1040 and MATH 1830 or equivalent.

ESCI 6213 - Field Method/Hydrology (3) (Geol 6213). Introduction to and practice of field methods in solving hydrologic problems. PREREQUISITE: ESCI (GEOL) 4211 or 6211 or permission of instructor.
ESCI 6214 - Climatology (3)  
(GEOG 4211). Climatic elements and methods of data analysis; applications of climatology in agriculture, health, economics, and architecture. PREREQUISITE: ESCI 1010, MATH 1710, and PHYS 2010, or permission of instructor.

ESCI 6215 - Physical Climatology (3)  
(GEOG 6215). Components of earth's energy balance; emphasis on solar radiation, heat transfer, and evapotranspiration. PREREQUISITES: ESCI 1010, PHYS 2110/2111.

ESCI 6216 - Synoptic Meteorology (3)  
Physical processes in the atmosphere applied to analysis and interpretation of synoptic (regional) scale systems using weather maps, upper-air soundings, satellite and radar imagery, and computer model output; introduction to techniques used in weather forecasting. PREREQUISITE: ESCI 1010, MATH 1710 and PHYS 2010, or permission of instructor.

ESCI 6231 - Water Resources (3)  
(GEOG 6231; same as PLAN 6231). Study of hydrologic processes and their application to needs of cities, industry, agriculture, and recreation.

ESCI 6241 - Biogeog/GIS Analyses/Ecology (3)  
(GEOG 6241). (Same as BIOL 6241). Basic principles of interaction between geography, organism diversity and evolution; physical factors limiting species distribution, theories of island biogeography, geographical modes of speciation. Laboratories introduce principles of GIS, basic functions of ArcGIS, and other programs relevant to ecological studies. Two lecture hours, two laboratory hours per week. PREREQUISITE: BIOL 1120 and 1121, or permission of instructor.

ESCI 6251 - Environmental Hazards (3)  
(GEOG). Environmental hazard and disaster experiences to investigate the nature, impact, and social responses to environmental hazards; focus is placed on relationship between nature, society, and technology in how people and places perceive, experience, and cope with environmental hazards.

ESCI 6252 - Global Environ Change (3)  
(GEOG 6252). Understanding change occurring on the global scale from an interdisciplinary perspective; includes characteristics of natural systems, magnitude of human alteration of environmental systems, history of natural changes in climate and landscape, and the impact of these changes on our lives. PREREQUISITE: Permission of the instructor.

ESCI 6261 - Plan/Sustainable Cities/Region (3)  
Multidisciplinary and multi-scaled approach to understanding the sustainability of natural and built environments in
planning cities and regions; methods for measuring sustainability; emerging development concepts and practices; technology, efficiency, social equity and public health implications of sustainability; sustainable urban/regional form of the future.

ESCI 6270 - Ancient Human Soc/Envir Chng (3)
(Same as ANTH 6270). Examination of past people and their environments from the Ice Age to recent times; archaeological and paleoecological data. Three lecture hours per week.

ESCI 6301 - Archaeol/North America (3)
Intensive study of various prehistoric cultures from earliest times until historic contact.

ESCI 6307 - Thematic Studies/China (3)
Geographic studies of the people, history, culture, and government of China, as well as analysis of role that China plays in the global economy.

ESCI 6311 - Advanced Mineralogy/Petrology (4)
Crystal chemistry, optical mineralogy, igneous and metamorphic rocks under the microscope; genesis and occurrence of igneous and metamorphic rocks. Two lecture hours, four laboratory hours per week.
PREREQUISITE: permission of instructor.

ESCI 6325 - Archaeol Fld/Lab Techn (3)
(Same as ANTH 6325) Field excavation, specimen preparation, use of survey instruments and photography, map making, archaeological record keeping; methods and techniques in archaeological laboratory analysis; emphasis on organization and supervision of laboratory procedures. PREREQUISITE: permission of instructor.

ESCI 6332 - Intro To Geochemistry (3)
(GEOL 6332). Geological and chemical processes that govern or control the migration and distribution of the elements and atomic species in the earth in space and time. PREREQUISITE: ESCI 3311, or permission of instructor.

ESCI 6341 - Aqueous Geochemistry (3)
(GEOL 6341). Physical chemistry of aqueous solutions as it applies to geochemical processes on earths surface. PREREQUISITE: CHEM 1110.

ESCI 6350 - Archaeology of Collapse (3)
(Same as ANTH 6350). Emphasis on archaeology of regional politics and archaic states throughout the world. Overview of social and political collapse of complex societies.

ESCI 6352 - Old World Archaeology (3)
Old World cultures from first humans to early civilizations.
ESCI 6431 - Urban Geography (3)
Geography of urban processes and forms. Cultural, social, economic, and political aspects of the contemporary city.

ESCI 6443 - Transportation Planning (3)
(GEOG 6443; same as PLAN 6443). Planning for various transportation modes and networks and impact on urban land-use and contemporary development problems.

ESCI 6502 - Computer Cartography (3)
(GEOG 6502; same as PLAN 6502). Instruction in use of computer mapping programs as effective techniques for visual presentation of a wide variety of data. Two lecture, two laboratory hours per week; $10 material fee.

ESCI 6511 - Remote Sensing/Environ (2)
(GEOG 6511, GEOL 6512). Introduction to theory and application of using color, infrared, thermal, and RADAR images generated from satellite and aerial photographs for geographic, geologic, environmental, and planning purposes. Two lecture hours, two laboratory hours per week. PREREQUISITE: one college-level MATH course, or permission of instructor.

ESCI 6512 - Structural Geology (4)
(GEOL) Structures of the crust; geometry of folds and faults, rock deformation, criteria for recognizing structures, solution of geometrical problems. Three lecture hours, two laboratory hours per week. PREREQUISITE: ESCI 1040, MATH 1910, or permission of instructor. Course fee: $25.

ESCI 6515 - Geographic Info Science (3)
(GEOG 6515; same as PLAN 6515). Introduction to theoretical and practical understanding of fundamental GIS concept, capabilities, and applications with emphasis on nature of geographic data and issues of data input, data models, database design, spatial analysis, and data output using ArcGIS software. Three lecture, two laboratory hours per week. PREREQUISITE: ESCI (GEOG) 1010 or 1020 or 1301 or 3430 or 4201, or permission of instructor.

ESCI 6521 - Quantitative Methods (3)
(GEOG 6521; same as PLAN 6521). Introduction to quantitative methods in spatial analysis. PREREQUISITE: Permission of instructor.

ESCI 6525 - Adv Geographic Info Sci (3)
(GEOG 6525). Introduction to design and implementation of spatial analysis approaches within context of GIS technology; further development of a sound understanding of operational basis of modern GIS technology. PREREQUISITE: ESCI (GEOG) 4/6515 or permission of instructor.
ESCI 6526 - Advanced Remote Sensing (3)
Practical exercises and datasets to elaborate on fundamental skills introduced in ESCI 4511. Topics include advanced image enhancement techniques, hyper-spectral image analysis, change detection, and analysis of active sensor system (LiDAR). PREREQUISITE: ESCI 4511, or permission of instructor.

ESCI 6531 - Field Methods/Geography (3)
(GEOG 6531). Basic methods of geographic analysis used in classifying, analyzing, and reporting field-generated data including field mapping, sampling procedures, questionnaires, and archival and public document research. One and one-half lecture hours, three laboratory hours per week; $25 material fee.

ESCI 6680 - Applied Archaeology/Museums (3)
(Same as ANTH 6680). Representations of cultural heritage in a broad array of public venues; repatriation, cultural patrimony, cultural resource management, civic engagement, rights and responsibilities of stakeholders, public involvement in museum representations, performance and education, culture and memory.

ESCI 6700 - Earth Science Internship (1-9)
(GEOG 6700). Provides opportunity to gain experience working with an agency in which Department of Earth Sciences concentrations can be utilized. May be repeated for a maximum of 9 hours. Credit allowed only after acceptance of report. PREREQUISITE: Approval of instructor and chair. Grades of S, U, or IP will be given.

ESCI 6701 - ESCI Field Excursions (1-2)
(GEOL 6701). Conducted field trips during spring vacation. About 30 hours of field work will follow 2-4 hours of lectures. Open to non-majors. Among the areas that may be included are Ouachita-Arbuckle-Wichita mountains of Oklahoma; Ouachita and adjacent mineral districts; central and southern Appalachians; and Gulf Coastal Plain. Check Online course listings for specific location. NOTE: May be repeated for a maximum of 8 credit hours. $25 materials fee. PREREQUISITE: Permission of instructor.

ESCI 7000 - Art Of Earth Sciences (3)
Introduction to earth science research; includes project design, abstract and proposal preparation, and presentation skills.

ESCI 7020 - Earthquake Surface Processes (3)
(GEOP 7020-29--8010-19). Overview of the surface and near-surface geological conditions that are associated with earthquake occurrence. Evidence for past large earthquakes as written in the geological record. Hands-on experience will be obtained through field work. PREREQUISITE: Permission of the instructor.

ESCI 7100 - Basin Analysis (3)
(GEOL 7100). Integration of depositional models using subsurface correlation, seismic stratigraphy, and biostratigraphy in analysis of basin-scale sedimentary systems and their fluids. Two lecture, two laboratory hours per week. $25 materials fee. PREREQUISITE: ESCI (GEOL) 3712.
ESCI 7101 - Regional Planning (3)
(Same as PLAN 7101) Origins of regionalism; emergence of new regionalism; delineating and designing the region; economic, ecologic, and social principles for planning the regional city; public policy in region-building; regional planning organization and governance; the functions and problems of regional plan preparation, and plan implementation.

ESCI 7102 - Electron Beam Analysis (3)
(GEOL 7102). Introduction to scanning electron microscopy and electron beam microanalysis. One lecture, four laboratory hours per week. $25 materials fee. PREREQUISITE: CHEM 1020 or CHEM 1120 and permission of instructor.

ESCI 7120 - Seminar/Geomorphology (3)
(GEOG 7120-8120). Analysis and application of major geomorphic models; threshold, episodic, time-space, systems, and magnitude; frequency principles examined in both classroom and field; dating techniques applied to geomorphic interpretations; individual and team projects required.

ESCI 7131 - Seminar in Extreme Weather (3)
Advanced study in the physical processes important in the formation of blizzards, ice storms, thunderstorms, tornadoes, hurricanes, floods, and heat waves. Reconstruction of past extreme weather events. PREREQUISITE: ESCI 6216 or permission of instructor.

ESCI 7160 - Tectonics (3)
Advanced analysis of principles and geometry of plate tectonics; development of plate tectonic theory; relationship between plate motions and regional tectonics; structural, stratigraphic, magmatic and geophysical features of various tectonic regimes. PREREQUISITE: ESCI (GEOL) 3512 or equivalent.

ESCI 7170 - Sedimentary Petrology (4)
(GEOL 7170, 7352). Sedimentary rocks in the field, hand specimen, and through the microscope with view of explaining sedimentary rock classification, post depositional changes that occur in sediments, and the bearing these factors have on geology as a whole. Three lecture and two laboratory hours per week. $25 materials fee. PREREQUISITE: ESCI (GEOL) 3311, 3712, and permission of instructor.

ESCI 7190 - Igneous/Metamorphic Petr (4)
(GEOL 7190). Description and interpretation of igneous and metamorphic rocks through study of thin sections. Two lecture, four laboratory hours per week. $25 materials fee. PREREQUISITE: ESCI (GEOL) 4311 or ESCI 6311 or equivalent.

ESCI 7195 - Groundwater Hydraulics (3)
(GEOL 7195; same as CIVL 7195). Geological contributions to ground water flow; ground water contribution to
water demand and conjunctive use; well hydraulics, design, and construction; pump selection; determine aquifer properties via field well tests. PREREQUISITES: ESCI (GEOL) 6211 and permission of instructor.

ESCI 7197 - Ground Water Qual Cntrl (3)
(GEOL 7197; same as CIVL 7197). Analyses of ground water quality and contamination problems; study of multispecies chemical reactions and radioactive and microbiological decay; techniques for monitoring and site remediation of ground water contamination. PREREQUISITE: CIVL 7170 or permission of instructor.

ESCI 7201 - Geographic Environ/Anly (3)
(GEOG 7201-8201; same as PLAN 7302). Analytical and qualitative critique of the physical environment with emphasis on environmental quality, including air and water quality standards, soil erosion, solid waste management, and nuisance control.

ESCI 7202 - Quaternary Geology (3)
(GEOL 7202). Synthesis of geomorphologic, stratigraphic, and geochronologic methods used to understand global glacial and interglacial climate fluctuations during last two million years. PREREQUISITE: Permission of instructor.

ESCI 7204 - Prob & Earthquake Haz Anly (3)
(Same as CIVL 7136, CERI 7204) Fundamentals of basic probability, seismicity analysis, ground motion attenuation and site effects, seismic hazard analysis, and uncertainty analysis; students will perform a probabilistic seismic hazard analysis for a region of their interest. PREREQUISITE: Permission of instructor.

ESCI 7220 - Geochronology (3)
(GEOL 7220). Study of the methods and application of relative and isotopic dating of rocks, minerals, fossils, sediments, and groundwater. PREREQUISITE: Permission of instructor.

ESCI 7221 - River Conservation (3)
(GEOG 7221-8221). Field-based project studying how stream habitats vary under different hydraulic flow conditions, with lecture-based materials, interactive seminars, fieldwork, and lab work drawing on geography, conservation, geomorphology, hydrology, and ecology.

ESCI 7231 - Seminar Water Resources (3)
(GEOG 7231-8231). Issues, problems, and research on selected topics of surface and groundwater, water uses, and fluvial process.

ESCI 7250 - Hazard Risk Assessment (3)
(GEOG 7250). Assesses and quantifies hazards and risks by introducing students to data, methods, and models used in hazards research; course content can be tailored to specific interests of students or provide a broad exposure to tools and techniques. PREREQUISITE: Permission of instructor.
ESCI 7252 - Multihazard Mitigation (3)
(GEOG 7252). Considers range and types of adjustments communities can participate in to manage risk associated with hazards such as earthquakes, floods, radiological and chemical hazards; emphasizes a multihazard approach to mitigation. PREREQUISITE: Permission of instructor.

ESCI 7254 - Archaeology & Hunter Gatherers (3)
Introduction to hunter-gatherer studies in archaeology and ethnoarchaeology exploring evolutionary theory applied to hunter-gatherer behavior in prehistoric contexts.

ESCI 7256 - Archaeology & Complex Society (3)
Advanced study of complex societies from local groups to archaic states. Focus on theoretical and methodological analyses of cultural complexity in prehistory. PREREQUISITE: Permission of instructor.

ESCI 7301 - Seminar In Geography (3)
(GEOG 7301-8301). Regional analysis of selected areas of the world including: the U.S., Canada, Europe, former Soviet Union, Middle America, South America, Asia, Africa, and Oceania. May be repeated with a change in content for a maximum of 6 hours credit.

ESCI 7310 - Archael Theory/Method (3)
(ANTH 7310). History of archaeology and development of conceptual framework for archaeological data collection and interpretation; current theories and methods including use of allied specialties. PREREQUISITE: Non-majors must have ANTH 1300 or permission of instructor.

ESCI 7311 - Public Archaeology (3)
(ANTH 7311). Roles and responsibilities of the archaeologist in contract and salvage work, in museum research and administration, and in the public dissemination of archaeological information. A review of relevant state and federal legislation.

ESCI 7312 - Spatial Statistics (3)
(GEOG 7312-8312). Reviews a range of spatial analytical techniques and their implementation in state-of-the-art spatial statistics software. PREREQUISITE: ESCI (GEOG) 4521/6521 or permission of instructor.

ESCI 7320 - Spatial Analysis - Earth Sci (4)
Intensive hands-on collection, processing, and analysis of spatial data at a variety of scales and settings. Introduction to collection techniques, computer processing methods, and statistical evaluation of spatial data. 2 hours lecture, 2 hours lab. $25.00 course fee. PREREQUISITE: Permission of instructor.

ESCI 7325 - Quat Paleoeco/Env Recon (4)
Advanced study of cultural ecology in past environmental regimes; emphasis on interdisciplinary approach to archaeological data and their relationship with the quaternary environment. Two lecture, four laboratory hours per
ESCI 7327 - Lithic Artifact Analysis (3)
Introduction to lithic artifact analysis and prehistoric stone tool technologies; raw material studies; typologies; technological studies; functional studies; hands-on experience with basics of flintknapping, debitage analysis, and use-wear analysis. PREREQUISITES: ANTH 1100, 1200, 1300, or permission of instructor.

ESCI 7333 - Adv Archaeol Field Tech (1-6)
Provides basic understanding of governmental archaeology, including phase I and II research; site survey, testing, and mapping; surface collections; and rapid site assessment.

ESCI 7345 - Geoarchlg Material Sci (4)
Review of issues, problems, and research on selected topics of geoarchaeological material science. Two lecture, four laboratory hours per week.

ESCI 7353 - Geodynamics (3)
(SAME as CERI 7353). Physical processes necessary for understanding plate tectonics and geological phenomena such as solidification of magmas, mechanical behavior of faults, and subsidence of sedimentary basins; topics include stress and strain in earth's crust, bending of lithosphere, heat conduction in lithosphere, and mantel convection. PREREQUISITE or COREQUISITE: Ordinary differential equations (MATH 3120 or equivalent).

ESCI 7400 - Adv Field Methods/Geol (3)
(SAME as CERI 7400). Conducted two- to five-day field studies in Geology. Topics will vary according to location and faculty interest. May be repeated for a maximum of 6 credit hours. Only three (3) credits may be applied to major. PREREQUISITE: Permission of instructor.

ESCI 7405 - Struc Interp/Seism Data (3)
(SAME as CERI 7405-8405). Practical application of reflection seismic method used in tectonic analysis of deformed belts and sedimentary basins, including case studies from around the world that emphasize integration of seismic reflection data with other surface and subsurface geological/ geophysical information, as well as use of restorable structural sections; basics of seismic processing are introduced in the framework of interpretation problems. PREREQUISITE: Permission of instructor.

ESCI 7430 - Adv Economic Geog (3)
(SAME as CERI 7430). Selected topics in economic geography. Subjects studied will vary. May be repeated with change in content for a total of 6 hours credit.

ESCI 7434 - Studies In Land Use (3)
(Systematic analysis of suburban and rural land use characteristics, patterns, and problems;
focus on US.

ESCI 7440 - Tectonic Geomorphology (3)
(GEOP 7440). Examination of landscapes in regions of active deformation and role played by tectonics, surface processes, and climate in their origin; addresses range of spatial and temporal scales, encompassing long-term evolution of mountain belts to topography associated with individual structures and specific climate and tectonic conditions. PREREQUISITE: permission of instructor.

ESCI 7471 - Cultural Geography (3)
(GEOG 7471-8471). A systematic analysis of the manner in which selected culture traits interact with other patterned phenomena to produce distinctive geographic landscapes. Individual student study on selected problems is an integral part of this course.

ESCI 7504 - Sem Geog Info Systems (3)
(GEOG 7504-8504; same as PLAN 7504). Discussion of short- and long-term GIS science research topics by University Consortium of Geographic Information Science (UCGIS), such as Internet GIS, possible effects of Internet GIS on society, public participation GIS, participatory GIS, GIS for homeland security, geo-spatial society, and geo-visualization.

ESCI 7541 - Field Studies In Geog (3-6)
(GEOG 7541-8541). Faculty-conducted field trip emphasizing study of geographical phenomena; location will vary; topics may include physical landscapes, land-use patterns, cross-cultural analysis, micro and regional economics, or other geographical processes. Credit hours are based on length of time in field. Requires research and written report. May be repeated with a change in content for maximum of 6 hours. PREREQUISITES: Permission of instructor and completion of special registration. Grades of A-F, or IP will be given.

ESCI 7613 - GIS and Human Health (3)
Fundamental concepts in using GIS to map and analyze geographical distributions of populations at risk, health outcomes, and risk factors; to explore associations between risk factors and health outcomes; and to address health problems. PREREQUISITE: Permission of instructor.

ESCI 7621 - Independent Study (1-9)
(GEOG 7621). Independent investigation of a research problem selected in consultation with the instructor. May be repeated for a maximum of 9 credit hours. Grades of S/U or IP will be given.

ESCI 7703 - Seminar In Geology (3)
(GEOL 7701-8701).

ESCI 7704 - Seminar In Tectonics (3)
(GEOP 7704-8704).
ESCI 7800 - Seminar In Archaeology (3)
May be repeated for a maximum of 6 credit hours.

ESCI 7801 - Geog Thought & Mthdlgy (3)
(GEOG 7801). Introduces student to major philosophies of geography and to methods of geographic research.

ESCI 7850 - Principles of Geoarchaeology (4)
Study of sediments and soils and laboratory analytical techniques applied to archaeological site formation processes; two lecture, four laboratory hours per week. There is a $25.00 course fee. PREREQUISITE: Permission of instructor.

ESCI 7900 - Professional Paper (3)
(GEOG 7900). Preparation and presentation of research paper. Grades of S, U, or IP will be given.

ESCI 7990 - Research/Earth Science (1-9)
Graduate credit for non-thesis or non-dissertation research in Earth Science. May be repeated for a maximum of 12 credit hours. Grades of S/U or IP will be given.

ESCI 7996 - Thesis (1-6)
Student must research, write, and defend a thesis on a topic approved by major professor and advisory committee. Grades of S, U, or IP will be given.

ESCI 7998 - Capstone GIS Project (3)
Preparation of a project that exhibits mastery skills of problem-solving process and advanced application of Geographic Information Systems. PREREQUISITE OR COREQUISITE: ESCI 6515, ESCI 6525 and an elective course approved by GIS Certificate Advisory Committee or permission of instructor. Grades of S, U, or I will be given.

ESCI 8120 - Seminar/Geomorphology (3)
(GEOG 7120-8120). Analysis and application of major geomorphic models; threshold, episodic, time-space, systems, and magnitude; frequency principles examined in both classroom and field; dating techniques applied to geomorphic interpretations; individual and team projects required.

ESCI 8201 - Geographic Environ/Anly (3)
(GEOG 7201-8201; same as PLAN 7302). Analytical and qualitative critique of the physical environment with emphasis on environmental quality, including air and water quality standards, soil erosion, solid waste management, and nuisance control.

ESCI 8221 - River Conservation (3)
(GEOG 7221-8221). Field-based project studying how stream habitats vary under different hydraulic flow conditions, with lecture-based materials, interactive seminars, fieldwork, and lab work drawing on geography, conservation, geomorphology, hydrology, and ecology.

ESCI 8231 - Seminar Water Resources (3)
(GEOG 7231-8231). Issues, problems, and research on selected topics of surface and groundwater, water uses, and fluvial process.

ESCI 8250 - Hazard Risk Assessment (3)
(GEOG 7250). Assesses and quantifies hazards and risks by introducing students to data, methods, and models used in hazards research; course content can be tailored to specific interests of students or provide a broad exposure to tools and techniques. PREREQUISITE: Permission of instructor.

ESCI 8254 - Archaeology & Hunter Gatherers (3)
Introduction to hunter-gatherer studies in archaeology and ethnoarchaeology exploring evolutionary theory applied to hunter-gatherer behavior in prehistoric contexts.

ESCI 8256 - Archaeology & Complex Society (3)
Advanced study of complex societies from local groups to archaic states. Focus on theoretical and methodological analyses of cultural complexity in prehistory. PREREQUISITE: Permission of instructor.

ESCI 8301 - Seminar In Geography (3)
(GEOG 7301-8301). Regional analysis of selected areas of the world including: the U.S., Canada, Europe, former Soviet Union, Middle America, South America, Asia, Africa, and Oceania. May be repeated with a change in content for a maximum of 6 hours credit.

ESCI 8312 - Spatial Statistics (3)
(GEOG 7312-8312). Reviews a range of spatial analytical techniques and their implementation in state-of-the-art spatial statistics software. PREREQUISITE: ESCI (GEOG) 4521/6521 or permission of instructor.

ESCI 8320 - Archeological Spatial Analysis (4)
Intensive hands-on collection, processing, and analysis of spatial archaeological data at a variety of scales and settings. Introduction to collection techniques, computer processing methods, and statistical evaluation of spatial data. 2 hours lecture, 2 hours lab. $25.00 course fee. PREREQUISITE: Permission of instructor.

ESCI 8404 - GIS and Human Health (4)
Examines the reflective seismic approach to mineral exploration, and environmental and tectonic imaging; covers seismic data processing, data visualization, and acquisition procedures, including field equipment; hands-on experience analyzing seismic reflection records. Three lecture, two laboratory hours per week. PREREQUISITE: ESCI 6101, ESCI 6401, and permission of instructor.
ESCI 8405 - Struc Interp/Seism Data (3)
(Same as CERI 7405-8405). Practical application of reflection seismic method used in tectonic analysis of deformed belts and sedimentary basins, including case studies from around the world that emphasize integration of seismic reflection data with other surface and subsurface geological/geophysical information, as well as use of restorable structural sections; basics of seismic processing are introduced in the framework of interpretation problems. PREREQUISITE: Permission of instructor.

ESCI 8430 - Adv Economic Geog (3)
(GEOG 7430-8430). Selected topics in economic geography. Subjects studied will vary. May be repeated with change in content for a total of 6 hours credit.

ESCI 8434 - Studies In Land Use (3)
(GEOG 7434-8434). Systematic analysis of suburban and rural land use characteristics, patterns, and problems; focus on US.

ESCI 8471 - Cultural Geography (3)
(GEOG 7471-8471). A systematic analysis of the manner in which selected culture traits interact with other patterned phenomena to produce distinctive geographic landscapes. Individual student study on selected problems is an integral part of this course.

ESCI 8504 - Sem Geog Info Systems (3)
(GEOG 7504-8504; same as PLAN 7504). Discussion of short- and long-term GIS science research topics by University Consortium of Geographic Information Science (UCGIS), such as Internet GIS, possible effects of Internet GIS on society, public participation GIS, participatory GIS, GIS for homeland security, geo-spatial society, and geo-visualization.

ESCI 8541 - Field Studies In Geog (3-6)
(GEOG 7541-8541). Faculty-conducted field trip emphasizing study of geographical phenomena; location will vary; topics may include physical landscapes, land-use patterns, cross-cultural analysis, micro and regional economics, or other geographical processes. Credit hours are based on length of time in field. Requires research and written report. May be repeated with a change in content for maximum of 6 hours. PREREQUISITES: Permission of instructor and completion of special registration. Grades of A-F, or IP will be given.

ESCI 8613 - GIS and Human Health (3)
Fundamental concepts in using GIS to map and analyze geographical distributions of populations at risk, health outcomes, and risk factors; to explore associations between risk factors and health outcomes; and to address health problems. PREREQUISITE: Permission of instructor.

ESCI 8702 - Seminar In Seismology (1-3)
(GEOP 7702-8702).

**ESCI 8703 - Seminar In Geology (3)**
(GEOL 7701-8701).

**ESCI 8704 - Seminar In Tectonics (3)**
(GEOP 7704-8704).

**ESCI 8800 - Seminar In Archaeology (3)**
May be repeated for a maximum of 6 credit hours.

**ESCI 8850 - Principles of Geoarchaeology (4)**
Study of sediments and soils and laboratory analytical techniques applied to archaeological site formation processes; two lecture, four laboratory hours per week. There is a $25.00 course fee. PREREQUISITE: Permission of instructor.

**ESCI 9000 - Dissertation (1-9)**
Grades of S, U, or IP will be given.

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**2015-2016 Academic Calendar**
ENGLISH (ENGL)

In addition to the courses below, the department may offer the following Special Topics courses:
ENGL 7020-49–8020-49. Special Topics in English. (3). Topics are announced in online course listings.

ENGL 6500 - Lang Skills For Intrntl (3)
English majors may not use this course to fulfill degree requirements. Grades of S, U, or IP will be given.

ENGL 6533 - Issues/Techniques/Efl (3)
Skills, background, and approaches needed to teach English outside the United States.

ENGL 6610 - Creative Writing/Translation (3)
Study and practice in translating poetry, fiction, or non-fiction; use of creative writing as tool in teaching of foreign language. May be repeated for credit with change of topic or genre. PREREQUISITE: 3000-level creative writing workshop in the same genre (fiction, poetry, or creative non-fiction), and permission of instructor.

ENGL 6611 - English Studies/Internl Locale (3-6)
Blended course of on-campus and national or international study and research in specific areas related to topic culminating in an integrative experience through individual and/or group projects. Varied topics may require studies of relationships of culture to text and language, history, analysis, documentation, and/or production of test and language. Course may be repeated, but only 6 credit hours may be earned towards a degree. PREREQUISITE: permission of instructor.

ENGL 6618 - Document Design (3)
Theories of visual and written communication, focusing on the interrelationship between visual and verbal elements; practice in effective design using layout and graphics software; working on client projects in a collaborative setting. PREREQUISITE: ENGL 3601 or permission of instructor.

ENGL 6619 - Web Design/Online Writing (3)
Principles and techniques of creating online user help for software and usable web sites; emphasis on needs of technical writers in professional development environment; task analysis, information architecture, content management, single sourcing, visual rhetoric, navigation, usability testing; technology tools intensive. Students who have received credit for ENGL 4617 cannot take this course for credit. PREREQUISITE: ENGL 6618, or permission of instructor.

ENGL 7000 - Literary Research (3)
Various approaches to literary scholarship and research methodology; introduction to professional standards, bibliographical methods, and procedures of scholarship and criticism. NOTE: This course is required for Literature majors and should be taken in the first year of graduate study.

ENGL 7001 - Textual Rhetorics (3)
Study and application of interpretive strategies to texts pertinent to professional writing and composition studies.
ENGL 7003 - Thry/Prac Tchng Comp (3)
Designed for graduate assistants teaching English 1010. Emphasis on the ways and techniques of teaching rudiments of English composition on college level. Each graduate teaching assistant in the Department of English must enroll in English 7003-8003 before or concurrent with first teaching assignment.

ENGL 7012 - Seminar Health Comm (3)
(Same as COMM 7012-8012). Examines current issues in health communication research, including patient-provider relationships, new technologies and health promotion, and health organizations. May be repeated for a maximum of 9 credit hours.

ENGL 7013 - Wkshp Hlth Care Writing (3)
Textual and contextual analysis of the kinds of writing produced for expert audiences in the healthcare industry and the academic research community; practice in writing documents such as technical proposals, clinical research reports, FDA documentation, and papers for publication.

ENGL 7014 - Wkshp Public Hlth Care Writing (3)
Theoretical understanding and skill-based practice in communicating healthcare information (patient education materials, public health care information, patient instructions) to a generally non-expert audience; rhetorical and analytical tools for shaping the information; practical skills for managing group projects and processes; and the opportunity to develop them in a workshop setting.

ENGL 7100 - Independent Study (1-3)
Focuses on a selected topic dealing with language study or a literary form, theme, figure, or movement. Topic chosen by student and approved by student's advisor and Department Chair. Can be used only as an elective. Grades of A-F, or IP will be given.

ENGL 7211 - Medieval Literature (3)
Studies of selected literary texts from the Middle Ages.

ENGL 7230 - Chaucer (3)
Studies of works by Geoffrey Chaucer in Middle English.

ENGL 7232 - Shakespeare Tragedies (3)
Study of the language, contexts, and themes of Shakespeare's tragedies.

ENGL 7233 - Shakspr/Comdy & Histr (3)
Study of the language, contexts, and themes of Shakespeare's comedies and histories.

ENGL 7242 - English Renaissance Lit (3)
Survey of the major works of the Renaissance.

**ENGL 7254 - English Lit 17c (3)**

**ENGL 7256 - Milton (3)**
Study of Milton's poetry.

**ENGL 7264 - En Poet/Prose 1660-1800 (3)**
Study of drama, fiction, poetry, and essays from Restoration and eighteenth-century Britain.

**ENGL 7265 - 18th C British Novel (3)**
Study of the eighteenth-century British novel with special emphasis on the development of the novel as a literary genre.

**ENGL 7276 - English Lit Romantic (3)**
Exploration of major authors, themes, and/or movements in British Romantic literature.

**ENGL 7278 - Victorian Literature (3)**
Study of one or more aspects of poetry, prose, fiction or drama of the Victorian period and the historical and social circumstances in which they were produced.

**ENGL 7280 - 19th C British Novel (3)**
Study of notable works of British fiction written between 1790 and 1900.

**ENGL 7291 - Modern British Novel (3)**
Survey of British novels from the period 1880 to 1945.

**ENGL 7292 - Modern British Poetry (3)**
Study of important British and UK poetry written from 1890 to the present.

**ENGL 7293 - Modern British Drama (3)**
Study of British drama from Oscar Wilde to the present.

**ENGL 7320 - American Lit to 1820 (3)**
Advanced study of central texts, persistent themes, and literary movements from European-American contact until the end of the early republican period of the United States.

**ENGL 7322 - American Lit 1820-1865 (3)**
Survey of major authors, themes, and movements in American literature from 1820-1865.
ENGL 7324 - American Lit 1865-1914 (3)
Study of American literature from the Civil War to WWI, with special emphasis on the development of literary realism, regionalism, and naturalism in American literary and cultural history.

ENGL 7325 - Africn Am Lit 1930-1960 (3)
Focuses on the rise of African American modernism and its role in the development of protest literature of the 1960s; locates texts in multiple literary traditions, but concentrates on their relation to traditions of African American and Anglo-American writing.

ENGL 7326 - A A Lit/Memphis/M South (3)
Focuses on the rise of African American literature from the cultural matrix that became Memphis, a gathering point and crossroads for African American writers of all genres from 1867 Reconstructionist writings to the present southern Hip Hop Writers movement.

ENGL 7327 - Form/Genre:Afr-Amer Lit (3)
Examination of the development of an African American literary genre such as African American poetry, the slave narrative, or the African American novel. Through study of both primary and secondary texts, students will gain an understanding of the historical context in which a specific African American literary genre emerged, as well as become conversant in the critical discussions in which these literary forms are defined and theorized. May be repeated for a maximum of 6 credit hours when topic changes.

ENGL 7328 - Maj Authors:Afr-Amer Lit (3)
Study of the works of selected writers or cultural figures, as well as examination of the scholarship framing the author's career. May be repeated for a maximum of 6 credit hours when topic changes.

ENGL 7329 - Afr-Amer Lit/Beg to 1850 (3)
Survey of African American literature from the Colonial Period to 1850.

ENGL 7330 - Afr-Amer Lit 1850-1900 (3)
Survey of African American literature from 1850-1900.

ENGL 7331 - Frederick Douglass (3)
Study of Frederick Douglass, including his slave narratives, autobiographies, letters, short fiction, and public speeches.

ENGL 7332 - Lit of the African Diaspora (3)
Examination of literatures of the African diaspora outside of the U.S. May include Anglophone literatures, as well as literatures taught in translation. May be repeated for a maximum of 6 credit hours when topic changes.
ENGL 7333 - Amiri Baraka (3)
Study of the work of Amiri Baraka (LeRoi Jones), including poetry, drama, fiction, theory, music criticism, and autobiography.

ENGL 7334 - The Black Arts Movement (3)
Survey of Black Arts Movement, which encompassed the years 1960-1975 (approximately). May include study of novels, poems, plays, theoretical texts, and the visual arts, as well as examination of the community and cultural contexts within which these works were produced.

ENGL 7335 - Afr-Amer Lit 1989 to Present (3)
Survey of African American writing from 1989 to the present, situated in relation to recent developments in theory and other arts as well as contemporary cultural and political contexts.

ENGL 7336 - Afr-Amer Literary Theory (3)
Examination of the critical movements in African American Literary Theory from 1900 to present.

ENGL 7350 - Rhetorical Theory (3)
(Same as COMM 7350-8350). History of rhetoric from the sophists through the present; includes readings from Isocrates, Plato, Aristotle, Cicero, Augustine, Erasmus, Ramus, Campbell, Blair, John Q. Adams, and others.

ENGL 7371 - Rhetorical Criticism (3)
(Same as COMM 7371-8371). Examines principal modes of contemporary rhetorical analysis. May be repeated for a maximum of 9 credit hours.

ENGL 7391 - American Novel (3)
Intensive study of American novels.

ENGL 7392 - American Poetry (3)
Intensive study of American poetry.

ENGL 7393 - American Drama (3)
Intensive study of American drama.

ENGL 7394 - Modern American Lit (3)
Advanced study of American literature produced between 1900 and 1950.

ENGL 7395 - Am Literary Movements (3)
Advanced study of a specific American literary movement, such as the Southern Agrarian Movement, the Beat Generation, or American Transcendentalism. May be repeated for a maximum of 6 credit hours with change in course content.
ENGL 7396 - Form and Genre in Am Lit (3)
Advanced study of a specific form or genre in American literature, such as the novel, the essay, the lyric poem, or the play. May be repeated for a maximum of 6 credit hours with change in course content.

ENGL 7397 - Intellectual Bkgrnds of Am Lit (3)
Advanced study of aspects of philosophy and the history of ideas as they relate to the development and interpretation of American literary texts and American literary culture. May be repeated for a maximum of 6 credit hours with change in course content.

ENGL 7398 - Cultural Contexts of Am Lit (3)
Study of cultural contexts of key texts of American literature, including discussions of how such texts connect to political and social histories or concepts. May be repeated for a maximum of 6 credit hours with change in course content.

ENGL 7399 - Multi-Cultural Am Lit (3)
Advanced study of multi-ethnic American literatures, including readings by writers focusing on the experiences of Asian Americans, Hispanic Americans, and Native Americans. May be repeated for a maximum of 6 credit hours with change in course content.

ENGL 7432 - Quant Research Methods (3)
(Same as COMM 7432-8432). Survey of quantitative research in communication; practical experience in collecting and analyzing quantitative information.

ENGL 7441 - Studies in European Literature (3)
Movements and writers important to development of Continental Europe in the late eighteenth century to present. May be repeated for a maximum of 6 credit hours when topic changes.

ENGL 7442 - Modern European Drama (3)
Study of European drama from Isben to the present.

ENGL 7451 - Women And Literature (3)
Literature and criticism by and about women.

ENGL 7452 - Biography Process/Text (3)
Study of biography and the biographical process.

ENGL 7462 - Cont British/Cmwlth Lit (3)
Authors, works, genres, and literary styles in development of contemporary British and Commonwealth literatures.
ENGL 7464 - Contmp American Lit (3)
Authors, works, genres, and literary styles in development of contemporary American literature.

ENGL 7465 - Afr-Amer Lit 1960-1988 (3)
Major African American writers and/or movements from the 1960s up to 1988.

ENGL 7466 - Contmp World Lit/Tnstn (3)
Contemporary non-English fiction in translation, primarily from non-Western European cultures; focus on major movements and writers.

ENGL 7468 - Lit Harlem Renaissance (3)
Examination of poetry, prose, and drama from the period known as the "Harlem Renaissance" within the context of space, place, and geography.

ENGL 7469 - Af Amer Women Writers (3)
Examines the variety of ways black women writers have reclaimed the creative power of agency, emphasizing areas of difference as well as continuity within the African American literary tradition; combines considerations of context, both historical and political, with rigorous textual and theoretical analyses.

ENGL 7470 - Forms Creative Nonfict (3)
Creative nonfiction with attention to historical roots and contemporary theory and practice. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 7471 - Forms Of Fiction (3)
A study of how fiction works through analyzing the short story, the novella, and the novel with attention to historical developments. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 7472 - Forms Of Poetry (3)
A study of meters, forms, and types of poetry in English with attention to the principal traditions and critical ideas associated with the writing of verse in English. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 7473 - Verbal/Visual Texts (3)
Study of intersection of the verbal and the visual in illuminated manuscripts, graphic novels, children's books, illustrated books, video games, websites, and other sites. Depending upon the instructor?s choice, one or more of these genres and works of every period will be studied. May be repeated up to 6 hours with change of topic.

ENGL 7475 - Literary Publishing (3)
Development of skills involved in editing, producing, and marketing a literary magazine; further training in the skills
of publishing the student's own literary texts. May be repeated for a maximum of 6 credit hours with change in course content. PREREQUISITE: Permission of instructor.

ENGL 7476 - Mod Pop & Lit Tradition (3)
Examination of issues (e.g. gender, nationalism, punishment) as they are represented in the texts of high and low culture beginning in the modern period, emphasizing how such representation challenges the distinction between high and low culture. May be repeated for a maximum of 6 credit hours.

ENGL 7478 - Textuality & Identity (3)
Relationship between textuality and social groups. May be repeated for a maximum of 6 credit hours.

ENGL 7480 - Cultural Texts and Theories (3)
Advanced social, political, and cultural theories that structure the understanding of cultural texts. May be repeated for a maximum of 6 credit hours.

ENGL 7481 - Early Pop Lit Trad (3)
Examination of the relationship of texts of both high and low culture up to the modern period. May be repeated for a maximum of 6 credit hours.

ENGL 7485 - Lit Arts Programming (3)
Development of skills involved in planning and administering community arts events and organizations; further training in the skills of author interviewing and book reviewing. May be repeated for a maximum of 6 credit hours. PREREQUISITE: Permission of instructor.

ENGL 7501 - History English Lang (3)
Development of English from a minor Germanic dialect to a major international language.

ENGL 7507 - Empirical Mthds Ling Rsrch (3)
Develop research questions and hypotheses, prepare language surveys, use linguistic databases, perform qualitative and quantitative analysis of linguistic data, use computational tools, and prepare findings for presentation, and publication of research on the study of language use.

ENGL 7508 - Corpus Linguistics (3)
History, design, creation, interpretation, and applications of corpora in applied language research.

ENGL 7509 - African American Linguistics (3)
Study of African American Vernacular English, including historical development, linguistic features, correlation with ethnic identity, fictional representation, contributions to General American English, and controversies concerning use in schools.
ENGL 7510 - Gender and Language (3)
Study of gender as a variable as it intersects with language use in a variety of contexts, including professional, legal, medical, and classroom settings.

ENGL 7511 - Survey of Linguistics (3)
Introduction to the nature of language with emphasis on basic principles of English phonology, morphology, and syntax; emphasis on collecting and analyzing linguistic data for research purposes.

ENGL 7512 - Morphology and Syntax (3)
Study of English language structures emphasizing how form and meaning are integrally related.

ENGL 7514 - Sociolinguistics (3)
Language use in relation to social interaction and power structures; dialects and varieties of English; inequality in varied environments; appraisal of methodologies used in gathering and analyzing data.

ENGL 7515 - Language & Literature (3)
Application of linguistic theory to analysis of literature, nature of literary language, and linguistic options open to writers.

ENGL 7516 - Phonetics & Phonology (3)
Articulatory and linguistic phonetics, phonetic transcription, suprasegmental phonology, overview of English phonology, and information on teaching English pronunciation to speakers of other languages.

ENGL 7517 - Discourse Analysis (3)
Examination of the tools and methods used by various subdisciplines of English (linguistics, rhetoric, and literature) to analyze forms of discourse, including legal, medical, scientific, technical, business, literary, academic, and oral texts.

ENGL 7530 - Fld Exp/Pract In ESL (3-6)
Experience in observing and teaching, peer teaching, and work with an English as a Second Language (ESL) specialist. Grades of S, U, or IP will be given.

ENGL 7531 - Theory/History ESL (3)
Survey of relation of linguistic principles to second language acquisition.

ENGL 7532 - Theor Skill Assess ESL (3)
Application of theories of teaching second language skills with emphasis on testing in a second language.

ENGL 7533 - Meth/Tech ESL In K-12 (3)
Techniques and resources for working with children and adolescents for whom English is a second language.
ENGL 7534 - Second Lang Acquisition (3)
Theories of second language acquisition, development of second language proficiency, and research in bilingualism.

ENGL 7535 - ESL Grammar (3)
Grammatical systems and strategies of Modern English; analysis of English structures that tend to cause difficulty for ESL/SESD speakers.

ENGL 7536 - Second Language Writing (3)
Emphasis on research in second language writing, especially the role of psychological, social, and cultural influences on learning to write in a second language.

ENGL 7537 - Second Language Reading (3)
Emphasis on how non-native speakers of English learn to read in English, the effect of context and culture on L2 reading, and culturally related responses to reading and literacy traditions.

ENGL 7538 - Cultural Issues ESL (3)
Impact of culture on non-English language background speakers as well as the particular aspects of U.S. culture and traditions needed for successful acculturation.

ENGL 7590 - Appl/Theory Linguistics (3)
Intensive study of specialized areas in English linguistics. Maybe repeated up to 9 hours with change of topic.

ENGL 7601 - Creative Nonfiction Wkshp (3)
Emphasis on examination and discussion of creative nonfiction written by students. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

ENGL 7602 - Fiction Workshop (3)
Emphasis on the examination and the discussion of fiction written by students. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

ENGL 7603 - Poetry Workshop (3)
Emphasis on the examination and the discussion of poetry written by students. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

ENGL 7604 - Creative Writing Wkshp (3)
Emphasis on examination and discussion of fiction, poetry, or creative nonfiction written by students. May be repeated for a maximum of 6 credit hours with change of genre. PREREQUISITE: permission of instructor.
ENGL 7605 - Adv Grad Fiction Wkshp (3)
Designed for candidates in MFA program in Creative Writing who have shown particular excellence in ENGL 7602. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: ENGL 7602.

ENGL 7606 - Adv Creative Non-Fict Wkshp (3)
Designed for candidates in MFA program in Creative Writing who have shown particular excellence in ENGL 7601. May be repeated for a maximum of 9 credit hours. PREREQUISITE: ENGL 7601.

ENGL 7607 - Advanced Poetry Workshop (3)
Designed for candidates in MFA program in Creative Writing who have shown particular excellence in ENGL 7603. May be repeated for a maximum of 9 credit hours. PREREQUISITE: ENGL 7603.

ENGL 7621 - Seminar Argumentation (3)
(Same as COMM 7621-8621). Examines historical and contemporary argumentation theories and how those theories are incorporated into the teaching of oral argumentation and composition.

ENGL 7701 - Hist Crit Theory (3)
History of literary criticism and theory, classical to modern.

ENGL 7702 - Contemp Crit Theory (3)
Examination of major movements in contemporary literary criticism and theory.

ENGL 7801 - History Composition (3)
Focuses on history of composition as a discipline of its own; examines rise of teaching of composition from 18th century Scottish universities to the present and/or history of development of theoretical approaches toward teaching composition.

ENGL 7804 - Af Am Issues in Composition (3)
Focuses on current scholarship and research that address the marginalized voices of race in the teaching of composition. Closely examines the theories and research of this issue, and studies pedagogical strategies.

ENGL 7805 - Foundations of Writing Studies (3)
A multidisciplinary exploration of the purposes, technologies, and contexts for written communication.

ENGL 7806 - Resch Meth In Writing (3)
Bibliographic techniques and an introduction to empirical methodologies for the study of the writing process and the testing of written documents.

ENGL 7807 - Wksp/Govmt & Corp Wrtg (3)
Textual and contextual analysis of the kinds of writing produced most often in government, law, and business;
practice in writing correspondence reports, briefs, manuals, and proposals.

ENGL 7808 - Wksp/Sci & Techn Wrtg (3)
Textual and contextual analysis of the kinds of writing produced most often in industry and the academic research community; practice in writing documents such as technical proposals, reports, computer documentation, and papers for publication.

ENGL 7809 - Technical Editing (3)
Current practices in editing and publication in the field of technical communication; topics include copy-editing, substantive editing, author-editor relations, and the production practice.

ENGL 7811 - Internship Prof Wrtng (3)
Assigned on the basis of qualifications and availability, student does a semester's work in technical, scientific, legal, government, or business writing and provides an extensive report and analysis. NOTE: Students who are on academic probation will not be allowed to register for this course. PREREQUISITE: ENGL 7/8805 and ENGL 7/8809. Grades of A-F, or IP will be given.

ENGL 7812 - Mphs Urban Wrtng Ins I (3)
(Same as ICL 7304-8304). Intensive study of writing research, current writing practices, and issues and trends related to K-12 writing instruction. English majors may not use this course to fulfill degree requirements.

ENGL 7813 - Mphs Urban Wrtng Ins II (3)
(Same as ICL 7305-8305). Prepares K-12 teachers to improve their own writing practices and assume a leadership role in writing instruction in their schools. English majors may not use this course to fulfill degree requirements.

ENGL 7815 - Sem History Rhetoric (3)
Examines different periods and issues of rhetorical history each semester. One semester will consider Greek rhetoric (beginnings through the New Testament); another will consider Latin rhetoric (Cicero through the Renaissance); a third will cover Scottish, British, and American rhetoric. May be repeated for a maximum of 9 credit hours when topic changes.

ENGL 7816 - Sem Thrsts Prof Wrtg (3)
A study of the works of major modern writing theorists in areas such as document design, collaboration, science, persuasion, editing, and writing process.

ENGL 7817 - Sem Comp Theorists (3)
Readings from and study of major modern theorists in invention, argumentation, literacy, writing, and discourse.

ENGL 7818 - Collaborative Writing (3)
Theoretical and research-based focus on managing and developing collaborative writing projects and processes.

**ENGL 7819 - Rhetoric Of Science (3)**
(Same as COMM 7819-8819). This course examines scientific and technical communication from rhetorical perspective, showing how scientific knowledge is shaped not only by data and method, but also by persuasive purposes and sociocultural forces.

**ENGL 7820 - Topics In Rhetoric (3)**
( Same as COMM 7820-8820). Topical seminar devoted to an important aspect of the history, theory, or criticism of rhetoric. May be repeated for a maximum of 9 credit hours when topics change.

**ENGL 7822 - Cont Comp Theory (3)**
Examines relationship between rhetorical and composition theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.

**ENGL 7823 - Topics In Composition (3)**
Topics can include invention, the writing process, writing assessment, style, and writing program administration. May be repeated for a maximum of 9 credit hours when topics change.

**ENGL 7890 - Topic/Technical Writing (3)**
Intensive study of specialized areas in technical writing. May be repeated for a maximum of 9 credit hours when topics change.

**ENGL 7900 - Creative Writing Colloquium (3)**
A course in the preparation for the MFA thesis and the MFA comprehensive exam. NOTE: May be repeated for a maximum of 6 credit hours, but only three hours with any one professor may be applied toward the degree; recommended to be taken in the last semester of regular course work and first semester of thesis work.

**ENGL 7996 - Thesis (1-6)**
A prospectus for the thesis must be approved by the student's advisor and the department chair before the student registers for this course. The completed thesis must be approved by at least two readers. NOTE: Students in Professional Writing must pass their comprehensive examination before registering for thesis hours and have the option of writing or producing a project or portfolio. Grades of S, U, or IP will be given.

**ENGL 7997 - Portfolio (3)**
A course for MA students in Professional Writing who choose to produce a project or portfolio instead of a thesis. Before registering for the course, students must pass their comprehensive examination and have a prospectus for the portfolio or project approved by their advisor and the coordinator of graduate studies.

**ENGL 8000 - Literary Research (3)**
Various approaches to literary scholarship and research methodology; introduction to professional standards, bibliographical methods, and procedures of scholarship and criticism. NOTE: This course is required for Literature majors and should be taken in the first year of graduate study.

**ENGL 8001 - Textual Rhetorics (3)**
Study and application of interpretive strategies to texts pertinent to professional writing and composition studies.

**ENGL 8003 - Thry/Prac Tchng Comp (3)**
Designed for graduate assistants teaching English 1010. Emphasis on the ways and techniques of teaching rudiments of English composition on college level. Each graduate teaching assistant in the Department of English must enroll in English 7003-8003 before or concurrent with first teaching assignment.

**ENGL 8012 - Seminar Health Comm (3)**
(Same as COMM 7012-8012). Examines current issues in health communication research, including patient-provider relationships, new technologies and health promotion, and health organizations. May be repeated for a maximum of 9 credit hours.

**ENGL 8013 - Wkshp Hlth Care Writing (3)**
Textual and contextual analysis of the kinds of writing produced for expert audiences in the healthcare industry and the academic research community; practice in writing documents such as technical proposals, clinical research reports, FDA documentation, and papers for publication.

**ENGL 8014 - Wkshp Public Hlth Care Writing (3)**
Theoretical understanding and skill-based practice in communicating healthcare information (patient education materials, public health care information, patient instructions) to a generally non-expert audience; rhetorical and analytical tools for shaping the information; practical skills for managing group projects and processes; and the opportunity to develop them in a workshop setting.

**ENGL 8100 - Independent Study (1-3)**
Focuses on a selected topic dealing with language study or a literary form, theme, figure, or movement. Topic chosen by student and approved by student's advisor and Department Chair. Can be used only as an elective. Grades of A-F, or IP will be given.

**ENGL 8211 - Medieval Literature (3)**
Studies of selected literary texts from the Middle Ages.

**ENGL 8230 - Chaucer (3)**
Studies of works by Geoffrey Chaucer in Middle English.

**ENGL 8232 - Shakespeare Tragedies (3)**
Study of the language, contexts, and themes of Shakespeare's tragedies.

ENGL 8233 - Shakspr/Comdy & Histr (3)
Study of the language, contexts, and themes of Shakespeare's comedies and histories.

ENGL 8242 - English Renaissance Lit (3)
Survey of the major works of the Renaissance.

ENGL 8254 - English Lit 17c (3)

ENGL 8256 - Milton (3)
Study of Milton's poetry.

ENGL 8264 - En Poet/Prose 1660-1800 (3)
Study of drama, fiction, poetry, and essays from Restoration and eighteenth-century Britain.

ENGL 8265 - 18th C British Novel (3)
Study of the eighteenth-century British novel with special emphasis on the development of the novel as a literary genre.

ENGL 8276 - English Lit Romantic (3)
Exploration of major authors, themes, and/or movements in British Romantic literature.

ENGL 8278 - Victorian Literature (3)
Study of one or more aspects of poetry, prose, fiction or drama of the Victorian period and the historical and social circumstances in which they were produced.

ENGL 8280 - 19th C British Novel (3)
Study of notable works of British fiction written between 1790 and 1900.

ENGL 8291 - Modern British Novel (3)
Survey of British novels from the period 1880 to 1945.

ENGL 8292 - Modern British Poetry (3)
Study of important British and UK poetry written from 1890 to the present.

ENGL 8293 - Modern British Drama (3)
Study of British drama from Oscar Wilde to the present.
ENGL 8320 - American Lit to 1820 (3)
Advanced study of central texts, persistent themes, and literary movements from European-American contact until
the end of the early republican period of the United States.

ENGL 8322 - American Lit 1820-1865 (3)
Survey of major authors, themes, and movements in American literature from 1820-1865.

ENGL 8324 - American Lit 1865-1914 (3)
Study of American literature from the Civil War to WWI, with special emphasis on the development of literary
realism, regionalism, and naturalism in American literary and cultural history.

ENGL 8325 - Africn Am Lit 1930-1960 (3)
Focuses on the rise of African American modernism and its role in the development of protest literature of the
1960s; locates texts in multiple literary traditions, but concentrates on their relation to traditions of African American
and Anglo-American writing.

ENGL 8326 - A A Lit/Memphis/M South (3)
Focuses on the rise of African American literature from the cultural matrix that became Memphis, a gathering point
and crossroads for African American writers of all genres from 1867 Reconstructionist writings to the present
southern Hip Hop Writers movement.

ENGL 8327 - Form/Genre:Afr-Amer Lit (3)
Examination of the development of an African American literary genre such as African American poetry, the slave
narrative, or the African American novel. Through study of both primary and secondary texts, students will gain an
understanding of the historical context in which a specific African American literary genre emerged, as well as
become conversant in the critical discussions in which these literary forms are defined and theorized. May be
repeated for a maximum of 6 credit hours when topic changes.

ENGL 8328 - Maj Authors:Afr-Amer Lit (3)
Study of the works of selected writers or cultural figures, as well as examination of the scholarship framing the
author's career. May be repeated for a maximum of 6 credit hours when topic changes.

ENGL 8329 - Afr-Amer Lit/Beg to 1850 (3)
Survey of African American literature from the Colonial Period to 1850.

ENGL 8330 - Afr-Amer Lit 1850-1900 (3)
Survey of African American literature from 1850-1900.

ENGL 8331 - Frederick Douglass (3)
Study of Frederick Douglass, including his slave narratives, autobiographies, letters, short fiction, and public
speeches.

**ENGL 8332 - Lit of the African Diaspora (3)**
Examination of literatures of the African diaspora outside of the U.S. May include Anglophone literatures, as well as literatures taught in translation. May be repeated for a maximum of 6 credit hours when topic changes.

**ENGL 8333 - Amiri Baraka (3)**
Study of the work of Amiri Baraka (LeRoi Jones), including poetry, drama, fiction, theory, music criticism, and autobiography.

**ENGL 8334 - The Black Arts Movement (3)**
Survey of Black Arts Movement, which encompassed the years 1960-1975 (approximately). May include study of novels, poems, plays, theoretical texts, and the visual arts, as well as examination of the community and cultural contexts within which these works were produced.

**ENGL 8335 - Afr-Amer Lit 1989 to Present (3)**
Survey of African American writing from 1989 to the present, situated in relation to recent developments in theory and other arts as well as contemporary cultural and political contexts.

**ENGL 8336 - Afr-Amer Literary Theory (3)**
Examination of the critical movements in African American Literary Theory from 1900 to present.

**ENGL 8350 - Rhetorical Theory (3)**
(Same as COMM 7350-8350). History of rhetoric from the sophists through the present; includes readings from Isocrates, Plato, Aristotle, Cicero, Augustine, Erasmus, Ramus, Campbell, Blair, John Q. Adams, and others.

**ENGL 8371 - Rhetorical Criticism (3)**
(Same as COMM 7371-8371). Examines principal modes of contemporary rhetorical analysis. May be repeated for a maximum of 9 credit hours.

**ENGL 8391 - American Novel (3)**
Intensive study of American novels.

**ENGL 8392 - American Poetry (3)**
Intensive study of American poetry.

**ENGL 8393 - American Drama (3)**
Intensive study of American drama.

**ENGL 8394 - Modern American Lit (3)**
Advanced study of American literature produced between 1900 and 1950.

**ENGL 8395 - Am Literary Movements (3)**
Advanced study of a specific American literary movement, such as the Southern Agrarian Movement, the Beat Generation, or American Transcendentalism. May be repeated for a maximum of 6 credit hours with change in course content.

**ENGL 8396 - Form and Genre in Am Lit (3)**
Advanced study of a specific form or genre in American literature, such as the novel, the essay, the lyric poem, or the play. May be repeated for a maximum of 6 credit hours with change in course content.

**ENGL 8397 - Intellectual Bkgrnds of Am Lit (3)**
Advanced study of aspects of philosophy and the history of ideas as they relate to the development and interpretation of American literary texts and American literary culture. May be repeated for a maximum of 6 credit hours with change in course content.

**ENGL 8398 - Cultural Contexts of Am Lit (3)**
Study of cultural contexts of key texts of American literature, including discussions of how such texts connect to political and social histories or concepts. May be repeated for a maximum of 6 credit hours with change in course content.

**ENGL 8399 - Multi-Cultural Am Lit (3)**
Advanced study of multi-ethnic American literatures, including readings by writers focusing on the experiences of Asian Americans, Hispanic Americans, and Native Americans. May be repeated for a maximum of 6 credit hours with change in course content.

**ENGL 8432 - Quant Research Methods (3)**
(Same as COMM 7432-8432). Survey of quantitative research in communication; practical experience in collecting and analyzing quantitative information.

**ENGL 8441 - Studies in European Literature (3)**
Movements and writers important to development of Continental Europe in the late eighteenth century to present. May be repeated for a maximum of 6 credit hours when topic changes.

**ENGL 8442 - Modern European Drama (3)**
Study of European drama from Ibsen to the present.

**ENGL 8451 - Women And Literature (3)**
Literature and criticism by and about women.
ENGL 8452 - Biography Process/Text (3)
Study of biography and the biographical process.

ENGL 8462 - Cont British/Cmwlth Lit (3)
Authors, works, genres, and literary styles in development of contemporary British and Commonwealth literatures.

ENGL 8464 - Contmp American Lit (3)
Authors, works, genres, and literary styles in development of contemporary American literature.

ENGL 8465 - Afr-Amer Lit 1960-1988 (3)
Major African American writers and/or movements from the 1960s up to 1988.

ENGL 8466 - Contmp World Lit/Tnstn (3)
Contemporary non-English fiction in translation, primarily from non-Western European cultures; focus on major movements and writers.

ENGL 8468 - Lit Harlem Renaissance (3)
Examination of poetry, prose, and drama from the period known as the "Harlem Renaissance" within the context of space, place, and geography.

ENGL 8469 - Af Amer Women Writers (3)
Examines the variety of ways black women writers have reclaimed the creative power of agency, emphasizing areas of difference as well as continuity within the African American literary tradition; combines considerations of context, both historical and political, with rigorous textual and theoretical analyses.

ENGL 8470 - Forms Creative Nonfict (3)
Creative nonfiction with attention to historical roots and contemporary theory and practice. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 8471 - Forms Of Fiction (3)
A study of how fiction works through analyzing the short story, the novella, and the novel with attention to historical developments. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 8472 - Forms Of Poetry (3)
A study of meters, forms, and types of poetry in English with attention to the principal traditions and critical ideas associated with the writing of verse in English. May be repeated up to 6 hours with change of topic/course content and approval of Program Coordinator.

ENGL 8473 - Verbal/Visual Texts (3)
Study of intersection of the verbal and the visual in illuminated manuscripts, graphic novels, children's books, illustrated books, video games, websites, and other sites. Depending upon the instructor's choice, one or more of these genres and works of every period will be studied. May be repeated up to 6 hours with change of topic.

**ENGL 8475 - Literary Publishing (3)**
Development of skills involved in editing, producing, and marketing a literary magazine; further training in the skills of publishing the student's own literary texts. May be repeated for a maximum of 6 credit hours with change in course content. PREREQUISITE: Permission of instructor.

**ENGL 8476 - Mod Pop & Lit Tradition (3)**
Examination of issues (e.g. gender, nationalism, punishment) as they are represented in the texts of high and low culture beginning in the modern period, emphasizing how such representation challenges the distinction between high and low culture. May be repeated for a maximum of 6 credit hours.

**ENGL 8478 - Textuality & Identity (3)**
Relationship between textuality and social groups. May be repeated for a maximum of 6 credit hours.

**ENGL 8480 - Cultural Texts and Theories (3)**
Advanced social, political, and cultural theories that structure the understanding of cultural texts. May be repeated for a maximum of 6 credit hours.

**ENGL 8481 - Early Pop Lit Trad (3)**
Examination of the relationship of texts of both high and low culture up to the modern period. May be repeated for a maximum of 6 credit hours.

**ENGL 8485 - Lit Arts Programming (3)**
Development of skills involved in planning and administering community arts events and organizations; further training in the skills of author interviewing and book reviewing. May be repeated for a maximum of 6 credit hours. PREREQUISITE: Permission of instructor.

**ENGL 8501 - History English Lang (3)**
Development of English from a minor Germanic dialect to a major international language.

**ENGL 8507 - Empirical Mthds Ling Rsrch (3)**
Develop research questions and hypotheses, prepare language surveys, use linguistic databases, perform qualitative and quantitative analysis of linguistic data, use computational tools, and prepare findings for presentation, and publication of research on the study of language use.

**ENGL 8508 - Corpus Linguistics (3)**
History, design, creation, interpretation, and applications of corpora in applied language research.
ENGL 8509 - African American Linguistics (3)
Study of African American Vernacular English, including historical development, linguistic features, correlation with ethnic identity, fictional representation, contributions to General American English, and controversies concerning use in schools.

ENGL 8510 - Gender and Language (3)
Study of gender as a variable as it intersects with language use in a variety of contexts, including professional, legal, medical, and classroom settings.

ENGL 8511 - Survey of Linguistics (3)
Introduction to the nature of language with emphasis on basic principles of English phonology, morphology, and syntax; emphasis on collecting and analyzing linguistic data for research purposes.

ENGL 8512 - Morphology and Syntax (3)
Study of English language structures emphasizing how form and meaning are integrally related.

ENGL 8514 - Sociolinguistics (3)
Language use in relation to social interaction and power structures; dialects and varieties of English; inequality in varied environments; appraisal of methodologies used in gathering and analyzing data.

ENGL 8515 - Language & Literature (3)
Application of linguistic theory to analysis of literature, nature of literary language, and linguistic options open to writers.

ENGL 8516 - Phonetics & Phonology (3)
Articulatory and linguistic phonetics, phonetic transcription, suprasegmental phonology, overview of English phonology, and information on teaching English pronunciation to speakers of other languages.

ENGL 8517 - Discourse Analysis (3)
Examination of the tools and methods used by various subdisciplines of English (linguistics, rhetoric, and literature) to analyze forms of discourse, including legal, medical, scientific, technical, business, literary, academic, and oral texts.

ENGL 8530 - Fld Exp/Pract In ESL (3-6)
Experience in observing and teaching, peer teaching, and work with an English as a Second Language (ESL) specialist. Grades of S, U, or IP will be given.

ENGL 8531 - Theory/History ESL (3)
Survey of relation of linguistic principles to second language acquisition.
ENGL 8532 - Theor Skill Assess ESL (3)
Application of theories of teaching second language skills with emphasis on testing in a second language.

ENGL 8533 - Meth/Tech ESL In K-12 (3)
Techniques and resources for working with children and adolescents for whom English is a second language.

ENGL 8534 - Second Lang Acquisition (3)
Theories of second language acquisition, development of second language proficiency, and research in bilingualism.

ENGL 8535 - ESL Grammar (3)
Grammatical systems and strategies of Modern English; analysis of English structures that tend to cause difficulty for ESL/SESD speakers.

ENGL 8536 - Second Language Writing (3)
Emphasis on research in second language writing, especially the role of psychological, social, and cultural influences on learning to write in a second language.

ENGL 8537 - Second Language Reading (3)
Emphasis on how non-native speakers of English learn to read in English, the effect of context and culture on L2 reading, and culturally related responses to reading and literacy traditions.

ENGL 8538 - Cultural Issues ESL (3)
Impact of culture on non-English language background speakers as well as the particular aspects of U.S. culture and traditions needed for successful acculturation.

ENGL 8590 - Appl/Theory Linguistics (3)
Intensive study of specialized areas in English linguistics. Maybe repeated up to 9 hours with change of topic.

ENGL 8601 - Creative Nonfiction Wkshp (3)
Emphasis on examination and discussion of creative nonfiction written by students. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

ENGL 8602 - Fiction Workshop (3)
Emphasis on the examination and the discussion of fiction written by students. May be repeated 10 times for a maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

ENGL 8603 - Poetry Workshop (3)
Emphasis on the examination and the discussion of poetry written by students. May be repeated 10 times for a
maximum of 30 credit hours. PREREQUISITE: Permission of instructor.

**ENGL 8606 - Adv Creative Non-Fict Wkshp (3)**
Designed for candidates in MFA program in Creative Writing who have shown particular excellence in ENGL 7601. May be repeated for a maximum of 9 credit hours. PREREQUISITE: ENGL 7601.

**ENGL 8607 - Advanced Poetry Workshop (3)**
Designed for candidates in MFA program in Creative Writing who have shown particular excellence in ENGL 7603. May be repeated for a maximum of 9 credit hours. PREREQUISITE: ENGL 7603.

**ENGL 8621 - Seminar Argumentation (3)**
(Same as COMM 7621-8621). Examines historical and contemporary argumentation theories and how those theories are incorporated into the teaching of oral argumentation and composition.

**ENGL 8701 - Hist Crit Theory (3)**
History of literary criticism and theory, classical to modern.

**ENGL 8702 - Contemp Crit Theory (3)**
Examination of major movements in contemporary literary criticism and theory.

**ENGL 8801 - History Composition (3)**
Focuses on history of composition as a discipline of its own; examines rise of teaching of composition from 18th century Scottish universities to the present and/or history of development of theoretical approaches toward teaching composition.

**ENGL 8804 - Af Am Issues in Composition (3)**
Focuses on current scholarship and research that address the marginalized voices of race in the teaching of composition. Closely examines the theories and research of this issue, and studies pedagogical strategies.

**ENGL 8805 - Foundations of Writing Studies (3)**
A multidisciplinary exploration of the purposes, technologies, and contexts for written communication.

**ENGL 8806 - Resch Meth In Writing (3)**
Bibliographic techniques and an introduction to empirical methodologies for the study of the writing process and the testing of written documents.

**ENGL 8807 - Wksp/Govmt & Corp Wrtg (3)**
Textual and contextual analysis of the kinds of writing produced most often in government, law, and business; practice in writing correspondence reports, briefs, manuals, and proposals.
ENGL 8808 - Wksp/Sci & Techn Wrtg (3)
Textual and contextual analysis of the kinds of writing produced most often in industry and the academic research community; practice in writing documents such as technical proposals, reports, computer documentation, and papers for publication.

ENGL 8809 - Technical Editing (3)
Current practices in editing and publication in the field of technical communication; topics include copy-editing, substantive editing, author-editor relations, and the production practice.

ENGL 8811 - Internship Prof Wrtng (3)
Assigned on the basis of qualifications and availability, student does a semester's work in technical, scientific, legal, government, or business writing and provides an extensive report and analysis. NOTE: Students who are on academic probation will not be allowed to register for this course. PREREQUISITE: ENGL 7/8805 and ENGL 7/8809. Grades of A-F, or IP will be given.

ENGL 8812 - Mphs Urban Wrtng Ins I (3)
(Same as ICL 7304-8304). Intensive study of writing research, current writing practices, and issues and trends related to K-12 writing instruction. English majors may not use this course to fulfill degree requirements.

ENGL 8813 - Mphs Urban Wrtng Ins II (3)
(Same as ICL 7305-8305). Prepares K-12 teachers to improve their own writing practices and assume a leadership role in writing instruction in their schools. English majors may not use this course to fulfill degree requirements.

ENGL 8815 - Sem History Rhetoric (3)
Examines different periods and issues of rhetorical history each semester. One semester will consider Greek rhetoric (beginnings through the New Testament); another will consider Latin rhetoric (Cicero through the Renaissance); a third will cover Scottish, British, and American rhetoric. May be repeated for a maximum of 9 credit hours when topic changes.

ENGL 8816 - Sem Thrsts Prof Wrtg (3)
A study of the works of major modern writing theorists in areas such as document design, collaboration, science, persuasion, editing, and writing process.

ENGL 8817 - Sem Comp Theorists (3)
Readings from and study of major modern theorists in invention, argumentation, literacy, writing, and discourse.

ENGL 8818 - Collaborative Writing (3)
Theoretical and research-based focus on managing and developing collaborative writing projects and processes.
ENGL 8819 - Rhetoric Of Science (3)
(Same as COMM 7819-8819). This course examines scientific and technical communication from phetorical perspective, showing how scientific knowledge is shaped not only by data and method, but also by persuasive purposes and sociocultural forces.

ENGL 8820 - Topics In Rhetoric (3)
(Same as COMM 7820-8820). Topical seminar devoted to an important aspect of the history, theory, or criticism of rhetoric. May be repeated for a maximum of 9 credit hours when topics change.

ENGL 8822 - Cont Comp Theory (3)
Examines relationship between rhetorical and composition theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.

ENGL 8823 - Topics In Composition (3)
Topics can include invention, the writing process, writing assessment, style, and writing program administration. May be repeated for a maximum of 9 credit hours when topics change.

ENGL 8890 - Topic/Technical Writing (3)
Intensive study of specialized areas in technical writing. May be repeated for a maximum of 9 credit hours when topics change.

ENGL 8900 - Engl Stds Colloquium (3)
Defines and compares the history, research methodologies, and current issues of each of the concentrations in the doctoral program to provide integrative understanding of the discipline, and guide the student toward preparing and defending the dissertation proposal.

ENGL 9000 - Dissertation (1-9)
No more than 9 hours may be applied toward the degree. Grades of S, U, or IP will be given.

Graduate Catalog
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Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
LINGUISTICS (LING)

LING 7101 - Intro To Linguistics I (3)
Nature of language; history of linguistic theory; morphology and syntax, concentrating on languages other
than English.

**LING 7174 - Spec Method/Lang Ed (3)**
(Also as ICL 7174). Examines theoretical and practical issues relating to teaching of foreign languages K-12 through lectures, reading of current literature, class discussion, guest speakers, etc.; explores role of context in comprehension and learning, listening, reading, oral proficiency, writing, testing, culture, and curriculum.

**LING 7201 - Intro To Linguistics II (3)**
Principles and applications of phonology, with major emphasis on languages other than English; historical linguistics, concentrating on Romance and other language families; psycholinguistics, sociolinguistics, semantics.

**CHINESE (CHIN)**

**CHIN 7101 - Advanced Business Chinese I (3)**
Basic language skills that are most helpful in business interactions with Chinese-speaking communities with a focus on business vocabulary and expressions. Introduction of Chinese business culture and etiquette.
PREREQUISITE: CHIN 3302.

**CHIN 7102 - Advanced Business Chinese II (3)**
Further development on business language skills with a focus on writing ability and comprehension/translation of business documents. PREREQUISITE: CHIN 7101 or equivalent.

**FRENCH (FREN)**

_In addition to the courses below, the department may offer the following Special Topics courses:_

**FREN 6791-6799. Special Topics in French. (3).** May be repeated for a maximum of 6 hours credit.

**FREN 7470-7479. Special Topics in French Literature. (3).** Literary movements, individual authors, or groups of authors of the nineteenth and twentieth centuries.

**FREN 6301 - French Phonetics (3)**
The theory and practice of French sounds; especially recommended for teachers of French.

**FREN 6302 - Adv French Grammar (3)**
Practical, syntactical, and lexical usage of contemporary French.

**FREN 6412 - 17th & 18th Centuries (3)**
Classical theater and critical theories; essay, nouvelle, and conte in the eighteenth century. PREREQUISITE: FREN 3301; RECOMMENDED: FREN 3411.

**FREN 6413 - 19th Century French Lit (3)**
Survey of literary movements and major authors with readings in all the major genres. PREREQUISITE: FREN 3301. RECOMMENDED: FREN 3411.

**FREN 6414 - 20th Century French Lit (3)**
Survey of literary movements and major authors with readings in the novel, poetry, and theater. PREREQUISITE: FREN 3301 RECOMMENDED: FREN 3411.

**FREN 6415 - Francophone Literature (3)**
Study of literature written in French in countries other than France. May be repeated for a maximum of 6 credit hours with change in content and permission of instructor.

**FREN 6801 - Cont France/Francophone World (3)**
Overview of major institutions and cultural aspects of contemporary France and the French-speaking world. PREREQUISITE: FREN 3301 or permission of instructor.

**FREN 7000 - French for Reading Knowledge (3)**
Introduction to reading French; intensive drill in recognizing and interpreting grammatical structures, especially those peculiar to scholarly written language; emphasis on vocabulary building and on determining the meaning of words not previously encountered; reading of texts in French at sight or after preparation. No previous knowledge of French required. May not be used to fulfill the degree requirements of any program.

**FREN 7101 - French/Busn & Econ (3)**
Basic vocabulary and institutions necessary for dealing in the French business world. Open only to students enrolled in International MBA program. PREREQUISITE: Successful completion of proficiency examination.

**FREN 7102 - French For Commerce (3)**
Practical training in various aspects of correspondence and communications necessary for conducting business in French-speaking communities. Open only to students admitted to International MBA program. PREREQUISITE: FREN 7101 or equivalent.

**FREN 7305 - French Stylistics (3)**
Way in which texts produce meanings, development of analytic and interpretative skills with which to read the textuality of literary writing and to determine devices that affect its particular expressiveness; examination of vocabulary, syntax structure, and rhetorical figures as literary convention and as deviation from convention.

**FREN 7401 - Hist Lang & Old French (3)**
Development of the French language from Latin to the early 14th century; structure of Old French in preparation for reading medieval texts. Readings include several Lais of Marie de France and la Chanson de Roland.
FREN 7402 - Medieval French Lit (3)
Major genres and authors of the Middle Ages; readings include the roman courtois of Chretien de Troyes, the Lais of Marie de France, le Roman de la Rose, Aucassin et Nicolette, le Roman de Renard, theatre, and lyric poetry from the trouveres to Charles d'Orleans and Villon.

FREN 7421 - French Renaissance (3)
Changes in aesthetics, poetics, and philosophy as seen in the writings of l'Ecole Lyonnaise, the Pleiade, Rabelais, Montaigne, Calvin, de Navarre, Etienne Jodelle, and Robert Garnier.

FREN 7425 - Classicism Prior 1660 (3)
Aesthetics and poetics of the baroque and preclassical periods: selections from the writings of the precieux and baroque poets, Mairet, Rotrou, Saint-Sorlin, Scarron, Sorel, Cyrano de Bergerac; the theater of Corneille; early comedies of Moliere.

FREN 7426 - Classicism Aftr 1660 (3)
The impact of Boileau and l'Art poetique in crystallizing classical principles and patterns; masterpieces of Moliere and Racine; representative selections from masters of the other genres in this period of French literature.

FREN 7470 - Translation: Acad. and Prof. (3)
The main objectives of this course are: to become familiar with the theories and methods of written translation, gain experience with both French-English and English-French translation (version, theme), perform translation of texts from various fields and concentrations, both academic and professional, learn conventions (stylistic, typographical, etc.) for various text types in both languages, and to gain proficiency in the use of traditional and new tools available to the translator.

FREN 7471 - Seventeenth-Century French Lit (3)
Close reading of the canonical texts of seventeenth-century French literature including the principal genres (classical theatre - comedy and tragedy, poetry, novel, and philosophical prose). Focus will be both on the formal properties of these texts and their themes.

FREN 7492 - Resch In French Stds (1-6)
May be repeated for credit toward the concentration in French up to a maximum of 6 hours. Grades of A-F, or IP will be given.

FREN 7531 - Age of Enlightenment (3)
Comprehensive study of literary trends and innovations within the major genres as related to liberal ideas underlying the philosophy of Montesquieu, Voltaire, Diderot, Rousseau, and their contemporaries.

FREN 7532 - Research in Lit and Culture (3-6)
Directed readings in the field. Several reports and a research paper will be required. May be repeated for credit toward the concentration in French up to 9 hours.
†Grades of S, U, or IP will be given.
‡Grades of A-F, or IP will be given.

GERMAN (GERM)

GERM 7000 - German for Reading Knowledge (3)
Introduction to reading German intensive drill in recognizing and interpreting grammatical structures, especially those peculiar to scholarly written language; emphasis on vocabulary building and on determining the meaning of words not previously encountered; reading of texts in German at sight or after preparation. No previous knowledge of German required. May not be used to fulfill the degree requirements of any program.

GERM 7101 - Adv Busn German I (3)
German business organization; trade fairs; social security and welfare systems; intensive work with interpreting and composing German business letters and other correspondence; negotiation in German. Course is conducted in German. Open only to students admitted to International MBA program. PREREQUISITE: Successful completion of proficiency examination.

GERM 7102 - Adv Busn German II (3)
German economy, European Union, European market, import/export, banking, currency. Course is conducted in German. Open only to students admitted to International MBA program. PREREQUISITE: GERM 7101 or equivalent.

ITALIAN (ITAL)

ITAL 7690 - Research in Italian Studies (3)
Individual research on topics in Italian literature and culture. May be repeated for a maximum of 9 credit hours.

JAPANESE (JAPN)

JAPN 7101 - Adv Business Japn I (3)
Vocabulary and institutions necessary for dealing in the Japanese business world. Maintenance and extension of conversational skills to business context. Course is conducted in Japanese. Open only to students enrolled in International MBA program. PREREQUISITE: Successful completion of proficiency examination.

JAPN 7102 - Adv Business Japn II (3)
Business Japanese language skills applied to specific fields of business, which include finance, manufacturing, the tourist industry, etc. Course is conducted in Japanese. Open only to students enrolled in International MBA program. PREREQUISITE: JAPN 7101 or equivalent.

**PORTUGUESE (PORT)**

PORT 6024 - Brazilian Short Story (3)
Accelerated introduction to Portueuse for graduate students with a solid command of Spanish; provides an introduction to Brazilian contemporary literature and focuses on Portuguese grammar, emphasizing the differences between Spanish and Portuguese. This course fulfills the language reading knowledge requirement.

**SPANISH (SPAN)**

In addition to the courses below, the department may offer the following Special Topics courses:

SPAN 7790-7799. Special Topics in Hispanic Literature and Linguistics. (3). Selected topics in Hispanic literature and linguistics; may include, but not limited to Latin-American short fiction, nineteenth century Peninsular literature, Latin-American drama, and variety of sociolinguistic studies. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

SPAN 6306 - Applied Span Linguistcs (3)

SPAN 6307 - Adv Grammar/Writing (3)
Special problems in Spanish grammar pertaining to the preterite and the imperfect, "ser" and "estar," special verb constructions, the subjunctive, and the definite and indefinite articles; also emphasizes writing styles, vocabulary, and idiomatic expressions. Strongly recommended for MA students who have not taken this course at the undergraduate level. Since this is a 4000/6000 level course it cannot count twice toward graduation.

SPAN 6308 - Adv Grammar/Speech (3)
Special problems in Spanish grammar pertaining to prepositions, placement of descriptive adjectives, passive voice, reflexive substitute, past participle in absolute constructions, and reflexive pronouns; also emphasizes speech production, vocabulary, and idiomatic expressions. Strongly recommended for MA students who have not taken this course at the undergraduate level. Since this is a 4000/6000 level course it
cannot count twice toward graduation.

**SPAN 6410 - Spanish Lit/Civiztn (3)**
Survey of literary movements and major figures with readings in literature and civilization. Strongly recommended for MA students who have not taken this course at the undergraduate level. Since this is a 4000/6000 level course it cannot count twice toward graduation.

**SPAN 6510 - Spanish Amer Lit/Civiz (3)**
Survey of literary movements and major figures with readings in literature and civilization. Strongly recommended for MA students who have not taken this course at the undergraduate level. Since this is a 4000/6000 level course it cannot count twice toward graduation.

**SPAN 6563 - Hispanic Literature Genres (3)**
Study of literary genres with concentration on Hispanic literature; selections from origins to present time; emphasis on textual analysis. Strongly recommended for MA students who have not taken this course at the undergraduate level. It is necessary to clarify that students who have already taken this course as 4563 cannot take 6563 since it will not count toward graduation.

**SPAN 7101 - Intro Hispnc Cltr/Bus (3)**
Hispanic community and family, customs, geography, demography of Spain and Spanish America; United States business in Latin America and Hispanic business in the United States. Course is conducted in Spanish. Open only to students admitted to International MBA program. PREREQUISITE: Successful completion of proficiency examination.

**SPAN 7102 - Comm Hispanic World (3)**
Hispanic markets and techniques of penetrating them; international advertising, import-export and economic review of Hispanic nations; history and circumstances of the Hispanic corporate world. Course is conducted in Spanish. Open only to students admitted to International MBA program. PREREQUISITE: SPAN 7101 or equivalent.

**SPAN 7103 - Span Comm/Corresp Doc I (3)**
Various letters and documents for conducting business among Hispanic nations. Conducted in Spanish. PREREQUISITE: SPAN 7102 or equivalent.

**SPAN 7201 - Wkshp Spanish Language (3)**
Idiomatic construction, word formation, culturally connotated vocabulary and modern style techniques through intensive text analysis and writing. RECOMMENDED: SPAN 6302.

**SPAN 7301 - Spanish Phonology (3)**
(6301). Principles of analysis of the sound system of human language; general sound system (phonetics) of Spanish; and phonemic contrastive analysis of sound systems of Spanish and English.

**SPAN 7302 - Span Syntax & Semantics (3)**
Spanish syntax and compositional semantics: constituent structure, syntactic categories and grammatical
relations, prepositional semantics, quantification, modality, and tense.

SPAN 7304 - Evolution Of Spanish (3)
(6304). General history of the Spanish language based on political and cultural history of Spain and Spanish America; history of sound system, grammatical structures, word borrowings, and changes in meaning.

SPAN 7305 - Span Am Dialectology (3)
(6305). Fundamental notions of language variation, regional and social varieties, stylistic varieties and linguistic demography of general features of Latin American Spanish with respect to phonology, morphosyntax, and semantics.

SPAN 7306 - Spanish in the U.S. (3)
Study of linguistic features of Spanish in the U.S. and the sociolinguistic factors (historical, political, social and cultural) that affect U.S. Spanish.

SPAN 7420 - Medieval Span Lit (3)
(6420). Reading of Old Spanish; Medieval Spanish literature from Mozarabic lyric through La Celestina.

SPAN 7421 - The Golden Age (3)
Don Quixote and other classic works of the sixteenth and seventeenth centuries.

SPAN 7430 - 18th/19th Cent Span Lit (3)
(6430). Romantic and post-romantic poetry and drama; costumbrismo and rise of regional novel, realistic novel, and naturalistic novel.

SPAN 7431 - 20th Cent Peninslr Lit (3)
A look at different aspects of the literary culture of this century through various genres (poetry, novel, theatre and film). Special attention dedicated to Modernism, the Civil War, Literature during the Franco years and Postmodernism.

SPAN 7451 - Studies Spanish Culture (3)
Literary history of Spanish autonomous regions as viewed through important writers; emphasis on regional dialects, character, economy, and culture; readings and discussions in Spanish. May be repeated for a maximum of 6 credit hours. RECOMMENDED: SPAN 6410.

SPAN 7452 - 19th-20th Cent Hisp Cult/Lit (3)
Literary developments and major cultural events affecting Spain and Latin America, including issues pertaining to the question of national identity, modernismo, the Generation of 1898, the narrative of the Mexican revolution, and Hispanic avant-garde artistic movements.

SPAN 7453 - Studies Latn Am Culture (3)
Literary survey of social issues that affect perceptions of Latin America, its peculiar problems and its social upheaval; readings and discussions in Spanish. May be repeated for a maximum of 6 credit hours. RECOMMENDED: SPAN 6510.
SPAN 7532 - Span American Drama (3)
(6532). Development of the drama in Spanish America, with an emphasis on the twentieth century. PREREQUISITES: Permission of instructor.

SPAN 7561 - Pre-Cntmp Sp Am Prose (3)
Evolution of the Spanish American novel and short story from their beginnings through early twentieth century.

SPAN 7562 - Cntmp Sp Am Prose Fctn (3)
Representative Spanish American novels and short stories of the twentieth century since 1940.

SPAN 7591 - Seminar Sp Amer Lit (3)
Topics in Spanish American literature designed to be of special interest for the advanced graduate student. May be repeated for a maximum of 9 credit hours.

SPAN 7691 - Rsrch Hispanic Studies (1-6)
May be repeated for credit toward the concentration in Spanish up to 12 hours.

SPAN 7692 - Research in Lit and Culture (3-6)
Directed readings in the field. Several reports and a research paper will be required. May be repeated for credit toward the concentration in Spanish up to 9 hours.
†Grades of S, U, or IP will be given.

LANGUAGES AND LITERATURES (LALI)

In addition to the courses below, the department may offer the following Special Topics courses:

LALI 6010-29. Special Topics in Foreign Literatures. (3). Topics are varied and announced in online course listings.

LALI 6441 - Dante (3)
Vita Nuova and Divina Commedia; presented in English.

LALI 6493 - Contemporary French Lit (3)
Emphasis on widely translated, well-known works by major French writers; presented in English translation.

LALI 6890 - Literary Criticism (3)
Study of the history and theory of literary criticism as exemplified by texts selected from various literary traditions. PREREQUISITE: Six hours of coursework in a foreign language at the 3000 level or above.
LALI 7780 - Indiv Studies Busn Lang (1-3)
Directed individual study in selected areas of language and culture chosen in consultation with instructor. May be repeated for a maximum of 10 credit hours. PREREQUISITE: Permission of instructor.
†Grades of S, U, or IP will be given.
‡Grades of A-F, or IP will be given.
All 7000-8000 level courses whose names begin with "Studies" or "Thematic Studies" consist primarily of readings
of important recent scholarly articles and monographs of a field or subfield and writings based upon these readings. They do not require the completion of major research papers, which are reserved for Research Seminars numbered 7/8070. Lengthy reading lists not relevant to the paper are not appropriate for Research Seminars. Both types of courses may be repeated when the content varies. 6000-level courses may not be repeated, nor taken if the student has already taken the 4000-level component or the equivalent at another school.

In addition to the courses below, the department may offer the following Special Topics courses:

**HIST 6050-69. Special Topics in History. (1-3).** Intensive study of selected topics in History. Topics are announced in online class listings.

**HIST 7030-39–8030-39. Topics in History. (3).** Topics within periods or problems that cross periods or subject areas. May be repeated when topic varies.

**HIST 6020 - Internship In History (1-12)**
Supervised internships working with various governmental agencies, private foundations, or businesses of interest to historians. May be repeated for a maximum of 12 hours credit, not more than 6 of which can be counted toward the satisfaction of degree requirements. PREREQUISITE: Permission of department.

**HIST 6022 - Oral History (3)**
Applied history covering oral history theory, research, and interviewing procedures.

**HIST 6050 - Hist Sexuality Modern Europe (3)**
Survey of the modern (1750-2nd World War) European history of women's struggle for expanded political and reproductive rights, as well as changing gender and sexual identities for both men and women.

**HIST 6053 - Law & Society in Colonial Amer (3)**
Intersection between European, Native American, African and African American individuals and the colonial legal systems.

**HIST 6057 - Women in the Ancient World (3)**
History, culture, and lived experiences of women in the ancient civilizations of Egypt, the Near East, Greece, and Rome.

**HIST 6066 - Cancer in America (3)**
This course will trace the "evolution" of cancer in U. S. culture through documentaries, scholarly articles, narratives, and primary source documents.

**HIST 6105 - War in the Ancient World (3)**
Development of warfare from 2000 BCE to 1200 CE, from Bronze Age to Mongol conquests; emphasis on Greek and Roman warfare; tactics, methods, strategies; theories of war and their historical development; attention to
relationships between cultures, technology, influence of culture on war and war on society.

HIST 6106 - War in the Modern World (3)
Development of warfare from 1400 to the present; tactics, methods, and strategies; theories of war and their historical development with particular attention to relationships between cultures, changing technology, and the manner in which war has been conducted; purposes for which wars are fought.

HIST 6126 - Victorian/Edwardian England (3)
Social, political, and cultural adjustments of England to the experience of industrialization in nineteenth and early twentieth centuries.

HIST 6145 - History of Modern Germany (3)
Germany from the origins of the unification movement in the Napoleonic Era through the Second World War.

HIST 6151 - Habsburg Cent Europe 1740-1918 (3)
The Habsburg Monarchy brought relative stability to a region that has since experienced ethnic cleansing, mass murder, and dictatorship. Starts with the Habsburg dynasty's efforts to centralize its authority and ends with WWI, which led to the collapse of the Monarchy and redrawing the borders of east central Europe.

HIST 6160 - Russia to 1917 (3)
Russia from earliest times to 1917, with special emphasis on the rise of serfdom and autocracy and the evolution of the Revolutionary Movement.

HIST 6162 - Russia after 1917 (3)
Detailed study of 1917 Revolution and major developments in government, economy, cultural and social life, and international affairs that followed.

HIST 6213 - Women/Gender/Latin Amer (3)
Historical examination of the roles of women and gender in Latin America from colonial times to the beginning of the twentieth century.

HIST 6221 - 20th Century Latin Amr Rev (3)
Critical comparative examination of twentieth-century revolutionary movements in Latin America, focusing on Mexico, Guatemala, Cuba, and Chile.

HIST 6222 - Race/Class Latin America (3)
Examination of race and class in Latin America from colonial times to the present, focusing on development of racial, ethnic, and class identities, and their roles in economic, social, political, and cultural life.

HIST 6260 - World Since 1945 (3)
Global, ideological, economic, and political developments since World War II; emphasis on rising affluence of industrial free market, movement of former colonies to independence, and growth in diversity among the Soviet bloc nations.

**HIST 6272 - Modern Middle East (3)**
Political, diplomatic, social, and religious developments in the Middle East from 1800 to present.

**HIST 6276 - Palestine/Zion/Israel/Conflict (3)**
Origins of the Israeli-Palestinian dispute from the late 18th century through the founding of the State of Israel and expulsion/flight of three quarters of a million Palestinians from the homes to the present day; major debates and controversies related to the dispute through primary and secondary sources.

**HIST 6277 - Ottoman Empire (3)**
Ottoman Empire people, geography, cultures, politics, administration, economy, and societies from its rise in the 13th century until its demise in 1922; major historiographical debates and literature related to the Ottoman Empire through primary and secondary sources, art, and literature.

**HIST 6283 - History/South Africa (3)**
South Africa from human origins to present, emphasizing 19th and 20th century economic and political history, examined within larger context of events throughout entire southern African region and globally; Apartheid system and liberation ideologies such as socialism, Pan-Africanism, and Black Consciousness explored through study of primary documents, film, and music.

**HIST 6288 - West Africa/Diaspora (3)**
History of West Africans from the 15th century to the present, focusing on trans-Atlantic slave trade and African diaspora in the Americas; particular emphasis on economic and social history through study of primary documents, film, and music.

**HIST 6289 - African Women's History (3)**
Experiences of women throughout entire history of African continent, from human origins to present; covers major epochs in African history, diversity of continent, and theoretical issues related to gender through study of primary documents, fiction, and film.

**HIST 6292 - Modern China 1800-Present (3)**

**HIST 6294 - Modern Japan 1800-Present (3)**

**HIST 6297 - Ancient India (3)**
History of India from earliest times to 1100; early period of Muslim rule; emphasis on cultural history, religious, legal, and other social institutions; Hinduism, Buddhism; "Aryan invasion" hypothesis; caste system; supposed "break" caused by Muslim invasions; British colonial representations of ancient India; relation between myth and history.

**HIST 6320 - Ancient Near East (3)**
From the beginnings of Mesopotamia down through the great empires of Assyria, Babylon, and Persia.

**HIST 6321 - Greek Experience (3)**
Politics, society, and culture in ancient Greece to Alexander the Great.

**HIST 6322 - The Roman World (3)**
Hellenistic kingdoms and the Roman Empire.

**HIST 6323 - Egypt Of The Pharaohs (3)**
A historical survey of ancient Egyptian civilization, covering major political and social developments and topics such as religion, writing, and literature, Egypt's relations with the rest of Africa, and sample problems that illustrate how Egyptologists approach the past.

**HIST 6361 - Hist Byzantine Empire (3)**
Byzantine or East Roman Empire from 330 to 1453 and its influence on the Slavic, Turkic, and Islamic peoples.

**HIST 6372 - High Middle Ages (3)**
Summary of the Early Middle Ages, economic, technological, cultural, intellectual, and religious expansion after 1000, courtly love, Romanesque and Gothic art, limited government, church and state conflicts, reason vs. revelation, universities, scholasticism, women, Judaism, science, Franciscans, Heretics, life of ordinary people, disasters of the fourteenth century, roots of the Renaissance.

**HIST 6380 - Renaissance Europe (3)**
Rise of humanism during fourteenth century disasters; intellectual, economic, social, cultural, religious, and artistic developments of fourteenth through sixteenth century, emphasizing Italy, especially Florence; women, life of ordinary people, guilds, republicanism and despotism, neoplatonism, Christian and civic humanism, Northern Renaissance. Is the Renaissance revolutionary or a development of medieval culture?

**HIST 6390 - Europe-Age Reformation (3)**
Characteristic political, social, economic, intellectual, and cultural developments and the religious conflicts of the late fifteenth and sixteenth centuries.

**HIST 6401 - Europe-Age Baroque (3)**
Political crises, the development of monarchical absolutism, the rise of modern science, and cultural synthesis in the
seventeenth century.

**HIST 6440 - French Revolution (3)**
Old Regime, origins and development of Enlightenment thought, and revolutionary and counter-revolutionary movements in 18th century Europe.

**HIST 6453 - Europe 1815-1914 (3)**

**HIST 6461 - Europe 1914-1945 (3)**

**HIST 6506 - Cultural Intlctl Hist Europe (3)**
Critical and historical study of the major movements and developments in modern European philosophy, literature, and culture since the 17th century.

**HIST 6620 - Colonial America to 1783 (3)**
Political development and economic, social, and cultural institutions of English colonies in America, including origins and conduct of American Revolution.

**HIST 6630 - New Nation/1783-1815 (3)**

**HIST 6640 - Jackson Amer 1815-1850 (3)**

**HIST 6680 - Emr Mod Am 1877-1914 (3)**

**HIST 6701 - U S 1914 To W War II (3)**

**HIST 6702 - U S Since W War II (3)**

**HIST 6823 - American Labor History (3)**
Historical development of the labor movement in the United States; emphasis on social, economic, and political trends related to the labor movement.

**HIST 6824 - Business History (3)**
Historical development of business in the United States; attention to social, economic, and political trends related to American business communities.

**HIST 6831 - History American Family (3)**
Analysis of changes in family size and structure and relationships between family and society from colonial times to present.

**HIST 6851 - Hist Women In America (3)**
Economic, political, social, and intellectual history of women in the English American colonies and the United States.

**HIST 6853 - African American Women (3)**
The social, political, economic, and cultural history of African American women from the sixteenth century to the present.

**HIST 6861 - Parks/People/Public Pol (3)**
A comparative study of the history and administration of public land areas in the United States and of American conservation.

**HIST 6863 - Hist Childhood/America (3)**
Historical consideration of children and childhood in American society from early 17th century to present.

**HIST 6871 - U S Urban History (3)**
Development of American cities, including formation of local social, economic, and political institutions and impact of urbanization on US.

**HIST 6879 - Africa To The Americas (3)**
Surveys arrival of Africans in western hemisphere to expansion of antebellum slavery in the US Lower South by 1820; examines African diaspora, colonial slavery, impact of slavery upon formation of US, and development of African American culture; also explores relationships between enslaved and free Blacks, Europeans, and Native Americans.

**HIST 6880 - Slavery/Freedom/Segretn (3)**
Examines social, political, and economic developments; antebellum slavery and freedom impact on westward expansion; Civil War emancipation and post-war construction of black freedom; development and impact of legal and extra-legal segregation; black nationalism and pan-Africanism; and Progressivism through the beginnings of the Great Migration.

**HIST 6882 - Civil Rights Movement (3)**
Struggle for African American equality, with emphasis on key civil rights issues, events, leaders, and strategies.
HIST 6941 - Hist American Indian (3)
Role of the Indian in American history.

HIST 7011 - Phil & Theory of History (3)
Speculative philosophy of history and recent problems in analytical philosophy of history.

HIST 7012 - Directed Readings (1-3)
Arranged on an individual basis between a student and a particular instructor, whose permission is required. Master's students may take a maximum of 3 hours (6 by petition), PhD students a maximum of 6 hours (12 by petition). Grades of A-F, or I will be given.

HIST 7023 - Practicum in History (3)
Participation in a fieldwork project or other project supervised by an approval authority (University of Memphis faculty or directors from other institutions). Class is pass/fail and does not count toward the degree.

HIST 7024 - Fieldwork in History (3)
Preparation for, participation in, and writing about a fieldwork or other research project supervised by an approved authority (UM faculty or directors from other institutions). Project planning such as grant writing and budgeting, and other assignments related to the project's goals are required.

HIST 7025 - Principles & Practices Hist Ed (3)
Explores the principles of history education, goals of student learning, and how to transform our classrooms into the kind active intellectual space that promotes those intellectual, analytical, and critical skills that will best prepare our students for life beyond the academy. Required for teaching assistants.

HIST 7060 - Women/Gender Historiography (3)
Theory and historiography of the field using major theoretical writings, from American and non-American perspectives, and from racially different viewpoints.

HIST 7061 - Studies Women/Gender Hist (3)
May be repeated when the content varies.

HIST 7070 - Research Seminar (1-3)
Emphasis on original research and writing in topics drawn from the fields generally covered by the Studies courses. May be repeated for credit when topic varies. PREREQUISITE: One 7000-level historiography course in any field.

HIST 7100 - Global Historiography (3)
Formation, development, and importance of global/subglobal systems over time, societal interactions, and factors that favor or hinder the formation, development, and decline of various kinds of society; significance of biological,
cultural, linguistic, intellectual, political, social, and economic elements for large-scale historical development.

HIST 7101 - Studies Global History (3)

HIST 7120 - Studies English History (3)

HIST 7160 - Studies Russian Hist (3)

HIST 7210 - Studies Latin Am Hist (3)

HIST 7270 - Studies Near East Hist (3)

HIST 7272 - Historiography Mod Middle East (3)
This seminar is designed to introduce graduate students to some of the most important ideas and debates in the field of modern Middle Eastern history (18th century to the present) and place those ideas and debates within the context of general historiographic trends.

HIST 7280 - Africa (3)

HIST 7290 - Studies Asian History (3)

HIST 7310 - Ancient Historiography (3)
Examines scholarship of ancient history and controversial problems in the field with a view to developing a more sound historical methodology for reconstructing ancient history; usually focuses on Egypt, but may address another area of ancient history. May be repeated when focus area changes.

HIST 7320 - Studies Ancient Hist (3)

HIST 7370 - Studies Medv/Renai Hist (3)

HIST 7400 - Studies Early Mod Hist (3)
**HIST 7430 - European Historiography (3)**
Introduction to major themes, methodologies, and scholarly debates in European history; explores historiographic flashpoints represented in major texts that constitute key points of reference for scholars; usually focuses on Modern Europe, but may address other periods of European history. May be repeated when focus area changes.

**HIST 7440 - Modern Europe (3)**

**HIST 7601 - US Historiography to 1877 (3)**
Reading seminar in early US history that explores historiographical debates and in-depth examinations of major themes and periods in American history to 1877.

**HIST 7602 - US Historiography after 1877 (3)**
Reading seminar in modern US history that explores historiographical debates and in-depth examinations of major themes and periods in American history from 1877 to the present.

**HIST 7650 - Studies U S Hist To 1877 (3)**

**HIST 7680 - Studies U S After 1877 (3)**

**HIST 7880 - Af Amer Historiography to 1800 (3)**
Introduces some of the most recent as well as standard scholarship on African American history before 1800; discussion of assigned core readings supported by written reports.

**HIST 7881 - Af Amer Historiography: 19 ce (3)**
Introduces some of the most recent as well as standard scholarship on 19th century African American history; discussion of assigned core readings supported by written reports.

**HIST 7882 - Af Amer Historiography: 20ce (3)**
Introduces some of the most recent as well as standard scholarship on African American history before 1800; discussion of assigned core readings supported by written reports.

**HIST 7883 - Studies African Am Hist (3)**

**HIST 7884 - Af Amer History and Profession (3)**
Introduction to basic philosophical problems of recreating and understanding the African American past, to history of historical writing by African Americans and other scholars, and to practical skills needed by professional historians in this field.

HIST 7980 - Thematic Studies Amer (3)

HIST 7991 - Independent Readings (1-12)
Arranged on an individual basis for history students only. May be repeated. NOTE: History majors may not use this course to fulfill degree requirements.

HIST 7996 - Thesis (1-6)
The student must write and defend satisfactorily a thesis on a subject approved by the major professor. Grades of S, U, or IP will be given.

HIST 8011 - Phil & Theory of History (3)
Speculative philosophy of history and recent problems in analytical philosophy of history.

HIST 8012 - Directed Readings (1-3)
Arranged on an individual basis between a student and a particular instructor, whose permission is required. Master's students may take a maximum of 3 hours (6 by petition), PhD students a maximum of 6 hours (12 by petition). Grades of A-F, or I will be given.

HIST 8023 - Practicum in History (3)
Participation in a fieldwork project or other project supervised by an approval authority (University of Memphis faculty or directors from other institutions). Class is pass/fail and does not count toward the degree.

HIST 8024 - Fieldwork in History (3)
Preparation for, participation in, and writing about a fieldwork or other research project supervised by an approved authority (UM faculty or directors from other institutions). Project planning such as grant writing and budgeting, and other assignments related to the project’s goals are required.

HIST 8025 - Principles & Practices Hist Ed (3)
Explores the principles of history education, goals of student learning, and how to transform our classrooms into the kind active intellectual space that promotes those intellectual, analytical, and critical skills that will best prepare our students for life beyond the academy. Required for teaching assistants.

HIST 8060 - Women/Gender Historiography (3)
Theory and historiography of the field using major theoretical writings, from American and non-American perspectives, and from racially different viewpoints.
HIST 8061 - Studies Women/Gender Hist (3)
May be repeated when the content varies.

HIST 8070 - Research Seminar (1-3)
Emphasis on original research and writing in topics drawn from the fields generally covered by the Studies courses. May be repeated for credit when topic varies. PREREQUISITE: One 7/8000-level historiography course in any field.

HIST 8100 - Global Historiography (3)
Formation, development, and importance of global/ subglobal systems over time, societal interactions, and factors that favor or hinder the formation, development, and decline of various kinds of society; significance of biological, cultural, linguistic, intellectual, political, social, and economic elements for large-scale historical development.

HIST 8101 - Studies Global History (3)

HIST 8120 - Studies English History (3)

HIST 8160 - Studies Russian Hist (3)

HIST 8210 - Studies Latin Am Hist (3)

HIST 8270 - Studies Near East Hist (3)

HIST 8272 - Historiography Mod Middle East (3)
This seminar is designed to introduce graduate students to some of the most important ideas and debates in the field of modern Middle Eastern history (18th century to the present) and place those ideas and debates within the context of general historiographic trends.

HIST 8280 - Africa (3)

HIST 8290 - Studies Asian History (3)
HIST 8310 - Ancient Historiography (3)
Examines scholarship of ancient history and controversial problems in the field with a view to developing a more sound historical methodology for reconstructing ancient history; usually focuses on Egypt, but may address another area of ancient history. May be repeated when focus area changes.

HIST 8320 - Studies Ancient Hist (3)

HIST 8370 - Studies Medv/Renai Hist (3)

HIST 8400 - Studies Early Mod Hist (3)

HIST 8430 - European Historiography (3)
Introduction to major themes, methodologies, and scholarly debates in European history; explores historiographic flashpoints represented in major texts that constitute key points of reference for scholars; usually focuses on Modern Europe, but may address other periods of European history. May be repeated when focus area changes.

HIST 8440 - Modern Europe (3)

HIST 8601 - US Historiography to 1877 (3)
Reading seminar in early US history that explores historiographical debates and in-depth examinations of major themes and periods in American history to 1877.

HIST 8602 - US Historiography after 1877 (3)
Reading seminar in modern US history that explores historiographical debates and in-depth examinations of major themes and periods in American history from 1877 to the present.

HIST 8650 - Studies U S Hist To 1877 (3)

HIST 8680 - Studies U S After 1877 (3)

HIST 8880 - Af Amer Historiography to 1800 (3)
Introduces some of the most recent as well as standard scholarship on African American history before 1800; discussion of assigned core readings supported by written reports.
HIST 8881 - Af Amer Historiography: 19 ce (3)
Introduces some of the most recent as well as standard scholarship on 19th century African American history; discussion of assigned core readings supported by written reports.

HIST 8882 - Af Amer Historiography: 20ce (3)
Introduces some of the most recent as well as standard scholarship on African American history before 1800; discussion of assigned core readings supported by written reports.

HIST 8883 - Studies African Am Hist (3)

HIST 8884 - Af Amer History and Profession (3)
Introduction to basic philosophical problems of recreating and understanding the African American past, to history of historical writing by African Americans and other scholars, and to practical skills needed by professional historians in this field.

HIST 8885 - Af Amer History and Profession (3)

HIST 8886 - Af Amer History and Profession (3)

HIST 8887 - Af Amer History and Profession (3)

HIST 8888 - Af Amer History and Profession (3)

HIST 8889 - Af Amer History and Profession (3)

HIST 8890 - Reading for/Writing Comps (1-12)
Arranged on an individual basis for history students only. May be taken only at the end of coursework to fulfill the requirements for the PhD. Grades of S, U, or IP will be given.

HIST 8990 - Reading for/Writing Comps (1-12)

HIST 8990 - Reading for/Writing Comps (1-12)

HIST 8990 - Reading for/Writing Comps (1-12)

HIST 8991 - Independent Readings (1-12)
Arranged on an individual basis for history students only. May be repeated. NOTE: History majors may not use this course to fulfill degree requirements.

HIST 9000 - Doctorl Dissertation (1-12)
No more than 12 hours may count toward the degree. PREREQUISITE: Admission to candidacy. Grades of S, U, or IP will be given.

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Graduate Catalog
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Graduate School
2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
MATHEMATICS (MATH)

In addition to the courses below, the department may offer the following Special Topics courses:
MATH 6010-19. Special Topics in Mathematics and Statistics. (1-3). Topics are varied and announced in online class listings. PREREQUISITE: Permission of instructor.

MATH 7020-49–8020-49. Special Topics in Mathematics (3).

MATH 7630-7639-8630-8639. Special Topics in Statistics. (1-3). Topics are varied and announced in online class listings.

MATH 6012 - Differential Geometry (3)
Analysis of parametric equations for curves and surfaces in three-dimensional space. PREREQUISITE: MATH 2110, plus at least one upper division course in applied mathematics.

MATH 6020 - Actuarial Mathematics (3)
Preparation for SOA Exam P, CAS Exam 1; conditional probability, dependence, combinatorial principles, random variables, discrete and continuous probability distributions, expectations, marginal distributions, risk management concepts. PREREQUISITES: MATH 4635.

MATH 6022 - Fin Math I/Theory of Interest (3)
Preparation for SOA Exam FM, CAS Exam 2. Interest rates and time value of money, annuity valuation, loan repayment, bond valuation and amortization, internal rates of return, the term structure of interest rates, asset liability management, duration and immunization. PREREQUISITE: MATH 1920.

MATH 6025 - Fin Math II/Derivatives (3)

MATH 6028 - Models for Fin Econ/Options (3)
Various aspects of theory and practice of options pricing and related topics: put-call parity, binomial trees, arbitrage, risk-neutral pricing, random walk model, lognormality and the binomial model, estimating volatility, Black-Scholes formula, option Greeks, market making, delta hedging, Asian, barrier, compound, gap and exchange options. PREREQUISITE: MATH 6025.

MATH 6030 - Model Fin Econ/Adv Pre Thry (3)
Continuation of MATH 6028; lognormal model of stock prices, distribution of asset prices, risk neutral valuation, true valuation, simulated stock prices, Monte Carlo valuation, geometric Brownian motion, Sharpe ratio, Ito's lemma, Black-Scholes equation, all-or-nothing options, measurement and behavior of volatility, bond price models, Black-Derman-Toy model. PREREQUISITE: MATH 6028.
MATH 6051 - Methods of Proofs for Tchrs (3)
Enhance mathematical communication skills by learning methods to prove inductive statements, statements about size, and statements about relationships among objects using the language of functions and relations. This course will not be counted as credit for a graduate program in Mathematics except the Masters of Science in Mathematics with concentration in the Teaching of Mathematics. PREREQUISITE: MATH 1920 or permission of instructor.

MATH 6083 - Dynamical Systems/Chaos (3)
Examples of dynamic systems, one dimensional maps (periodic points, stability of fixed points, sensitivity dependence on initial conditions), two dimensional maps (sinks, sources and saddles, linear and nonlinear maps, Julia and Mandelbrot sets), chaos (Lyapunov exponents, chaotic orbits, basins of attractions), fractals (probabilistic and deterministic constructions, fractals dimension), differential equations (one and higher dimensional linear equations, periodic orbits and limit sets). COREQUISITE: MATH 3120 or MATH 3242.

MATH 6084 - Introduction to Graph Theory (3)
Applications, connectivity, trees, paths and cycles, factors, matching and coverings, vertex and edge colorings, planar graphs, directed graphs, max-flow min-cut theorem, basic algorithms. PREREQUISITE: MATH 2701, or MATH 2702 and 3221, or MATH 3581, or permission of instructor.

MATH 6085 - Combinatorial Geometry (3)
Convexity and fundamental theorems (Radon's Theorem, Helly's Theorem), geometric incidences, geometric graphs (planar graphs, proximity graphs), Pick's Theorem, distance problems in the plane, geometric transversals and covers. PREREQUISITE: MATH 2701 or MATH 2702, and MATH 3221 or MATH 3581.

MATH 6086 - Analytic Number Theory (3)
Partial summation, Euler-Maclaurin summation formula, basic arithmetic functions and their mean values; Dirichlet series, Euler products; Meilin function and prime number theorem; characters and primes in arithmetic progressions, basic sieve methods. PREREQUISITE: MATH 3221. COREQUISITE: MATH 6361

MATH 6151 - History Of Math (3)
The development of mathematics from the earliest times to the present; problem studies; parallel reading and class reports. PREREQUISITE: 21 hours in MATH courses including MATH 2110 and one of MATH 2701, 2702, or permission of instructor.

MATH 6171 - Spec Prob In Math (1-3)
Directed individual study in a selected area of mathematics chosen in consultation with the instructor. Repeatable for a maximum of 3 credit hours by permission of the Chair of the Department. PREREQUISITE: Permission of the instructor.

MATH 6242 - Linear Algebra (3)
Linear transformations polynomials, determinants, direct-sum decompositions diagonalizable operators, rational
and Jordan form, inner product spaces, the spectral theorem. PREREQUISITE: MATH 3242.

**MATH 6261 - Abstract Algebra (3)**
Groups, homomorphisms, rings, integral domains, fields, polynomials. PREREQUISITE: MATH 2702 and 3242, or equivalent.

**MATH 6350 - Intro Real Analysis I (3)**
The real number system, functions and sequences, limits, continuity, differentiation; Riemann-Stieltjes integration, series of functions. PREREQUISITE: MATH 2110, 2702 and 3242, or equivalent.

**MATH 6351 - Intro Real Analysis II (3)**
Integration theory; Riemann and Lebesgue integrals; partial differentiation; implicit function theorem.
PREREQUISITE: MATH 6350 or permission of instructor.

**MATH 6361 - Complex Variables (3)**
Complex numbers, analytic functions, Cauchy-Riemann conditions, Taylor and Laurent series, integration.
PREREQUISITE: MATH 2110.

**MATH 6391 - Partial Differential Equation I (3)**
Laplace transforms; Fourier series; introduction to partial differential equations. PREREQUISITE: MATH 3120.

**MATH 6392 - Partial Differential Equation II (3)**
Methods of characteristics; Greens functions; existence and regularity of solutions of boundary value and Cauchy problems. PREREQUISITE: MATH 6391.

**MATH 6396 - Perturbation Methods (3)**
Asymptotic approximations, boundary layers, matched asymptotic expansions, multiple scales, geometric optics approximation (WKB), homogenization, application to differential equations. PREREQUISITE: MATH 2110 and MATH 3120.

**MATH 6411 - Topology (3)**
Introductory set theory, metric spaces, topological spaces, continuous functions, separation axioms, separability and countability axioms, connectedness, and compactness. PREREQUISITE: MATH 2702 and either 3242 or 4350, or equivalent.

**MATH 6607 - Intro SAS Programming (3)**
SAS program statement syntax and flow control; selecting and summarizing observations; combining, dividing, and updating SAS dataset; input tailoring and output customization; SAS built-in functions; SAS Macro Language Programming; other SAS packages like SAS/GRAPH and SAS/IML. NOTE: Introductory statistical courses are recommended.
MATH 6611 - Intro Applied Statistics (3)
Binomial, hypergeometric, Poisson, multinomial and normal distributions; test of hypotheses, chi-square test, t-tests, F-test, etc.; nonparametric tests; correlation analysis. PREREQUISITE: 6 hours in Mathematics at level of MATH 1710 or above. NOTE: Students majoring in Mathematical Sciences may not apply credit for this course to their degree requirements. Students majoring in other areas such as Physics or Engineering and who have a calculus background should take MATH 6635.

MATH 6614 - Probability/Statistics (3)
Probability distribution; statistical methods of parameter estimation and hypothesis testing; comparisons of two population means, proportions, and variances; analysis of variance, linear models, and multiple regression. NOTE: Students may not receive credit for both MATH 6614 and MATH 6635. PREREQUISITES: MATH 1920 and MATH 2701.

MATH 6635 - Intro Probability Theory (3)
Basic probability theory, random variables, discrete and continuous probability distributions, functions of one or more random variables, multivariate distributions including multinomial and bivariate normal distributions. NOTE: Students may not receive credit for both MATH 6635 and MATH 6614. PREREQUISITE: MATH 1920.

MATH 6636 - Intro Statistical Theory (3)
Functions of two random variables; gamma, beta, multinomial, and bivariate normal distributions; Bayes estimators; maximum likelihood and method of moments estimators; sufficient statistics, unbiasedness, confidence intervals, and hypothesis testing. PREREQUISITE: MATH 6635.

MATH 6637 - Intro/Stat Models/Analysis (3)
Basic concepts of statistical modeling and analysis with extensive use of R; topics include hypothesis testing; means, proportions, and variances; analysis of variance; completely randomized designs, randomized block designs, Latin square designs; multiple comparisons; simple linear model and multiple regression; analysis of covariance. PREREQUISITE: MATH 6611 or MATH 6635.

MATH 6640 - Intro Probability Models (3)
Basic concepts of discrete Markov chains; branching processes; Poisson processes; applications to modeling of population growth; applications to modeling of the spread of infectious disease. PREREQUISITE: MATH 6635.

MATH 6643 - Intro Regression/Time Ser Anal (3)
Hypothesis testing and confidence intervals for linear regression models, examination of residuals, calculation of elasticities and partial correlations, heteroscedasticity, serial correlation, multicollinearity, non-linearity, deterministic and stochastic time series models, stationary time series and autocorrelation functions, diagnostic checks, forecasting using ARIMA models. PREREQUISITE: MATH 6636.
MATH 6721 - Numerical Analysis (3)

MATH 7016 - Fourier Analysis (3)
Facilitates understanding of some important facts about Fourier series, Fourier transforms, and finite Fourier analysis, including applications to other sciences (optics, acoustics, particle physics, uncertainty principle) as well as links within mathematics (infinitude of primes, isoperimetric inequality). May be repeated for a maximum of 6 credit hours when topics change. PREREQUISITE: MATH 6350 or equivalent, or permission of instructor.

MATH 7024 - Calculus for Teachers (3)
This course covers/serves as a review of the Calculus concepts in the AP Calculus BC curriculum. It will cover limits, derivatives, sequences and series, and integration as well as various calculus applications. Students will be instructed in the use of graphical calculators and pedagogical issues of calculus instruction discussed. PREREQUISITE: Permission of instructor.

MATH 7027 - Math Quantum Mechanics (3)
Hamiltonian classical mechanics, Fourier transforms, Hilbert spaces and the spectral theorem, Heisenberg and Schroedinger pictures, Schroedinger's equation and some exact solutions, uncertainty, scattering, quantum chemistry. PREREQUISITE: MATH 7350 or permission of instructor.

MATH 7039 - Nonlinear Analysis (3)
This course provides an introduction to nonlinear functional analysis. It will expose participants to central analytical and topological techniques required in the study of nonlinear operators and nonlinear equations. PREREQUISITES: MATH 7350, MATH 7351 or equivalent

MATH 7171 - Wksp Middle Sch Math (3)
This course is designed to provide in-service training, with emphasis on new course content.

MATH 7174 - Workshop Sr Hi Math (3)
This course is designed to provide in-service training, with emphasis on transformation geometry.

MATH 7221 - Stat Gene Expression (3)
Design of microarray experiments; normalization procedures for Oligonucleotide and cDNA microarrays; clustering procedures: hierarchical clustering, principal components and analysis, discriminant analysis, eigenvalue decomposition discriminant analysis and nonparametric clustering methods; controlling error rates in multiple testing through resampling methods, false discovery rates, Bayesian and empirical Bayes techniques, Support Vector Machines. PREREQUISITE: MATH 7643.
MATH 7235 - Combinatorics (3)
(MATH 7793). Principles and techniques of combinatorial mathematics with a view toward applications in computer science; methods of enumeration, matching theory, paths and cycles, planarity, coloring problems, extremal problems. PREREQUISITE: Permission of instructor.

MATH 7237 - Graph Theory (3)
Connectivity, Euler tours, and Hamilton cycles, matchings, coloring problems, planarity, and network flows; study of classical theorems due to Brooks, Menger, Kuratowski, Schur, Tutte, and Vizing. PREREQUISITE: MATH 6242 or permission of instructor.

MATH 7261 - Algebraic Theory I (3)
Studies in group theory and ring theory, including Sylow theory and factorization theory. PREREQUISITE: MATH 6261.

MATH 7262 - Algebraic Theory II (3)
A continuation of Math 7261. Studies in field theory and modules, including free algebras, Galois theory, tensor products. PREREQUISITE: MATH 7261.

MATH 7281 - Linear Alg For Tchrs (3)
Euclidean n-space; vector spaces; subspaces; linear independence and bases; linear transformations; matrices; systems of linear conditions; characteristic values and vectors of linear transformations. PREREQUISITE: MATH 1920.

MATH 7282 - Abstract Alg For Tchrs (3)
A basic abstract algebra course designed especially for teachers. Topics will include: groups, rings, integral domains, fields; an axiomatic approach to the development of algebra; concepts of proof. PREREQUISITE: MATH 7281 or equivalent.

MATH 7291 - Number Theory for Tchrs (3)
Divisibility properties of the integers and modular arithmetic. Greatest common divisors, Euclidean algorithm, and linear Diophantine equations. Tests for Divisibility. Systems of linear congruences and Chinese remainder theorem. Prime numbers, distribution of prime numbers, and Mersenne primes. Fermat’s little theorem, Euler’s Theorem and Wilson’s Theorem. Applications to RSA encryption. This course will not be counted as credit for a graduate program in Mathematics except the Masters of Science in Mathematics with concentration in the Teaching of Mathematics. PREREQUISITE: MATH 6051 or Permission of Instructor

MATH 7296 - Geometry for Tchrs (3)
Axiomatic development of Euclidean geometry. Comparisons of hyperbolic, spherical, and projective geometries. Focus is on constructing geometric proofs. This course will not be counted as credit for a graduate program in Mathematics except the Masters of Science in Mathematics with a concentration in the Teaching of Mathematics.
MATH 7311 - Topics In Analysis (1-3)
Repeatable by permission. PREREQUISITE: MATH 7350.

MATH 7321 - Modeling & Computation (3)
Introduction to process of formulating, solving, and interpreting mathematical models of real phenomena; both formal analysis and numerical techniques for variety of models. PREREQUISITE: MATH 6391.

MATH 7350 - Real Variables I (3)
s-algebra, outer measure, Lebesque measure, measurable functions, differentiation, absolute continuity, Lp-spaces. PREREQUISITE: MATH 6351.

MATH 7351 - Real Variables II (3)
Metric spaces, Baire category theorem, Hahn Banach theorem, uniform boundedness principle, closed graph theorem, general measure, signed measures, Radon-Nikodym theorem, product measures, Fubini theorem. PREREQUISITE: MATH 7350.

MATH 7352 - Ergodic Theory (3)
Examples of measure preserving transformations, Von Neumann and Birkhoff ergodic theorem, isomorphism, factors, ergodic decomposition, weak mixing, strong mixing, invariant measures for continuous transformations, unique ergodicity, applications to combinatorics and number theory (uniform distribution, continued fractions, Furstenberg correspondence principle, Roth and Sarkozy's theorem), entropy, asymptotic equipartition property. PREREQUISITE: MATH 7350.

MATH 7355 - Functional Analysis I (3)
Vector spaces, Banach spaces, Hilbert spaces; linear functionals and operators in such spaces; spectral theory. PREREQUISITE: MATH 7350.

MATH 7356 - Functional Analysis (3)
A continuation of MATH 7355-8355. PREREQUISITE: MATH 7355-8355.

MATH 7361 - Complex Analysis (3)
A selection of advanced topics in complex analysis, including analytic functions, power series, mapping properties, complex integration, Cauchy's theorem and its consequences, sequences of analytic functions. May be repeated for a maximum of 6 credit hours when topics change. PREREQUISITE: MATH 6351.

MATH 7371 - Calculus Of Variations (3)
Introduction to calculus of variations, Euler-Lagrange equations, and optimization in infinite dimensional spaces. Applications could include various topics in science, engineering, economics, or geometry, such as ground state...
density theories, Dirichlet's principle and differential equations, theory of least action, depending on interests of class. PREREQUISITE: Permission of instructor.

MATH 7375 - Methods Math Physics I (3)
(Same as ESCI 7375, PHYS 7375). Vector spaces, matrices, tensors, vector fields, function spaces, differential and integral operators, transform theory, partial differential equations. PREREQUISITE: MATH 3120, 4242, and 4350; or permission of instructor.

MATH 7376 - Mthds Math Physics II (3)
(Same as ESCI 7376, PHYS 7376). Complex variables, asymptotic expansions, special functions, calculus of variations, additional topics on matrices and operators, topics in non-linear analysis. PREREQUISITE: MATH 7375 or permission of the instructor.

MATH 7381 - Real Analy For Tchrs I (3)
Properties of real number system, elementary functions, plane analytic geometry, nature of the derivative, techniques of differentiation, periodic functions, differentiation of trigonometric functions, applications of the derivative, concepts of integration. PREREQUISITE: MATH 1920.

MATH 7382 - Real Analy For Tchrs II (3)
Continuation of MATH 7381; definite integral with applications, integration of elementary transcendental functions, techniques of integration, indeterminate forms and improper integrals, infinite sequences and infinite series with tests for convergence. PREREQUISITE: MATH 7381 or equivalent.

MATH 7393 - Differl Equatns/App (3)
Basic concepts in ordinary and partial differential equations (possibly functional or stochastic differential equations); existence, uniqueness, continuous dependence theorems. Application areas could include diffusion, wave propagation, population dynamics, neural networks, mathematical biology and ecology, quantum theory, kinetic theory, depending on interests of class. PREREQUISITE: MATH 3120 or consent of instructor.

MATH 7395 - Theory Diff Equatns (3)
Qualitative aspects of linear and nonlinear differential equations including asymptotic behavior and regularity; geometric, functional analytic, and harmonic analytic methods. The asymptotic could include ergodic limits and chaos. The regularity might range from analyticity to discontinuous solutions (shocks, liquid crystals, etc.). PREREQUISITES: MATH 6350 and 6242.

MATH 7411 - Point Set Topology (3)
An axiomatic approach to compactness, separability, connectedness, metrizability and other topological properties. PREREQUISITE: MATH 6411.

MATH 7501 - Nonlinear Wave Phenomena (3)
KdV-equation, regularized long wave BBM-equation, explicit solitary and cnoidal waves, orbital stability of solitary and cnoidal waves, Boussinesq equation, Boussinesq systems of equations, pseudo differential equations as internal wave models, Krasnosell'skii's topological degree theory, P.L. Lions' concentration-compactness principle, existence and stability of traveling waves. PREREQUISITE: MATH 4392, 7350, or permission of instructor.

**MATH 7502 - Semigroups of Linear Operators (3)**
Generation of linear semigroups, perturbation and approximation, applications to partial differential equations, probability theory, quantum theory and Feynman integrals. PREREQUISITE: Permission of instructor.

**MATH 7503 - Semigroups Nonlinear Operators (3)**
Generation of nonlinear semigroups, mild solutions and limit solutions, approximation and perturbation theory, convex analysis, applications to partial differential equations, nonlinear parabolic problems, conservation laws, Hamilton-Jacobi equation, viscosity solutions, variational calculus and elliptic problems. PREREQUISITE: Permission of instructor.

**MATH 7504 - Partial Differential Equations (3)**
A selection of the following topics: Explicit and semi-explicit formulas for some classical partial differential equations, Maximum Principle, Sobolev spaces, harmonic analysis methods, parabolic, hyperbolic and elliptic equations, introduction to nonlinear partial differential equations. May be repeated for a maximum of 6 credit hours when topics change. PREREQUISITE: Permission of instructor.

**MATH 7521 - ADP Stoch Optim & Control (3)**
Basic concepts and mathematical foundations of neural networks, learning, nonlinear optimization and control. Exact and approximate optimization of the utility function. Bellman equation, approximate Bellman equation for solving multivariate optimization problems in real time. Partially observable variables, with random noise and tactical objectives varying in time. PREREQUISITES: Background in calculus and functional analysis, linear algebra MATH 4/6242, or permission of instructor.

**MATH 7601 - Statistics for Tchrs (3)**
Binomial and geometric random variables; sampling distributions; basic concepts of hypothesis testing; inference for two population means, proportions, and variances; simple linear regression; inference for regression coefficients. This course will not be counted as credit for a graduate program in Mathematics except the Masters of Science in Mathematics with concentration in the Teaching of Mathematics. PREREQUISITE: MATH 1530 or MATH 4611 or MATH 4614 or MATH 4635 or Permission of Instructor

**MATH 7607 - Adv Prog In Sas (3)**
Covers SAS macro language and SAS SOL; topics include macro variables, macro processing, macro expressions, macro quoting; Proc SQL, retrieving data from tables, creating and updating tables and views; applications in statistics. PREREQUISITE: MATH 6607.
MATH 7608 - Statistical Programming with R (3)
Covers R programming language for statistical computation; Topics include: Input/output, R objects, functions, graphics, numerical techniques, optimization, simulation, Monte Carlo techniques. PREREQUISITE: Permission of the Instructor.

MATH 7613 - Probability Theory (3)
Probability measures; distribution functions; independence; mathematical expectation, modes of convergence; Borel-Cantelli Lemma, weak and strong laws of large numbers; Glivenko-Cantelli lemma; characteristic functions inversion theorems; Slutsky's theorem, central limit theorem, Liapounov and Lindberg-Levy and Lindberg-Feller theorems; multivariate extensions; Berry-Esseen theorem. PREREQUISITES: MATH 6350. Knowledge of MATH 6635 is recommended.

MATH 7641 - Analysis Of Variance (3)
Basic concepts of ANOVA, partitioning of the sums of squares, fixed effects models, t- and F-tests, multiple comparison procedures, random effect models, variance component models, analysis of covariance and introduction to MANOVA (SAS or comparable statistical packages used extensively to analyze different types of designs). PREREQUISITE: MATH 7643 or MATH 6636.

MATH 7642 - Experimental Design (3)
Fundamental concepts in designing experiments, justification of linear models, randomization, principle of blocking, use of concomitant observations, principle of confounding, fractional replication, composite designs, incomplete block designs. PREREQUISITE: MATH 7641 or 7643.

MATH 7643 - Least Sq/Regr Analysis (3)
Basic concepts of hypothesis testing and confidence intervals; simple and multiple regression analyses, model selection, Mallow's Cp, examination of residuals, Box-Cox transformation, influence diagnostics, multicolinearity, ridge-regression, probit, logit, and log-linear analyses; intensive use of SAS or other statistical packages. PREREQUISITE: MATH 6635.

MATH 7645 - Sampling Techniques (3)
Planning, execution, and analysis of sampling from finite populations; simple, stratified, multistage cluster and systematic sampling; ratio and regression estimates, estimation of variance. PREREQUISITE: MATH 6635; COREQUISITE: MATH 6636.

MATH 7647 - Non-Param Stat Meth (3)
Use of distribution-free statistics for estimation, hypothesis testing, and correlation measures in designing and analyzing experiments. PREREQUISITE: MATH 6635; COREQUISITE: MATH 6636.

MATH 7651 - Linear Models (3)
Multivariate normal distributions, distribution of quadratic forms, general linear hypothesis of full rank, optimal point
and interval estimations, applications to regression models; elements of generalized linear models, applications to logistic regression and log-linear models; use of SAS procedures. PREREQUISITE: MATH 7643.

**MATH 7654 - Inference Theory (3)**
Bayes and maximum likelihood estimators, sufficient statistics; Rao-Blackwell Theorem, sampling distributions; unbiasedness, completeness and UMVU estimators; efficient estimators, Cramer-Rao inequality; simple robust estimators; UMP-tests; likelihood ratio tests, t-tests and F-tests. PREREQUISITE: MATH 6636.

**MATH 7656 - Adv Tchn Statistcl Infr (3)**
Limit theorems; uniformly minimum variance unbiased and maximum likelihood estimators; information inequalities; large sample theory; robust estimators; uniformly most powerful unbiased and invariant tests; sequential and robust tests. PREREQUISITE: MATH 7654.

**MATH 7657 - Multivar Stat Meth (3)**
Basic contents: multivariate normal distributions; Wishart distribution, Hotelling-T2, Matric-t and Beta distributions; generalized regression models and growth curve models; multivariate analysis of variance; principal component analysis; discriminant analysis; factor analysis; curve fitting procedures in multivariate cases. All topics will be illustrated by practical examples. PREREQUISITE: MATH 6636 or permission of the instructor.

**MATH 7660 - App Time Series Analy (3)**
Basic concepts and examples of stationary and nonstationary time series; random harmonic analysis; spectral density functions, model building procedures for time series models; model identification; diagnostic checking, smooth, forecasting and control; Box-Jenkin approach of time series analysis; some seasonal models. PREREQUISITE: MATH 6636.

**MATH 7670 - App Stochastic Models (3)**
Markov chains with discrete time; classification of states, stationary distributions, absorption probabilities and absorption time; Markov chains with continuous time; birth-death processes, waiting time distributions, queuing models, population growth models, Kolmogorov forward and backward equations, diffusion processes, Fokker-Planck equation; applications to genetic problems, etc. PREREQUISITES: MATH 6636 and 6640.

**MATH 7671 - Indiv Study Statistics (1-3)**
Directed individual study of recent developments in statistics. Repeatable by permission. PREREQUISITE: Permission of the instructor. Grades of A-F, or IP will be given.

**MATH 7672 - Spec Prob Statistics (1-3)**
(6671). Recent developments in statistical methods and applications. PREREQUISITE: Permission of the instructor.

**MATH 7680 - Bayesian Inference (3)**
Nature of Bayesian inference; formulation and choice of prior distributions; advantages and disadvantages of Bayesian approach; applications of Bayesian approach to Behren-Fisher problems, to regression analysis, and to the analysis of random effect models; applications of Bayesian approach to the assessment of statistical assumptions; Bayesian prediction procedures. PREREQUISITE: MATH 6636.

**MATH 7681 - Probability For Tchrs (3)**

**MATH 7685 - Simulation & Computing (3)**
Uniform random number generation and testing, generation methods for non-uniform random variables, simulating random numbers from specific distributions, Metropolis-Hastings algorithm, Markov Chain Monet-Carlo (MCMC), Gibbs sampling. PREREQUISITE: MATH 6636 and some computer programming experience.

**MATH 7691 - Sem Statistical Resch (1-3)**
Recent developments in statistical methods and their applications. Basic topics cover "multivariate method," growth curve models, robustness and effects of departure from basic statistical assumptions on common inference procedures, multivariate contingency tables, bioassay, etc. PREREQUISITE: MATH 6636.

**MATH 7692 - Statistical Consulting (3)**
Methods and techniques of statistical consulting; students will participate in consulting practice supervised by graduate faculty in statistics. May be repeated for a total of 6 credit hours. PREREQUISITES: MATH 6611 and MATH 6637. Grades of A-F, or IP will be given.

**MATH 7695 - Bootstrap/Other Methods (3)**
Empirical distribution and plug-in principle; bias reduction; bootstrapping regression models; the jackknife; balanced repeated replication; bootstrap confidence intervals; parametric bootstrap; permutation tests. PREREQUISITE: MATH 7645 and MATH 7647.

**MATH 7721 - Adv Numerical Analysis (3)**
A continuation of Mathematics 6721; specialized methods and techniques in field of numerical analysis. PREREQUISITE: MATH 6721.

**MATH 7759 - Categorical Analysis (3)**
Exponential family of distributions and generalized linear models; binary variables and logistic regression; contingency tables and log-linear models; quasi-likelihood functions; estimating functions. PREREQUISITES: MATH 7643 and MATH 7654.

**MATH 7762 - Survival Analysis (3)**
Nonparametric estimation and comparison of survival functions: Kaplan-Meier Estimator and other estimators of
hazard functions; parametric survival models; Gehan test, Mantel-Haenszel test and their extensions; Cox proportional hazard model: conditional likelihood, partial likelihood analysis, identification of prognostic and risk factors; applications to life-testing and analysis of survival data using statistical packages such as SAS. 
PREREQUISITES: MATH 7643 and MATH 7654.

MATH 7764 - Stat Methods Biom/Envir (3)  
Penalized likelihood method, spline and nonparametric regression, use of E-M algorithm, Fourier transform method, error-in-variables, longitudinal models and repeated measures; generalized estimating equations; analysis and modeling of AIDS data; statistical risks assessment. PREREQUISITES: MATH 7643 and MATH 7654.

MATH 7765 - Adv Stochstic Mod Biom (3)  
Stochastic models of the AIDS epidemic; chain multinomial models, Markov models, Non-Markov marker processes, diffusion processes for AIDS, stochastic models of carcinogenesis; two-stage, multi-event and multiple path models. PREREQUISITES: MATH 7654 and MATH 7-8670.

MATH 7821 - Special Prob In Math (1-3)  
Directed individual study in a selected area of mathematics chosen in consultation with the instructor and the student's advisor. Repeatable by permission. PREREQUISITE: Permission of the instructor. Grades of A-F, or IP will be given.

MATH 7921 - Spec Prob Diff Equation (1-3)  
Repeatable by permission. PREREQUISITE: MATH 7393. Grades of A-F, or IP will be given.

MATH 7922 - Spec Prob Applied Math (1-3)  
Repeatable by permission. PREREQUISITE: Permission of the instructor.

MATH 7960 - Sem Teachng/Res/Consult (3)  
Non-traditional setting in which master's students develop skills in areas of teaching, research, and consulting. Required of all graduate assistants in the department. Grades of S, U, or IP will be given.

MATH 7995 - Project Applied Math (1-3)  
Mathematical modeling problem related to science or industry, selected in consultation with a faculty advisor, and leading to final report. Repeatable by permission. PREREQUISITE: MATH 7321. Grades of A-F, or IP will be given.

MATH 7996 - Thesis (1-6)  
Grades of S, U, or IP will be given.

MATH 8027 - Math Quantum Mechanics (3)  
Hamiltonian classical mechanics, Fourier transforms, Hilbert spaces and the spectral theorem, Heisenberg and
Schroedinger pictures, Schoedinger's equation and some exact solutions, uncertainty, scattering, quantum chemistry. PREREQUISITE: MATH 7350 or permission of instructor.

**MATH 8039 - Nonlinear Analysis (3)**
This course provides an introduction to nonlinear functional analysis. It will expose participants to central analytical and topological techniques required in the study of nonlinear operators and nonlinear equations.
PREREQUISITES: MATH 7350, MATH 7351 or equivalent

**MATH 8221 - Stat Gene Expression (3)**
Design of microarray experiments; normalization procedures for Oligonucleotide and cDNA microarrays; clustering procedures: hierarchical clustering, principal components and analysis, discriminant analysis, eigenvalue decomposition discriminant analysis and nonparametric clustering methods; controlling error rates in multiple testing through resampling methods, false discovery rates, Bayesian and empirical Bayes techniques, Support Vector Machines. PREREQUISITE: MATH 7643.

**MATH 8235 - Combinatorics (3)**
(MATH 7793). Principles and techniques of combinatorial mathematics with a view toward applications in computer science; methods of enumeration, matching theory, paths and cycles, planarity, coloring problems, extremal problems. PREREQUISITE: Permission of instructor.

**MATH 8237 - Graph Theory (3)**
Connectivity, Euler tours, and Hamilton cycles, matchings, coloring problems, planarity, and network flows; study of classical theorems due to Brooks, Menger, Kuratowski, Schur, Tutte, and Vizing. PREREQUISITE: MATH 6242 or permission of instructor.

**MATH 8311 - Topics In Analysis (1-3)**
Repeatable by permission. PREREQUISITE: MATH 7350.

**MATH 8355 - Functional Analysis I (3)**
Vector spaces, Banach spaces, Hilbert spaces; linear functionals and operators in such spaces; spectral theory. PREREQUISITE: MATH 7350.

**MATH 8356 - Functional Analysis (3)**
A continuation of MATH 7355-8355. PREREQUISITE: MATH 7355-8355.

**MATH 8393 - Differl Equatns/App (3)**
Basic concepts in ordinary and partial differential equations (possibly functional or stochastic differential equations); existence, uniqueness, continuous dependence theorems. Application areas could include diffusion, wave propagation, population dynamics, neural networks, mathematical biology and ecology, quantum theory, kinetic theory, depending on interests of class. PREREQUISITE: MATH 3120 or consent of instructor.
MATH 8395 - Theory Diff Equatns (3)
Qualitative aspects of linear and nonlinear differential equations including asymptotic behavior and regularity; geometric, functional analytic, and harmonic analytic methods. The asymptotic could include ergodic limits and chaos. The regularity might range from analyticity to discontinuous solutions (shocks, liquid crystals, etc.). PREREQUISITES: MATH 6350 and 6242.

MATH 8501 - Nonlinear Wave Phenomena (3)
KdV-equation, regularized long wave BBM-equation, explicit solitary and cnoidal waves, orbital stability of solitary and cnoidal waves, Boussinesq equation, Boussinesq systems of equations, pseudo differential equations as internal wave models, Krasnosell'skii's topological degree theory, P.L. Lions' concentration-compactness principle, existence and stability of traveling waves. PREREQUISITE: MATH 4392, 7350, or permission of instructor.

MATH 8502 - Semigroups of Linear Operators (3)
Generation of linear semigroups, perturbation and approximation, applications to partial differential equations, probability theory, quantum theory and Feynman integrals. PREREQUISITE: Permission of instructor.

MATH 8503 - Semigroups Nonlinear Operators (3)
Generation of nonlinear semigroups, mild solutions and limit solutions, approximation and perturbation theory, convex analysis, applications to partial differential equations, nonlinear parabolic problems, conservation laws, Hamilton-Jacobi equation, viscosity solutions, variational calculus and elliptic problems. PREREQUISITE: Permission of instructor.

MATH 8504 - Partial Differential Equations (3)
A selection of the following topics: Explicit and semi-explicit formulas for some classical partial differential equations, Maximum Principle, Sobolev spaces, harmonic analysis methods, parabolic, hyperbolic and elliptic equations, introduction to nonlinear partial differential equations. May be repeated for a maximum of 6 credit hours when topics change. PREREQUISITE: Permission of instructor.

MATH 8521 - ADP Stoch Optim & Control (3)
Basic concepts and mathematical foundations of neural networks, learning, nonlinear optimization and control. Exact and approximate optimization of the utility function. Bellman equation, approximate Bellman equation for solving multivariate optimization problems in real time. Partially observable variables, with random noise and tactical objectives varying in time. PREREQUISITES: Background in calculus and functional analysis, linear algebra MATH 4/6242, or permission of instructor.

MATH 8642 - Experimental Design (3)
Fundamental concepts in designing experiments, justification of linear models, randomization, principle of blocking, use of concomitant observations, principle of confounding, fractional replication, composite designs, incomplete block designs. PREREQUISITE: MATH 7641 or 7643.
MATH 8656 - Adv Tchn Statistcl Infr (3)
Limit theorems; uniformly minimum variance unbiased and maximum likelihood estimators; information inequalities; large sample theory; robust estimators; uniformly most powerful unbiased and invariant tests; sequential and robust tests. PREREQUISITE: MATH 7654.

MATH 8657 - Multivar Stat Meth (3)
Basic contents: multivariate normal distributions; Wishart distribution, Hotelling-T2, Matric-t and Beta distributions; generalized regression models and growth curve models; multivariate analysis of variance; principal component analysis; discriminant analysis; factor analysis; curve fitting procedures in multivariate cases. All topics will be illustrated by practical examples. PREREQUISITE: MATH 6636 or permission of the instructor.

MATH 8660 - App Time Series Analy (3)
Basic concepts and examples of stationary and nonstationary time series; random harmonic analysis; spectral density functions, model building procedures for time series models; model identification; diagnostic checking, smooth, forecasting and control; Box-Jenkin approach of time series analysis; some seasonal models. PREREQUISITE: MATH 6636.

MATH 8670 - App Stochastic Models (3)
Markov chains with discrete time; classification of states, stationary distributions, absorption probabilities and absorption time; Markov chains with continuous time; birth-death processes, waiting time distributions, queuing models, population growth models, Kolmogorov forward and backward equations, diffusion processes, Fokker-Planck equation; applications to genetic problems, etc. PREREQUISITES: MATH 6636 and 6640.

MATH 8671 - Indiv Study Statistics (1-3)
Directed individual study of recent developments in statistics. Repeatable by permission. PREREQUISITE: Permission of the instructor. Grades of A-F, or IP will be given.

MATH 8672 - Spec Prob Statistics (1-3)
(6671). Recent developments in statistical methods and applications. PREREQUISITE: Permission of the instructor.

MATH 8680 - Bayesian Inference (3)
Nature of Bayesian inference; formulation and choice of prior distributions; advantages and disadvantages of Bayesian approach; applications of Bayesian approach to Behren-Fisher problems, to regression analysis, and to the analysis of random effect models; applications of Bayesian approach to the assessment of statistical assumptions; Bayesian prediction procedures. PREREQUISITE: MATH 6636.

MATH 8685 - Simulation And Computing (3)
Uniform random number generation and testing, generation methods for non-uniform random variables, simulating
random numbers from specific distributions, Metropolis-Hastings algorithm, Markov Chain Monet-Carlo (MCMC), Gibbs sampling. PREREQUISITE: MATH 6636 and some computer programming experience.

MATH 8691 - Sem Statistical Rsrch (1-3)
Recent developments in statistical methods and their applications. Basic topics cover "multivariate method," growth curve models, robustness and effects of departure from basic statistical assumptions on common inference procedures, multivariate contingency tables, bioassay, etc. PREREQUISITE: MATH 6636.

MATH 8692 - Statistical Consulting (3)
Methods and techniques of statistical consulting; students will participate in consulting practice supervised by graduate faculty in statistics. May be repeated for a total of 6 credit hours. PREREQUISITES: MATH 6611 and MATH 6637. Grades of A-F, or IP will be given.

MATH 8695 - Bootstrap/Other Methods (3)
Empirical distribution and plug-in principle; bias reduction; bootstrapping regression models; the jackknife; balanced repeated replication; bootstrap confidence intervals; parametric bootstrap; permutation tests. PREREQUISITE: MATH 7645 and MATH 7647.

MATH 8759 - Categorical Analysis (3)
Exponential family of distributions and generalized linear models; binary variables and logistic regression; contingency tables and log-linear models; quasi-likelihood functions; estimating functions. PREREQUISITES: MATH 7643 and MATH 7654.

MATH 8762 - Survival Analysis (3)
Nonparametric estimation and comparison of survival functions: Kaplan-Meier Estimator and other estimators of hazard functions; parametric survival models; Gehan test, Mantel-Haenszel test and their extensions; Cox proportional hazard model: conditional likelihood, partial likelihood analysis, identification of prognostic and risk factors; applications to life-testing and analysis of survival data using statistical packages such as SAS. PREREQUISITES: MATH 7643 and MATH 7654.

MATH 8764 - Stat Methods Biom/Envir (3)
Penalized likelihood method, spline and nonparametric regression, use of E-M algorithm, Fourier transform method, error-in-variables, longitudinal models and repeated measures; generalized estimating equations; analysis and modeling of AIDS data; statistical risks assessment. PREREQUISITES: MATH 7643 and MATH 7654.

MATH 8765 - Adv Stochstic Mod Biom (3)
Stochastic models of the AIDS epidemic; chain multinomial models, Markov models, Non-Markov marker processes, diffusion processes for AIDS, stochastic models of carcinogenesis; two-stage, multi-event and multiple path models. PREREQUISITES: MATH 7654 and MATH 7-8670.
MATH 8811 - Advan Sem In Math (1-3)
PREREQUISITE: permission of instructor.

MATH 8812 - Ind Stdy Math/Stat (1-12)
Directed independent studies in an area selected by the student and approved by the student's advisory committee. Proposed plan of study must be approved prior to enrollment. Repeatable by permission. A maximum of 12 credit hours will count toward graduation. PREREQUISITE: The student must have passed the qualifying examination. Grades of A-F, or IP will be given.

MATH 8813 - Dir Rsrch Math/Stat (1-12)
Directed research in an area selected by the student and approved by the student's advisory committee. Proposed plan of study must be approved prior to enrollment. Repeatable by permission. A maximum of 12 credit hours will count toward graduation. PREREQUISITE: The student must have completed at least 6 credit hours in MATH 8812. Grades of A-F, or IP will be given.

MATH 8821 - Spec Prob In Math (1-3)
Directed individual study in a selected area of mathematics chosen in consultation with the instructor and the student's advisor. Repeatable by permission. PREREQUISITE: Permission of the instructor. Grades of A-F, or IP will be given.

MATH 8921 - Spec Prob Diff Equation (1-3)
Repeatable by permission. PREREQUISITE: MATH 7393. Grades of A-F, or IP will be given.

MATH 8922 - Spec Prob Applied Math (1-3)
Repeatable by permission. PREREQUISITE: Permission of the instructor.

MATH 8960 - Sem Teachng/Res/Consult (3)
Non-traditional setting in which master's students develop skills in areas of teaching, research, and consulting. Required of all graduate assistants in the department. Grades of S, U, or IP will be given.

MATH 9000 - Dissertation (1-12)
Independent research for the PhD degree. Grades of S, U, or IP will be given.
PHILOSOPHY (PHIL)

Unless otherwise stated, the following courses may be repeated for credit whenever the topic of the course is not
identical to the topic of another course the student is taking or has previously taken.

In addition to the courses below, the department may offer the following Special Topics courses:

PHIL 6801-20. Special Topics in Philosophy. (3). Area to be covered appears in the online course listings the semester it is taught.

PHIL 7800-7810–8800-8810. Special Topics in Philosophy. (3).

PHIL 6211 - Ancient Philosophy (3)
Readings from primary sources, supplemented by commentary from antiquity and modern scholarship, including Pre-Socratics, Plato, Aristotle, and the Hellenistic period.

PHIL 6311 - Modern Philosophy (3)
Readings from major philosophers of 17th to early 19th centuries, supplemented by commentaries from modern and contemporary sources.

PHIL 6421 - Philosophy Of Mind (3)
Survey of major issues and positions in recent philosophy of mind; behaviorism; reductive, non-reductive, and eliminative versions of materialism; functionalism; mental causation; phenomenal consciousness; psychoanalysis and the unconscious; computational and connectionist models of mind.

PHIL 6422 - Rec Anglo American Phil (3)
An examination of major developments in philosophy in England and the United States from 1900 to present with reading from such philosophers as Russell, Moore, Ayer, Wittgenstein, James, Dewey, Lewis, Quine, and other contemporary authors.

PHIL 6441 - Recent Continentl Phil (3)
Major figures in 20th century European thought; movements such as phenomenology, existentialism, structuralism, critical theory, and hermeneutics.

PHIL 6551 - Social & Political Phil (3)
In depth discussion of major philosophical theories of the individual and the state; emphasis on concepts of society, culture, institutions, government, law, power, authority, rights, and obligations.

PHIL 6632 - Advanced Logic (3)
The nature of axiomatic systems and foundations of mathematics.

PHIL 6661 - Philosophy Of Science (3)
Survey of several central issues in the philosophy of science. Topics may include issues such as competing
understandings of scientific practice, scientific explanation, the continuity and discontinuity of scientific theories, and the relations between the various sciences.

**PHIL 6671 - Aesthetics (3)**
Treatment of philosophical theories concerning the nature and role of art and the possibility of aesthetic evaluation.

**PHIL 7001 - Proseminar (3)**
May be repeated for a maximum of 6 credit hours.

**PHIL 7002 - Tchng Skills Grad Asst (3)**
This course is designed to impart the skills necessary for both serving as a teaching assistant as well as for designing and teaching one's own philosophy course. May be repeated for up to 12 hours. NOTE: Philosophy majors may not use this course to fulfill degree requirements. Grades of S, U, or IP will be given.

**PHIL 7020 - Seminar Major Figures (3)**

**PHIL 7030 - Sem Continentl Phil (3)**

**PHIL 7040 - Sem Normative Phil (3)**

**PHIL 7201 - Sem Classical Phil (3)**

**PHIL 7203 - Sem Contemporary Phil (3)**

**PHIL 7301 - Sem Modern Phil (3)**

**PHIL 7414 - Seminar In Metaphysics (3)**

**PHIL 7421 - Seminar In Epistemology (3)**

**PHIL 7442 - Seminar On Heidegger (3)**
PHIL 7514 - Cognitive Science Seminar (3)
Systematic study of current topics in Cognitive Science with an emphasis on its interdisciplinary nature. Topics will vary each semester. Only nine credit hours may be counted toward degree requirements.

PHIL 7541 - Social/Political Phil (3)

PHIL 7551 - Seminar Ethical Theory (3)

PHIL 7994 - Reading And Research (1-9)
May be repeated for a maximum of 9 credit hours. Grades of S, U, or IP will be given.

PHIL 7996 - Thesis (1-9)
May be repeated for a maximum of 9 credit hours. Grades of S, U, or IP will be given.

PHIL 8001 - Proseminar (3)
May be repeated for a maximum of 6 credit hours.

PHIL 8002 - Tchng Skills Grad Asst (3)
This course is designed to impart the skills necessary for both serving as a teaching assistant as well as for designing and teaching one's own philosophy course. May be repeated for up to 12 hours. NOTE: Philosophy majors may not use this course to fulfill degree requirements. Grades of S, U, or IP will be given.

PHIL 8020 - Seminar Major Figures (3)

PHIL 8030 - Sem Continentl Phil (3)
May be repeated for a maximum of 9 credit hours.

PHIL 8040 - Sem Normative Phil (3)

PHIL 8051 - Collo Phil Problems (3)

PHIL 8201 - Sem Classical Phil (3)
PHIL 8203 - Sem Contemporary Phil (3)

PHIL 8252 - Sem On Aristotle (3)

PHIL 8301 - Sem Modern Phil (3)

PHIL 8414 - Seminar In Metaphysics (3)

PHIL 8421 - Sem In Epistemology (3)

PHIL 8442 - Seminar On Heidegger (3)

PHIL 8514 - Cognitive Science Seminar (3)
Systematic study of current topics in Cognitive Science with an emphasis on its interdisciplinary nature. Topics will vary each semester. Only nine credit hours may be counted toward degree requirements.

PHIL 8541 - Social/Political Phil (3)

PHIL 8551 - Seminar Ethical Theory (3)

PHIL 8994 - Adv Reading & Research (1-12)
May be repeated for a maximum of 12 credit hours. Grades of S, U, or IP will be given.

PHIL 9000 - Dissertation (1-12)
May be repeated for a maximum of 12 credit hours. Grades of S, U, or IP will be given.

Graduate Catalog
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Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
In addition to the courses below, the department may offer the following Special Topics courses:
PHYS 6000-09. Special Topics in Physics. (3). Selected topics of current interest in physics. Topics are varied and announced in online class listings.

PHYS 7050-59. Special Topics in Advanced Physics. (3-6). Selected topics in advanced physics. Topics are varied and announced in online class listings.

PHYS 6001 - Computation (3)
Introduce student to various numerical methods and to solve realistic problems that cannot be solved through analytical methods.

PHYS 6020 - Soft Matter/Biological Physics (3)
Random walks, diffusion, entropic forces, colloidal suspensions, polymers, self-assemblies, lipid membranes, transitions in biomolecules, molecular machines in biomembranes. PREREQUISITE: PHYS 2120 and CHEM 1120.

PHYS 6021 - App Radiation Physics (3)
Applied radiation and radioactivity; types of radiation, radiation management, interaction with matter, and biological effects; radiation safety aspects emphasized. PREREQUISITES: PHYS 2120 or 2020 and MATH 1910.

PHYS 6040 - Medical Physics (3)
Physics of sensory, respiratory, and circulatory systems; physical basis of radiology and nuclear medicine. PREREQUISITE: PHYS 2120 or both PHYS 2020 and MATH 1910.

PHYS 6050 - Astrophysics I (3)
Principles of physics applied to the objects of the universe, e.g., planets, sun, stars, etc. Also includes and introduction to electromagnetic radiation and telescopes. Recommended for science and engineering majors interested in astronomy. PREREQUISITE: PHYS 2120 or PHYS 2520.

PHYS 6051 - Astrophysics II (3)
Principles of physics applied to star birth and death, black holes and neutron stars, galaxies and quasars, the beginning and evolution of the universe. PREREQUISITE: PHYS 3051.

PHYS 6110 - Nuclear Physics (3)
Properties of atomic nuclei; radioactive transitions; alpha, beta, and gamma decay; binding energy, nuclear forces, and nuclear models. PREREQUISITE: PHYS 3010.

PHYS 6211 - Waves and Optics (3)
Mathematical description of vibrations and waves with application to sound and electromagnetic waves; geometrical optics; interference and diffraction; holography; introduction to laser physics and photonics. PREREQUISITE: PHYS 2120 and PHYS 3011.
PHYS 6410 - Intro Quantum Theory (3)
Historical background of quantum theory, mathematical formalism of quantum mechanics, solutions of Schrödinger equation for bound and scattering states in one dimension, harmonic oscillator, angular momentum, and introduction to atomic and molecular structures. PREREQUISITE: PHYS 3010, PHYS 3011, PHYS 3211.

PHYS 6510 - Thermal and Statistical Phys (3)
Introduction to thermodynamics and statistical mechanics, includes topics such as temperature, work, heat, entropy, thermodynamic potentials, ideal gases, phase transitions, classical and quantum ensembles, and partition functions. PREREQUISITE: PHYS 2120 and PHYS 3011.

PHYS 6610 - Solid State Physics (3)
Crystal structures, crystal bonding, x-ray diffraction, lattice vibrations and phonons, free and nearly-free electron models, energy bands of insulators, metals, and semiconductors. PREREQUISITE: PHYS 4410

PHYS 6620 - Device Physics and Microfabric (3)
Semiconductor devices and microfabrication; crystal properties and growth of semiconductors, energy bands and charge carriers, p-n junction, field-effect transistors, bipolar transistors, optoelectronic devices, power devices, power devices, and fundamentals of microfabrication, including vacuum technology and thin film deposition techniques. PREREQUISITE: PHYS 3211, PHYS 3010, PHYS 3011.

PHYS 6720 - Materials Physics (3)
Basic concepts in materials science emphasizing relationships between microscopic structure and properties; crystallography and symmetries, thermodynamics of material, phase equilibria, structure of ceramics and polymers, mechanical properties of material, kinetics of phase transformations in materials. PREREQUISITE: PHYS 3010.

PHYS 6820 - Materials Physics Lab (3)
Synthesis of various materials and characterizations of their structure and properties using a variety of experimental tools; relationships between structure of materials and their properties are emphasized. PREREQUISITE: PHYS 3010.

PHYS 7010 - Fund Cncpts Class Phys (3)
Basic concepts of Newtonian mechanics, heat, and sound; emphasis on increasing understanding in classical physics, providing demonstrations of physical principles suitable for classroom use, and designing and performing laboratory experiments. Credit does not apply toward a major or minor in chemistry or physics.

PHYS 7011 - Physics Practicum I (1)
Practicum or laboratory experiments, laboratory techniques, laboratory management, and supervised experience in presenting demonstrations with emphasis on concepts covered in Physics 7010. Two laboratory hours per week. COREQUISITE: PHYS 7010. Grades of A-F, or IP will be given.
PHYS 7021 - Physics Practicum II (1)
Practicum laboratory with emphasis on the concept of Electricity and Magnetism. Two laboratory hours per week.
PREREQUISITE: PHYS7011. Grades of A-F, or IP will be given.

PHYS 7031 - Physics Practicum III (1)
Practicum laboratory with emphasis on the concept of Modern Physics. Two laboratory hours per week.
PREREQUISITE: PHYS 7021. Grades of A-F, or IP will be given.

PHYS 7060 - Indiv Study Adv Physics (1-3)
Independent investigation of an area of advanced physics under supervision of a Physics faculty member. Written report required. May be repeated for a maximum of 6 hours credit. PREREQUISITE: permission of chair. Grades of A-F, or IP will be given.

PHYS 7080 - Teaching Skills Ga (3)
Overview of teaching techniques and classroom management for physics laboratory instructors; includes practical demonstrations in laboratory physics. May be repeated for a maximum of 12 credit hours. NOTE: Physics majors may not use this course to fulfill degree requirements. PREREQUISITE: Limited to physics majors and permission of graduate coordinator. Grades of S, U, or IP will be given.

PHYS 7090 - Prof Development Wkshp (3)
Presentations by Physics faculty and students on current research topic; oral presentation required based on research performed under the supervision of a faculty member. NOTE: Physics majors may not use this course to fulfill degree requirements. PREREQUISITE: Limited to physics majors and permission of graduate coordinator. Grades of S, U, or IP will be given.

PHYS 7100 - Classical Mechanics (3)
An analytical study of mechanics of particles and rigid bodies by Lagrange's, Hamilton's and Hamilton-Jacobi methods. The special theory of relativity, canonical transformation, and Poisson brackets are among the concepts emphasized.

PHYS 7200 - Quantum Mechanics I (3)
Physical principles and mathematical formalism of quantum theory, with emphasis on applications in atomic, molecular, and solid state physics; scattering theory; and absorption and emission of electromagnetic radiation. PREREQUISITE: PHYS 6410 or equivalent.

PHYS 7201 - Quantum Mechanics II (3)
Continuation of PHYS 7200; scattering theory, quantum dynamics, spin, perturbation methods, and Hartree-Fock. PREREQUISITE: PHYS 7200.
PHYS 7210 - Relativist Quantum Mech (3)
Quantum mechanics of relativistic particles including the Dirac equation, relativistic covariance, solutions for free particles, particles in electromagnetic fields, particles in central fields, methods of approximation and massless particles. PREREQUISITE: PHYS 7200 or permission of instructor.

PHYS 7220 - Relativ Quantum Fields (3)
General formalism of fields, the Klein-Gordon field, second quantization of the Dirac field, quantization of electromagnetic fields, interacting fields, scattering matrix perturbation theory, dispersion relations, and renormalization. PREREQUISITE: PHYS 7210 or permission of instructor.

PHYS 7230 - Elementary Particles (3)
Introduction to elementary particles, elementary particle dynamics, relativistic kinematics, symmetries, bound states, Feynman calculus, quantum electrodynamics, electrodynamics of quarks and hadrons, quantum chromodynamics, weak interactions, and gauge theories. PREREQUISITE: PHYS 7200 or permission of instructor.

PHYS 7300 - Electrodynamics (3)
An advanced course in electricity and magnetism; topics include fields and potentials, energy methods, steady currents and magnetic materials, Maxwell's equations, and electromagnetic waves.

PHYS 7375 - Methods/Comput Physics (3)
(Same as MATH 7375). Finite dimensional vector spaces, matrices, tensors, vector fields, function spaces, differential and integral operators, transform theory, partial differential equations. PREREQUISITE: Background in ordinary differential equations and linear algebra.

PHYS 7376 - Methods Math Physics II (3)
(Same as MATH 7376, ESCI 7376). Continuation of PHYS 7375. Complex variable theory, asymptotic expansions, special functions, calculus of variations, additional topics on matrices and operators, topics in non-linear analysis. PREREQUISITE: PHYS 7375.

PHYS 7385 - Methods/Comput Physics (3)
Solution of problems in macroscopic and atomic-level problems in physics by numerical analysis and computer simulation, with emphasis on the accuracy and efficiency of large-scale computations and the physical interpretation of results.

PHYS 7386 - Method Theoretical Phys (3)
Use of orthogonal functions in solving problems of continuum mechanics, electrodynamics, and quantum mechanics; algebra of commutators applied to angular momentum; introduction to group theory and symmetry groups in physics.
PHYS 7390 - Polymer Physics (3)
This course introduces students to concepts and phenomena of polymers phase behavior and dynamics. These include single polymer chain conformations, dilute and simi-dilute polymer solutions, polyelectrolyte solutions, effect of confinement, polymer blends, diblock copolymers, kinetics of polymers in dilute and concentrated polymer solutions, and spinodal decomposition in polymer blends. PREREQUISITES: PHYS 3010 and 7520

PHYS 7520 - Statistical Mechanics (3)
Elements of kinetic theory and applications to gases, specific heats, magnetism, etc.; partition functions, introduction to Boltzmann statistics and quantum statistics.

PHYS 7710 - Adv Top Spectroscopy (3)
Advanced topics in atomic and molecular spectroscopy, including the interaction of radiation with matter, transition probabilities, hyperfine structure, applications of group theory to spectroscopic problems.

PHYS 7995 - Seminar (1-3)
Selected topics in physics research including areas of medical physics. Students required to give oral presentation based on library or original research. Grades of S, U, or IP will be given.

PHYS 7996 - Thesis (1-6)
Original investigation of an assigned problem in the area of graduate study to be carried out under the supervision of a qualified member of the staff. This investigation will furnish the material for a thesis. Scientific articles, progress reports, and special problems of interest are reviewed and discussed by the student in seminars each semester. A maximum of six semester hours credit is allowed toward a master's degree. Grades of S, U, or IP will be given.

PHYS 8100 - Classical Mechanics (3)
An analytical study of mechanics of particles and rigid bodies by Lagrange's, Hamilton's and Hamilton-Jacobi methods. The special theory of relativity, canonical transformation, and Poisson brackets are among the concepts emphasized.

PHYS 8200 - Quantum Mechanics I (3)
Physical principles and mathematical formalism of quantum theory, with emphasis on applications in atomic, molecular, and solid state physics; scattering theory; and absorption and emission of electromagnetic radiation. PREREQUISITE: PHYS 6410 or equivalent.

PHYS 8201 - Quantum Mechanics II (3)
Continuation of PHYS 7200; scattering theory, quantum dynamics, spin, perturbation methods, and Hartree-Fock. PREREQUISITE: PHYS 7200.

PHYS 8520 - Statistical Mechanics (3)
Elements of kinetic theory and applications to gases, specific heats, magnetism, etc.; partition functions, introduction to Boltzmann statistics and quantum statistics.
POLITICAL SCIENCE (POLS)

In addition to the courses below, the department may offer the following Special Topics courses:
POLS 6710-19. Special Topics in Political Science. (1-3). Topics of current significance in public issues. May be repeated for a maximum of 6 credit hours with permission of the chair or graduate coordinator.

POLS 7710-19–8710-19. Special Topics in Political Science. (1-3). Intensive study of selected topics in political science. May be repeated for a maximum of 6 hours.

POLS 6101 - Political Statistics (3)
(Same as PADM 6101). Introduction to analysis of quantitative data used to test, statistically, hypotheses in fields of political science and public and health administration.

POLS 6200 - Envrnmntl Law/Polcy/Reg (3)
Survey of the principal federal laws, policies, and regulations concerning environmental use and protection.

POLS 6211 - Const Law Natl Power (3)
An analysis of the relationships and controls of the three branches and the nature of the division of power between the nation and the states, with emphasis on the role of the Supreme Court as the arbiter in the constitutional system.

POLS 6212 - Const Law Civil Liberty (3)
Background, role, and legitimate extent of civil rights and liberties in US.

POLS 6222 - Urban Politics (3)
Roles and processes of politics and governance in urban America in context of global, social, and economic influences on cities and suburbs.

POLS 6223 - Issues/Urban Politics (3)
Selected issues in contemporary urban politics and policy.

POLS 6230 - Legislative Interns (3-12)
Supervised internship working with the Tennessee General Assembly or other legislative bodies on current legislative programs. Seminar sessions are held to discuss and analyze the problems with which the interns are working. May be repeated for a total of 12 credits. PREREQUISITE: Permission of department. Grades of S, U, or IP will be given.

POLS 6315 - Revolution/Pol Violence (3)
Comparative analysis of the forms and causes of political violence within nations, including revolutions, ethnic conflict and secessionist movements, and terrorism.

POLS 6317 - Democratic Transitions (3)
Comparison of the transition from authoritarian rule to democracy in Latin America, Asia, Africa, and Eastern Europe, including consideration of the institutional design of democracy and the impact of culture on democratic transition and consolidation.

**POLS 6405 - Origin/Dev Am Pol Thght (3)**
Origin and development of political thought in the United States from the colonial to the present time, with emphasis placed on the relation between political thought and political institutions and practices.

**POLS 6504 - International Law (3)**
An analysis of the nature, scope, duties, rights, and evolutionary trends of international law.

**POLS 6508 - Theories Intl Relations (3)**
Theoretical approaches to study of international politics. Consideration of various schools of thought, methods, and substantive literatures.

**POLS 6510 - Politics Global Econ (3)**
Consideration of manner in which political processes affect and are affected by economic processes at global level.

**POLS 6511 - International Conflict (3)**
Sources of conflict between nations, including characteristics of the international system, national attributes, and decision making.

**POLS 6512 - Global Environmental Politics (3)**
Exploration of major issues and topics of politics of global environment, including governing the global environment, multilateral agreements, issues of sustainability, and environmental justice.

**POLS 7100 - Sem Scope/Meth Pol Sci (3)**
Survey of major theoretical approaches to study of politics with emphasis on both analytic and empirical aspects of political inquiry.

**POLS 7101 - Political Statistics (3)**
Introduction to descriptive and inferential analysis of quantitative political science data.

**POLS 7201 - Seminar/Amer Politics (3)**
Selected topics in American government and politics. May be repeated for a maximum of 6 credit hours.

**POLS 7202 - Seminar US Government (2-3)**
Analysis of the principal institutions of the federal government of the United States, including Congress, the Presidency, and the Supreme Court.
POLS 7203 - Seminar in Public Policymaking (3)
This course is designed to focus on the process of evidence-based policymaking. Policymaking is a critical component of government, and relies on the horizontal and vertical flow of ideas and opinions. This course will examine the input and output of policymaking mechanisms by exploring cornerstone topics like issue-framing, what "evidence" is, and decision-making calculus.

POLS 7204 - Representation in American Pol (3)
This course provides a broad overview of the scholarship on representation. The course will examine how well the American public is represented, what it means to be represented, whether the public is capable of ensuring it is represented, and the effectiveness of American government institutions in achieving representation. The course is designed to be a collaborative enterprise in which we, as a class, evaluate the health of representative democracy in America and consider how we might do better.

POLS 7302 - Sem Comp Politics (3)
Selected topics in comparative politics. May be repeated for a maximum of 6 credit hours.

POLS 7303 - Sem Political Devlpmnt (3)
Comparative study of the process of political change in the nations of the third world.

POLS 7304 - Seminar/Human Rights (3)
Focuses on improving government respect for human rights through an understanding of national and international institutions, interactions, norms, and actors; emphasizes conceptualizations and measurements of government respect for particular human rights used by this general research program.

POLS 7317 - Democratization (3)
This course is designed to focus on the theory and practice of democracy and democratization. It will help students understand the conceptual, theoretical, and empirical foundations of democratization; develop a foundation of fundamental knowledge about the nature of democracy promotion in theory and practice; and incorporate quantitative and qualitative methods in professional life and thinking.

POLS 7401 - Sem Political Theory (3)
Contribution of political philosophy to full understanding of politics is illustrated through selected topics.

POLS 7402 - Topics in Political Thought (3)
Selected topics within political theory. May be repeated a maximum of 6 hours.

POLS 7501 - Sem Interntl Relations (3)
Selected topics in international politics and foreign policy. May be repeated for a maximum of 6 credit hours.
POLS 7502 - Sem Intnl Confl/Security (3)
Comparative and theoretical examination of how national and international actors conceptualize, identify, perceive, and address threats to their security; includes technological and social change, capabilities and limitations of defense decision makers and bureaucracies, and role of international institutions.

POLS 7504 - Sem Gov Western Europe (2-3)
Politics and policies of Western Europe, with emphasis on the nations of Britain, France, and Germany and integration processes occurring within the European Community.

POLS 7505 - Sem Latin Amer Politics (2-3)
Developmental challenges that confront Latin American nations, configurations of political institutions with which those nations address those challenges, and changing patterns of state-society relationships that result from the politics of development in Latin America.

POLS 7506 - Foreign Policy (3)
Analysis of the conduct and formulation of foreign policy.

POLS 7508 - Internatl Reltns Theory (3)
A survey of the main theoretical approaches within the field of international relations.

POLS 7510 - Politics Global Economy (3)
Analysis of the interactive relationship between global political and economic processes.

POLS 7512 - Politics of Environment Change (3)
This seminar introduces students to the political challenges that accompany global environmental change. The central premise of this course is that deciding how to respond to environmental issues is a highly political process involving conflicts over competing values and interests. These conflicts and the subsequent outcomes are shaped by a variety of factors which will be explored in this seminar.

POLS 7702 - Ind Study Pol Sci (1-3)
May be repeated for a maximum of six hours. Independent investigation of research problems or directed readings in selected area of political science. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

POLS 7996 - Thesis (1-6)
The student must write and defend satisfactorily a thesis on a subject approved by the major professor. Grades of S, U, or IP will be given.

POLS 8201 - Seminar/Amer Politics (3)
Selected topics in American government and politics. May be repeated for a maximum of 6 credit hours.
POLS 8302 - Sem Comp Politics (3)
Selected topics in comparative politics. May be repeated for a maximum of 6 credit hours.

POLS 8501 - Sem Interntl Relations (3)
Selected topics in international politics and foreign policy. May be repeated for a maximum of 6 credit hours.

POLS 8702 - Ind Study Pol Sci (1-3)
May be repeated for a maximum of six hours. Independent investigation of research problems or directed readings in selected area of political science. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.
PSYCHOLOGY (PSYC)

In addition to the courses below, the department may offer the following Special Topics courses:
7010-29–8010-29. Special Topics in Psychology. (1-3). Topics are varied and announced in online class listings.

PSYC 7000 - History/System Psyc (3)
Seminar of basic issues in contemporary psychology within their historical context with extensive examination of their implications for theoretical and professional applications. Required of all Clinical and School Psychology doctoral degree candidates.

PSYC 7110 - Ethics And Psychology (3)
In-depth review of the ethical standards that impact work of psychologists in health services, consultation, teaching, and research settings; emphasizes ethical issues and dilemmas, mastery of ethical decision-making, understanding community standards for practice, and the interface between ethical guidelines and the law. Restricted by program or permit required. Required of all School Psychology doctoral candidates.

PSYC 7203 - Behavior Analysis (3)
A comprehensive treatment of behavioral principles in their application to simple and complex forms of behavior. The course focuses on operant conditioning of animal behavior and demonstrates the basic behavioral principles at work in their simplest form. These operant conditioning principles are extended to human behavior occurring in the natural environment. Increasingly complex human behaviors are successively introduced.

PSYC 7207 - Developmental Psyc (3)
Focuses on theories, issues, and research related to cognitive development and learning from infancy to adulthood for the "normal" individual. Theories covered include Piaget, Vygotsky, and Information Processing. Research reviewed includes representations of knowledge, human performance and expertise, and emotion regulation.

PSYC 7208 - Psyc Of Perception (3)
An examination of the historical development, research, and major theoretical positions in the area of perceptual psychology. Major emphasis is placed on theoretical and experimental treatment of the basic perceptual phenomena.

PSYC 7211 - Cognitive Processes (3)
Overview of cognitive psychology and cognitive science, with emphasis on theoretical explanations and critical evaluation of empirical evidence; topics include perception and attention, short- and long-term memory, language, problem solving, reasoning, decision making, and artificial intelligence. Restricted by Program or by Permit.

PSYC 7212 - Industrial Psychology (3)
Examination of the content and methodology used by industrial psychologists in personnel selection, classification, training, and performance evaluation. Students are familiarized with the skills necessary for these activities, as well as the guidelines and legal constraints on organizations' hiring, promotion, and performance evaluation practices.
PSYC 7213 - Personnel Psychology (3)
An in-depth study of the theories and procedures used by personnel psychologists to conduct job analyses and apply the findings to the development of valid and reliable selection/promotion strategies and performance measurement instruments. The course includes a significant amount of hands-on experience so students acquire the knowledge and skills to competently carry out these activities in applied settings. PREREQUISITE: 7212/8212.

PSYC 7214 - Industrial Training (3)
Examination of the content and methodology used by industrial psychologists to develop, implement, and evaluate training programs in work settings. Students acquire the skills to conduct training needs assessments, select from various training platforms, develop training programs, and assess the degree to which they accomplish their organizational objectives. The course includes exposure to new computer-based and web-based training technologies.

PSYC 7215 - Organizational Psyc (3)
The course deals with the major organizational determinants of individual and group behavior and performance. The characteristics of organization structure and climate are explored from both a classical and a contemporary viewpoint. Organization change and development theories are examined plus the major ancillary theoretical positions on leadership, individual and group performance, behavior modification, selection and training. PREREQUISITE: Permission of instructor.

PSYC 7217 - Social Psychology (3)
Review of theoretical and empirical literature examining behavior and experience of individuals in social settings; includes coverage of attributions and interpersonal perception, attitude formation and change, prejudice and stereotyping, interpersonal attraction, social influence, human aggression, and prosocial behavior.

PSYC 7218 - Incr Orgnl Productivity (3)
Examination of the theories and methodologies used to diagnose organization problems, determine their causes, and select, implement, and evaluate interventions to mitigate the problems and increase organizational productivity. Students acquire a knowledge base and specific skills employed by organizational psychologists to help effect organizational improvements. The course involves lecture, discussion, and group projects. PREREQUISITE: PSYC 7215/8215.

PSYC 7219 - Soc/Persnltty Devel (3)
A general survey of social and personality development from infancy through adolescence. The course consists of three sections: (1) general theoretical perspectives, including intrapsychic, cognitive, and social learning approaches; (2) intra-individual phenomena such as sex role, traits, moral development, etc.; (3) inter-individual phenomena such as family interactions, peer interactions, and societal influences.

PSYC 7220 - Social Cognition (3)
Review of major contemporary issues in social psychology from a social cognitive perspective; cognitive-information processing approach as it applies to social psychology; attributions, schemas, attention and perception, impression-formation and social memory, accessibility and priming, the self, and decision making.

**PSYC 7221 - Natural Language Processing (3)**
( Same as COMP 7780-8780). Computational aspects, algorithms, and techniques for human language processing including lexical analysis, syntactic parsing, semantics, word sense disambiguation, logic forms, dialogue, and pragmatics; applications include question answering and information extraction among others. PREREQUISITE: COMP 6040 or 6041 or permission of instructor.

**PSYC 7222 - Psychology Human Memory (3)**
Major theoretical and empirical issues in the study of human memory; major emphasis on nature of structures and processes involved in memory encoding and retrieval and nature of representations available to memory.

**PSYC 7223 - Intelligent Tutoring (3)**
Covers selected internet-based training systems and their links to cognition, education, and computing; focuses on learning environments, including basic theories in learning science, advanced learning technologies, software development, and applications in academic settings.

**PSYC 7301 - Research Design & Meth (3)**
Emphasis on mathematical and nonmathematical analyses of psychological data, theoretical and experimental implications of different analyses, various data collection techniques, and types of experimental and statistical control; ethical issues and ethical principles of research conduct. PREREQUISITE: Psychology graduate student or permission of instructor.

**PSYC 7302 - Adv Statistics Psych I (3)**
Introduction to general linear model; multiple regression analysis, and single- and multiple-factor analysis of variance; emphasis on using software programs to perform statistical analyses. PREREQUISITE: Psychology graduate student or permission of instructor.

**PSYC 7303 - Adv Statistics Psych II (3)**
Intermediate and advanced topics related to analysis of variance, including fixed and random effects, repeated measures, non-orthogonal designs, and the analysis of covariance; traditional analysis of variance concerns within framework of general linear model; scales of measurement, planned and post hoc comparisons, power analysis and concept of effect size. PREREQUISITE: PSYC 7302 or equivalent.

**PSYC 7304 - Meas Th & Psychomet (3)**
Measurement theory involved in the construction and evaluation of psychological measuring instruments will be stressed. Particular emphasis will be placed on scaling methods and their use in psychological research and evaluation. Restricted to Psychology graduate student or permission of instructor.
PSYC 7305 - Quant Meth Review Rsch (3)
(same as PUBH 7305-8305). Quantitative procedures (meta-analysis) for reviewing research findings in psychology and other social sciences; techniques for locating and coding research studies, calculating effect sizes, and analyzing study findings. PREREQUISITE: Psychology graduate student or permission of instructor.

PSYC 7306 - Linear Struct Modeling (3)
Path models, path analysis, cross-lagged panel studies, confirmatory factor analysis, and complete latent variable causal models, including applications of the latter to experimental and non-experimental data.

PSYC 7307 - Models Program Eval (3)
History and nature of program evaluation, review of different approaches taken to evaluation by variety of major theorists in the field; practice in evaluation.

PSYC 7308 - Appl Multivariate Stat (3)
Multivariate analysis of variance (MANOVA) with independent designs and its extension to repeated measures ANOVA. Goals include review conceptual bases, learn SPSS procedures, analyze simple and complex designs, and learn special post hoc procedures. PREREQUISITE: PSYC 7302 or equivalent.

PSYC 7309 - Focus Group Research (3)
Examination of the general logic of focus group research, including strengths and weaknesses of this approach. Methodology will be covered in depth, including how to plan a project, development of questions for a focus group, moderating the group, and analyzing and reporting data. Completion of a semester project is required.

PSYC 7310 - Mixed-Model Regress Anly (3)
Instruction in the use of mixed-model regression with a focus on design and analysis of group-randomized trials; attention also given to analysis of data from surveys based on cluster sampling, longitudinal studies, and studies involving matching. PREREQUISITE: PSYC 7301, 7302, and 7303 and permission of instructor.

PSYC 7311 - Appl Cat Data Analysis (3)
Instruction includes tabular, logistic, and Poisson and Cox regression, as well as interpretation of SAS output. For advanced students in psychology, education, and public health pursuing a career in research. PREREQUISITES: PSYC 7301, 7302, 7303, and permission of instructor.

PSYC 7312 - Qualitative Resrch/Psyc (3)
Examines history and current practice of research stemming from a human science philosophy, introducing a variety of qualitative research methodologies; examines differences and similarities in human and natural sciences in order to appreciate the significance of epistemology on research practice. PREREQUISITE/COREQUISITE: PSYC 7301 or permission of instructor.
PSYC 7313 - Computational Models Cog Sci (3)
A survey of popular techniques used to model mental processes and experimental data. Both computational and mathematical models will be considered. Examples include: artificial neural networks for psycholinguistics, Bayesian methods for learning and categorization, general processing tree models for reaction time studies, diffusion and random walk processes of memory, and knowledge representation. The seminar will focus on conceptual issues while providing a brief mathematical introduction to the models for a general behavioral science audience.

PSYC 7315 - Randomized Clinical Trials (3)
The purpose of this course is to provide students with a thorough grounding in planning and executing randomized clinical trials (RCTs) including design, management, evaluation, and resource acquisition. PREREQUISITES: PSYC 7301 and 7302. Restricted by Program or by Permit.

PSYC 7407 - Cognition & Emotion (3)
Cognition and emotion affect behavior in a myriad of ways. The interactions of cognition and emotion are also quite complex. The primary purpose of this course is to provide an overview of research on the cognitive and affective bases of behavior. The course is also designed to foster critical thinking and presentation skills.

PSYC 7411 - Psyc Process Research (3)
Investigates current practice of examining effects of interventions within sessions, of therapy events, and of differences in psychotherapy orientations. Through examining mock therapy transcripts and interviews, students build skills toward independent implementation of psychotherapy or interview-related research. PREREQUISITE: PSYC 7301 and 7434, or permission of instructor.

PSYC 7412 - Psychopathology (3)
Survey of the manifestations of abnormal behavior and psychological processes; detailed analysis of clinical and experimental literature concerning psychological and psychiatric disorders and their etiology. Historical principles are emphasized. PREREQUISITE: Permission of instructor. Restricted by Program or by Permit.

PSYC 7416 - Child Psychopathology (3)
A survey of the major theoretical formulations of childhood disorders, including learning, developmental, psychoanalytic, and family systems theories. Organic, familial, and sociocultural influences are discussed. Emphasis is placed on basic research that contributes to our understanding of these difficulties. Traditional approaches to intervention are reviewed along with family treatment.

PSYC 7419 - Family Therapy (3)
Overview of family therapy as treatment modality and point of view, emphasizing interdependence of theory, practice, and research; focuses on brief problem-focused therapy, behavioral couples and family therapy, multigenerational family systems therapy, strategic and structural approaches, systemic family therapy, experiential approaches, and narrative family therapy. PREREQUISITE: Permission of instructor.
PSYC 7420 - Personal Construct Thry (3)
In-depth seminar on personal construct theory, a cognitively oriented theory of personality stemming from the work of George Kelly. Philosophical assumptions and basic theory; use of repertory grid technique and its application to research on such topics as cognitive complexity, development, interpersonal relationships, psychopathology, and psychotherapy. Restricted by Program or by Permit.

PSYC 7428 - Foundatns Clinical Psyc (3)
Introduction to fundamental concepts and methods of clinical psychology conceived as application of scientific reasoning to human problems; historical and scientific foundations for scientist-practitioner model, and various roles of clinical psychologist in social context; ethical, legal, and multi-cultural issues emphasized. Restricted by Program or by Permit. PREREQUISITE: Admission to graduate training program in clinical psychology.

PSYC 7430 - Clin Assessment/Ability (4)
Introduction to psychological assessment of cognitive abilities and achievement; exposure to basic psychometric concepts; observation and interpretation of assessment related to behavior; specific emphasis on development of assessment skills such as test administration, test interpretation, and report writing; ethical and legal issues of professional conduct emphasized. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 7432 - Clinic Asses/Case Cncpt (4)
Comprehensive review of fundamental concepts and practices of clinical assessment as application of scientific reasoning to problem of case conceptualization; development of conceptualization skills to integrate interview, objective assessment, and systematic observations; evaluation of different assessment approaches for empirical support and utility in case management; critical and analytic thinking, ethical and legal issues of professional conduct emphasized. PREREQUISITE: Permission of instructor. Restricted by Program or by Permit.

PSYC 7434 - Clin Psychotherapies (3)
In-depth study of methods of psychotherapy and intervention strategies, their basic assumptions, spheres of applicability, and typical outcomes. Therapeutic approach covered will depend upon the particular instructor. May be repeated for maximum of 20 credits with change in topic. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 7435 - Intro To Psychotherapy (1-3)
Required for all clinical students. Surveys major traditions of psychotherapy - psychodynamic, humanistic, cognitive-behavioral, and systemic - considering originators' works as well as contemporary exponents; includes didactic (reading, discussion) and experiential learning (exercises, role plays) to promote both conceptual and practical acquaintance with the implications of each tradition. Restricted by Program or by Permit. Students can enroll in this course for 3 hours and then repeat once for 1 hour. PREREQUISITE: Permission of instructor.

PSYC 7438 - Pract Clinical Trtmt (1-3)
Practical experience to students in clinical psychology, permitting them to work under professional supervision for 42 client contact hours in the Psychological Services Center. Students conduct intake interviews, administer and interpret psychological tests, and provide therapy. May be repeated for maximum of 24 hours credit. Restricted by Program or by Permit. PREREQUISITE: Admission to graduate training program in clinical psychology. Grades of S, U, or IP will be given.

PSYC 7439 - Clin Assessmnt/Report Wrtng (3)
Develops strong assessment skills and ability to write comprehensive mental health reports; students perform assessments and receive instruction in the Psychological Services Center; instructor provides feedback on student's testing, analysis of tests, integration of tests into comprehensive understanding of client, and writing professional reports. PREREQUISITE: PSYC 7/8412, 7/8428, 7/8432, and 7/8621. Grades of S/U, or IP will be given.

PSYC 7440 - Behavioral Medicine I (3)
Overview of behavioral medicine and examination of psychologists' roles in healthcare settings; psychological and interpersonal factors that affect healthcare delivery will be examined, such as physician-patient communication, gender, and ethnic diversity; differences in ethical underpinnings between medicine and psychology will be explored. PREREQUISITE: Permission of instructor. Restricted by Program or by Permit.

PSYC 7441 - Psyc/Medical Illness (3)
Addresses application of psychological principles to promote coping with medical disability and optimal healing; diagnostic interviewing and medical consulting skills emphasized; psychological and cognitive impact on various medical diseases and disorders reviewed; biological bases of behavior emphasized. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 7501 - Sem General Psychology (3)
Restricted by Program or by Permit.

PSYC 7503 - Sem Experiment Psyc (3)
Restricted to Program or by Permit.

PSYC 7506 - Sem Clinical Psyc (3)

PSYC 7507 - Sem Industrial Psyc (3)

PSYC 7509 - Sem School Psychology (3)
PSYC 7510 - Sem Organizational Psych (3)

PSYC 7512 - Sem Developmental Psych (3)

PSYC 7514 - Sem Cognitive Science (3)

PSYC 7515 - Sem Social Psychology (3)

PSYC 7516 - Issues Psychotherapy Research (3)
Research evidence pertaining to basic questions about psychotherapy and its effectiveness; classic contributions and current research findings.

PSYC 7517 - Grant Proposal Writing/Psych (3)
Introduction to grant-writing process with emphasis on NIH funding; topics include identifying funding sources, grant writing and resubmissions, and grant reviewing; students prepare a suitable grant application as part of the course.

PSYC 7520 - Teaching Skills Grad Asst (3)
Overview of teaching responsibilities and skills and discussion of teaching issues for graduate teaching assistants; supervised practical experience teaching college courses and feedback on performance. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of graduate coordinator. Grades of S, U, or IP will be given.

PSYC 7601 - Res Pract General Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 7602 - Res Pract Phys Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 7603 - Res Pract Exp Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 7604 - Res Pract Comp Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 7605 - Res Pract Social Psych (1-3)
PSYC 7606 - Res Prac Clinical Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 7607 - Res Prac Devlpmntl Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 7608 - Res Prac Neuropsyc (1-3)
Grades of S, U, or IP will be given.

PSYC 7609 - Res Prac School Psych (1-3)
Grades of A-F, or IP will be given.

PSYC 7610 - Field Prac Clin Psyc (1-6)
Supervised experience in the use of psychological diagnostic, treatment, or community intervention procedures in various community agencies and facilities. May be repeated for a total of 12 credits. PREREQUISITE: Admission to the graduate training program in Clinical Psychology, or consent of instructor. Grades of S, U, or IP will be given.

PSYC 7611 - Field Prac Soc-Indust (1-3)
Seminar discussion and supervised experience in the application of basic psychological procedures and principles to social, personnel, and organizational activities in various industrial, military and community settings. May be repeated for a maximum of 9 credits. Grades of S, U, or IP will be given.

PSYC 7614 - Prac School Psyc (3)
Supervised experience in the application of psychological procedures in educational and clinical settings. A minimum of two practica are required. First practicum requires grades of 3.0 or better in PSYC 7803 and 7804; second requires 3.0 or better in PSYC 7805 and 7806, and S in first practicum. May be repeated for a maximum of 12 credits. PREREQUISITE: Admission to graduate training program in school psychology and permission of instructor. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

PSYC 7615 - Special Problems (1-3)
Independent investigation of a research problem, or directed readings, in a selected area of psychology chosen in consultation with the instructor. Only six hours credit may be applied to the degree. May be repeated for a maximum of 6 credits. Grades of A-F, or IP will be given.

PSYC 7616 - Clin Prac Neuropsyc (3)
The advanced student interested in neuropsychology will receive supervised experience in the use of psychodiagnostic techniques in various community settings; training covers basic diagnostic techniques,
specialized diagnostic techniques, and neurological assessment procedures. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

**PSYC 7618 - Res Prac Cogn Psych/Sci (1-3)**
May be repeated for a maximum of 3 credits. Grades of S, U, or IP will be given. Department Permit Required.

**PSYC 7619 - Child/Family Practicum (1-3)**
May be repeated for a maximum of 9 credits. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

**PSYC 7621 - Research Practicum (3)**
This practicum is required of all first year doctoral students and others receiving department financial assistance and may be taken by General Psychology Masters students. This course serves to introduce the student to research currently being conducted by faculty in the Department of Psychology. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

**PSYC 7622 - Res Prac: Behav Med (1-3)**
May be repeated for a maximum of 12 credit hours. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

**PSYC 7701 - Behavioral Neuroscience (3)**
A comprehensive study of the relationships between brain function and behavior; topics include neuroanatomy, neurophysiology, neuropharmacology, sensory systems, learning and memory, motor systems and disorders, and neuropsychiatric diseases. Restricted by Program or by Permit.

**PSYC 7705 - Neuropsychopharmacology (3)**
Overview of basic principles of neuropharmacology and contemporary issues in clinical psychopharmacology; introduces principles of pharmacokinetics and dynamics, drug-receptor pharmacology, neuroanalytical methodology, and chemical neuroanatomy of the brain; culminates with overviews of contemporary drug treatment strategies for a range of cognitive, pathological, and neurological disorders, including substance abuse.

**PSYC 7800 - Intro School Psychology (3)**
Survey of school psychology including historical foundations, roles and functions, school and community practices, standards and ethics, issues, technological developments; trends in credentialing and practice at the state and national level.

**PSYC 7802 - Child Disability/Family (3)**
An overview of childhood disability and family considerations applied to psychological services in school and agency settings; agency and family visitations provide experiential learning in addition to theory and research. PREREQUISITES: Course on characteristics of exceptional children and permission of instructor.
PSYC 7803 - Psych Ed Assessmnt I (4)
Critical analysis of intellectual assessment including skill development in administration, scoring, and interpretation of major individual tests of intelligence; related psychoeducational instruments with emphasis on case study data collection and report writing. Restricted by Program or by Permit. PREREQUISITE: Admission to graduate studies in psychology or permission of the instructor.

PSYC 7804 - Psych Ed Assessmnt II (3)
Critical analysis of personality assessment including skill development in administration, scoring, and interpretation of major personality assessment techniques; related psychoeducational instruments with emphasis on case study data collection and report writing. PREREQUISITE: PSYC 7803 and permission of instructor. School psychology students must have a grade of 3.0 or higher in PSYC 7803. Restricted by Program or by Permit.

PSYC 7805 - Psych Consultation (3)
This course teaches the theory and skills needed for providing consultation to students and families in educational and clinical settings; focusing on an ecological, problem-centered model, content will include factors influencing the consultation process at the individual, group, and system level. Restricted by Program or by Permit.

PSYC 7806 - Sch Psych Interventions (3)
Students will acquire skills needed to provide individual, group, family, and crisis intervention services to children and adolescents in educational and clinical settings; course material will include empirically-validated interventions focusing on issues related to the academic, social, emotional, and psychological needs of the child/adolescent. PREREQUISITE: PSYC 7805-8805, COUN 7542 or equivalent. School Psychology students must have a grade of 3.0 or higher in PSYCH 7805.

PSYC 7807 - Adv Sch Psych Intrvntn (3)
Students will refine skills in both direct and indirect school psychological services using empirically-validated interventions; course material will cover current intervention issues in school psychology, the role of supervision in school psychology, evaluating the efficacy of interventions, and the link between assessment and treatment planning. PREREQUISITES: PSYC 7803-8803, 7804-8804, 7805-8805, and 7806-8806.

PSYC 7808 - Psychoed Assessmnt III (3)
Introduction to psychoeducational assessment of preschool children; includes issues surrounding early assessment, skill development with preschool instruments, and related report writing, conferencing. PREREQUISITE: Permission of instructor.

PSYC 7809 - Adv Sch Psych Practicum (3)
Applied experience utilizing both direct and indirect school psychological services and supervision; students will assume the role of case manager providing comprehensive services for multiple clients; students will also be expected to supervise students in the beginning intervention practicum. PREREQUISITE: Permission of instructor.
Grades of S, U, or IP will be given. Restricted by Program or by Permit.

**PSYC 7812 - Intern: School Psyc (3-6)**
Supervised field placement in school and/or community agency settings; requires a minimum of 1200 hours for the EdS, at least half of which must be in a school setting. May be repeated for a maximum of 12 hours applied toward the degree. PREREQUISITE: Admission to the school psychology program, permission of program director, grades of S in all previous practica. Grades of S, U, or IP will be given. Restricted by Program or by Permit. Doctoral program students complete PSYC 8999.

**PSYC 7900 - Psychology of Gender (3)**
This course will examine how gender affects all aspects of our lives at both the societal/cultural level and the individual level within the societal/cultural context.

**PSYC 7996 - Thesis (1-3)**
Independent research for master's degree. Application for writing a thesis must be filled out on an approved form after consultation with major professor and filed with the Graduate School. Only 3 hours may be counted toward degree requirements. Grades of S, U, or IP will be given.

**PSYC 8000 - History/System Psyc (3)**
Seminar of basic issues in contemporary psychology within their historical context with extensive examination of their implications for theoretical and professional applications. Required of all Clinical, Experimental and School Psychology doctoral degree candidates.

**PSYC 8110 - Ethics And Psychology (3)**
In-depth review of the ethical standards that impact work of psychologists in health services, consultation, teaching, and research settings; emphasizes ethical issues and dilemmas, mastery of ethical decision-making, understanding community standards for practice, and the interface between ethical guidelines and the law. Restricted by program or permit required. Required of all School Psychology doctoral candidates.

**PSYC 8203 - Behavior Analysis (3)**
A comprehensive treatment of behavioral principles in their application to simple and complex forms of behavior. The course focuses on operant conditioning of animal behavior and demonstrates the basic behavioral principles at work in their simplest form. These operant conditioning principles are extended to human behavior occurring in the natural environment. Increasingly complex human behaviors are successively introduced.

**PSYC 8207 - Developmental Psyc (3)**
Focuses on theories, issues, and research related to cognitive development and learning from infancy to adulthood for the "normal" individual. Theories covered include Piaget, Vygotsky, and Information Processing. Research reviewed includes representations of knowledge, human performance and expertise, and emotion regulation.
PSYC 8208 - Psyc Of Perception (3)
An examination of the historical development, research, and major theoretical positions in the area of perceptual psychology. Major emphasis is placed on theoretical and experimental treatment of the basic perceptual phenomena.

PSYC 8211 - Cognitive Processes (3)
Overview of cognitive psychology and cognitive science, with emphasis on theoretical explanations and critical evaluation of empirical evidence; topics include perception and attention, short- and long-term memory, language, problem solving, reasoning, decision making, and artificial intelligence. Restricted by Program or by Permit.

PSYC 8212 - Industrial Psychology (3)
Examination of the content and methodology used by industrial psychologists in personnel selection, classification, training, and performance evaluation. Students are familiarized with the skills necessary for these activities, as well as the guidelines and legal constraints on organizations' hiring, promotion, and performance evaluation practices.

PSYC 8213 - Personnel Psychology (3)
An in-depth study of the theories and procedures used by personnel psychologists to conduct job analyses and apply the findings to the development of valid and reliable selection/promotion strategies and performance measurement instruments. The course includes a significant amount of hands-on experience so students acquire the knowledge and skills to competently carry out these activities in applied settings. PREREQUISITE: 7212/8212.

PSYC 8214 - Industrial Training (3)
Examination of the content and methodology used by industrial psychologists to develop, implement, and evaluate training programs in work settings. Students acquire the skills to conduct training needs assessments, select from various training platforms, develop training programs, and assess the degree to which they accomplish their organizational objectives. The course includes exposure to new computer-based and web-based training technologies.

PSYC 8215 - Organizational Psyc (3)
The course deals with the major organizational determinants of individual and group behavior and performance. The characteristics of organization structure and climate are explored from both a classical and a contemporary viewpoint. Organization change and development theories are examined plus the major ancillary theoretical positions on leadership, individual and group performance, behavior modification, selection and training. PREREQUISITE: Permission of instructor.

PSYC 8217 - Social Psychology (3)
Review of theoretical and empirical literature examining behavior and experience of individuals in social settings; includes coverage of attributions and interpersonal perception, attitude formation and change, prejudice and stereotyping, interpersonal attraction, social influence, human aggression, and prosocial behavior.
PSYC 8218 - Incr Orgnl Productivity (3)
Examination of the theories and methodologies used to diagnose organization problems, determine their causes, and select, implement, and evaluate interventions to mitigate the problems and increase organizational productivity. Students acquire a knowledge base and specific skills employed by organizational psychologists to help effect organizational improvements. The course involves lecture, discussion, and group projects.
PREREQUISITE: PSYC 7215/8215.

PSYC 8219 - Soc/Persnly Devel (3)
A general survey of social and personality development from infancy through adolescence. The course consists of three sections: (1) general theoretical perspectives, including intrapsychic, cognitive, and social learning approaches; (2) intra-individual phenomena such as sex role, traits, moral development, etc.; (3) inter-individual phenomena such as family interactions, peer interactions, and societal influences.

PSYC 8220 - Social Cognition (3)
Review of major contemporary issues in social psychology from a social cognitive perspective; cognitive-information processing approach as it applies to social psychology; attributions, schemas, attention and perception, impression-formation and social memory, accessibility and priming, the self, and decision making.

PSYC 8221 - Natural Lang Processng (3)
(Same as COMP 7780-8780). Computational aspects, algorithms, and techniques for human language processing including lexical analysis, syntactic parsing, semantics, word sense disambiguation, logic forms, dialogue, and pragmatics; applications include question answering and information extraction among others. PREREQUISITE: COMP 6040 or 6041 or permission of instructor.

PSYC 8222 - Psychology Human Memory (3)
Major theoretical and empirical issues in the study of human memory; major emphasis on nature of structures and processes involved in memory encoding and retrieval and nature of representations available to memory.

PSYC 8223 - Intelligent Tutoring (3)
Covers selected internet-based training systems and their links to cognition, education, and computing; focuses on learning environments, including basic theories in learning science, advanced learning technologies, software development, and applications in academic settings.

PSYC 8301 - Research Design & Meth (3)
Emphasis on mathematical and nonmathematical analyses of psychological data, theoretical and experimental implications of different analyses, various data collection techniques, and types of experimental and statistical control; ethical issues and ethical principles of research conduct. PREREQUISITE: Psychology graduate student or permission of instructor

PSYC 8302 - Adv Statistics Psych I (3)
Introduction to general linear model; multiple regression analysis, and single- and multiple-factor analysis of variance; emphasis on using software programs to perform statistical analyses. PREREQUISITE: Psychology graduate student or permission of instructor.

**PSYC 8303 - Adv Statistics Psych II (3)**
Intermediate and advanced topics related to analysis of variance, including fixed and random effects, repeated measures, non-orthogonal designs, and the analysis of covariance; traditional analysis of variance concerns within framework of general linear model; scales of measurement, planned and post hoc comparisons, power analysis and concept of effect size. PREREQUISITE: PSYC 7302 or equivalent.

**PSYC 8304 - Meas Th & Psychomet (3)**
Measurement theory involved in the construction and evaluation of psychological measuring instruments will be stressed. Particular emphasis will be placed on scaling methods and their use in psychological research and evaluation. Restricted to Psychology graduate student or permission of instructor.

**PSYC 8305 - Quant Meth Review Rsch (3)**
(same as PUBH 7305-8305). Quantitative procedures (meta-analysis) for reviewing research findings in psychology and other social sciences; techniques for locating and coding research studies, calculating effect sizes, and analyzing study findings. PREREQUISITE: Psychology graduate student or permission of instructor.

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**PSYC 8308 - Appl Multivariate Stat (3)**
Multivariate analysis of variance (MANOVA) with independent designs and its extension to repeated measures ANOVA. Goals include review conceptual bases, learn SPSS procedures, analyze simple and complex designs, and learn special post hoc procedures. PREREQUISITE: PSYC 7302 or equivalent.

**PSYC 8309 - Focus Group Research (3)**
Examination of the general logic of focus group research, including strengths and weaknesses of this approach. Methodology will be covered in depth, including how to plan a project, development of questions for a focus group, moderating the group, and analyzing and reporting data. Completion of a semester project is required.

**PSYC 8310 - Mixed-Model Regress Anly (3)**
Instruction in the use of mixed-model regression with a focus on design and analysis of group-randomized trials;
attention also given to analysis of data from surveys based on cluster sampling, longitudinal studies, and studies involving matching. PREREQUISITE: PSYC 7301, 7302, and 7303 and permission of instructor.

PSYC 8311 - Appl Cat Data Analysis (3)
Instruction includes tabular, logistic, and Poisson and Cox regression, as well as interpretation of SAS output. For advanced students in psychology, education, and public health pursuing a career in research. PREREQUISITES: PSYC 7301, 7302, 7303, and permission of instructor.

PSYC 8312 - Qualitative Resrch/Psyc (3)
Examines history and current practice of research stemming from a human science philosophy, introducing a variety of qualitative research methodologies; examines differences and similarities in human and natural sciences in order to appreciate the significance of epistemology on research practice. PREREQUISITE/COREQUISITE: PSYC 7301 or permission of instructor.

PSYC 8313 - Computational Models Cog Sci (3)
A survey of popular techniques used to model mental processes and experimental data. Both computational and mathematical models will be considered. Examples include: artificial neural networks for psycholinguistics, Bayesian methods for learning and categorization, general processing tree models for reaction time studies, diffusion and random walk processes of memory, and knowledge representation. The seminar will focus on conceptual issues while providing a brief mathematical introduction to the models for a general behavioral science audience.

PSYC 8315 - Randomized Clinical Trials (3)
The purpose of this course is to provide students with a thorough grounding in planning and executing randomized clinical trials (RCTs) including design, management, evaluation, and resource acquisition. PREREQUISITES: PSYC 7301 and 7302. Restricted by Program or by Permit.

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Cognition and emotion affect behavior in a myriad of ways. The interactions of cognition and emotion are also quite complex. The primary purpose of this course is to provide an overview of research on the cognitive and affective bases of behavior. The course is also designed to foster critical thinking and presentation skills.

PSYC 8411 - Psyc Process Research (3)
Investigates current practice of examining effects of interventions within sessions, of therapy events, and of differences in psychotherapy orientations. Through examining mock therapy transcripts and interviews, students build skills toward independent implementation of psychotherapy or interview-related research. PREREQUISITE: PSYC 7301 and 7434, or permission of instructor.

PSYC 8412 - Psychopathology (3)
Survey of the manifestations of abnormal behavior and psychological processes; detailed analysis of clinical and
PSYC 8416 - Child Psychopathology (3)
A survey of the major theoretical formulations of childhood disorders, including learning, developmental, psychoanalytic, and family systems theories. Organic, familial, and sociocultural influences are discussed. Emphasis is placed on basic research that contributes to our understanding of these difficulties. Traditional approaches to intervention are reviewed along with family treatment.

PSYC 8419 - Family Therapy (3)
Overview of family therapy as treatment modality and point of view, emphasizing interdependence of theory, practice, and research; focuses on brief problem-focused therapy, behavioral couples and family therapy, multigenerational family systems therapy, strategic and structural approaches, systemic family therapy, experiential approaches, and narrative family therapy. PREREQUISITE: Permission of instructor.

PSYC 8420 - Personal Construct Thry (3)
In-depth seminar on personal construct theory, a cognitively oriented theory of personality stemming from the work of George Kelly. Philosophical assumptions and basic theory; use of repertory grid technique and its application to research on such topics as cognitive complexity, development, interpersonal relationships, psychopathology, and psychotherapy. Restricted by Program or by Permit.

PSYC 8428 - Foundatns Clinical Psyc (3)
Introduction to fundamental concepts and methods of clinical psychology conceived as application of scientific reasoning to human problems; historical and scientific foundations for scientist-practitioner model, and various roles of clinical psychologist in social context; ethical, legal, and multi-cultural issues emphasized. Restricted by Program or by Permit. PREREQUISITE: Admission to graduate training program in clinical psychology.

PSYC 8430 - Clin Assessment/Ability (4)
Introduction to psychological assessment of cognitive abilities and achievement; exposure to basic psychometric concepts; observation and interpretation of assessment related to behavior; specific emphasis on development of assessment skills such as test administration, test interpretation, and report writing; ethical and legal issues of professional conduct emphasized. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 8432 - Clinic Asses/Case Cncpt (4)
Comprehensive review of fundamental concepts and practices of clinical assessment as application of scientific reasoning to problem of case conceptualization; development of conceptualization skills to integrate interview, objective assessment, and systematic observations; evaluation of different assessment approaches for empirical support and utility in case management; critical and analytic thinking, ethical and legal issues of professional conduct emphasized. PREREQUISITE: Permission of instructor. Restricted by Program or by Permit.
PSYC 8434 - Clin Psychotherapies (3)
In-depth study of methods of psychotherapy and intervention strategies, their basic assumptions, spheres of applicability, and typical outcomes. Therapeutic approach covered will depend upon the particular instructor. May be repeated for maximum of 20 credits with change in topic. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 8435 - Intro To Psychotherapy (1-3)
Required for all clinical students. Surveys major traditions of psychotherapy - psychodynamic, humanistic, cognitive-behavioral, and systemic - considering originators' works as well as contemporary exponents; includes didactic (reading, discussion) and experiential learning (exercises, role plays) to promote both conceptual and practical acquaintance with the implications of each tradition. Restricted by Program or by Permit. Students can enroll in this course for 3 hours and then repeat once for 1 hour. PREREQUISITE: Permission of instructor.

PSYC 8438 - Pract Clinical Trtmt (1-3)
Practical experience to students in clinical psychology, permitting them to work under professional supervision for 42 client contact hours in the Psychological Services Center. Students conduct intake interviews, administer and interpret psychological tests, and provide therapy. May be repeated for maximum of 24 hours credit. Restricted by Program or by Permit. PREREQUISITE: Admission to graduate training program in clinical psychology. Grades of S, U, or IP will be given.

PSYC 8439 - Clin Assessmnt/Report Wrtng (3)
Develops strong assessment skills and ability to write comprehensive mental health reports; students perform assessments and receive instruction in the Psychological Services Center; instructor provides feedback on student's testing, analysis of tests, integration of tests into comprehensive understanding of client, and writing professional reports. PREREQUISITE: PSYC 7/8412, 7/8428, 7/8432, and 7/8621. Grades of S/U, or IP will be given.

PSYC 8440 - Behavioral Medicine I (3)
Overview of behavioral medicine and examination of psychologists' roles in healthcare settings; psychological and interpersonal factors that affect healthcare delivery will be examined, such as physician-patient communication, gender, and ethnic diversity; differences in ethical underpinnings between medicine and psychology will be explored. PREREQUISITE: Permission of instructor. Restricted by Program or by Permit.

PSYC 8441 - Psyc/Medical Illness (3)
Addresses application of psychological principles to promote coping with medical disability and optimal healing; diagnostic interviewing and medical consulting skills emphasized; psychological and cognitive impact on various medical diseases and disorders reviewed; biological bases of behavior emphasized. Restricted by Program or by Permit. PREREQUISITE: Permission of instructor.

PSYC 8501 - Sem General Psychology (3)
Restricted by Program or by Permit.

PSYC 8503 - Sem Experiment Psyc (3)
Restricted to Program or by Permit.

PSYC 8506 - Sem Clinical Psyc (3)

PSYC 8507 - Sem Industrial Psyc (3)

PSYC 8509 - Sem School Psychology (3)

PSYC 8510 - Sem Organztnl Psych (3)

PSYC 8512 - Sem Develpmtal Psyc (3)

PSYC 8514 - Sem Cognitive Science (3)

PSYC 8515 - Sem Social Psychology (3)

PSYC 8516 - Issues Psychothrpwy Rsch (3)
Research evidence pertaining to basic questions about psychotherapy and its effectiveness; classic contributions and current research findings.

PSYC 8517 - Grant Prop Writing/Psyc (3)
Introduction to grant-writing process with emphasis on NIH funding; topics include identifying funding sources, grant writing and resubmissions, and grant reviewing; students prepare a suitable grant application as part of the course.

PSYC 8520 - Tchng Skills Grad Asst (3)
Overview of teaching responsibilities and skills and discussion of teaching issues for graduate teaching assistants; supervised practical experience teaching college courses and feedback on performance. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Permission of graduate coordinator. Grades of S, U, or IP will be given.
PSYC 8601 - Res Prac Gen Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 8602 - Res Pract Phys Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 8603 - Res Prac Exp Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 8604 - Res Prac Comp Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 8605 - Res Prac Social Psych (1-3)
Grades of S, U, or IP will be given.

PSYC 8606 - Res Prac Clinical Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 8607 - Res Prac Devlpmntl Psyc (1-3)
Grades of S, U, or IP will be given.

PSYC 8608 - Res Prac Neuropsych (1-3)
Grades of S, U, or IP will be given.

PSYC 8609 - Res Prac School Psych (1-3)
Grades of A-F, or IP will be given.

PSYC 8610 - Field Prac Clin Psyc (1-6)
Supervised experience in the use of psychological diagnostic, treatment, or community intervention procedures in various community agencies and facilities. May be repeated for a total of 12 credits. PREREQUISITE: Admission to the graduate training program in Clinical Psychology, or consent of instructor. Grades of S, U, or IP will be given.

PSYC 8611 - Fld Prac Soc-Indust (1-3)
Seminar discussion and supervised experience in the application of basic psychological procedures and principles to social, personnel, and organizational activities in various industrial, military and community settings. May be repeated for a maximum of 9 credits. Grades of S, U, or IP will be given.

PSYC 8614 - Prac School Psyc (3)
Supervised experience in the application of psychological procedures in educational and clinical settings. A minimum of two practica are required. First practicum requires grades of 3.0 or better in PSYC 7803 and 7804; second requires 3.0 or better in PSYC 7805 and 7806, and S in first practicum. May be repeated for a maximum of 12 credits. PREREQUISITE: Admission to graduate training program in school psychology and permission of instructor. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

PSYC 8615 - Special Problems (1-3)
Independent investigation of a research problem, or directed readings, in a selected area of psychology chosen in consultation with the instructor. Only six hours credit may be applied to the degree. May be repeated for a maximum of 6 credits. Grades of A-F, or IP will be given.

PSYC 8616 - Clin Pract Neuropsyc (3)
The advanced student interested in neuropsychology will receive supervised experience in the use of psychodiagnostic techniques in various community settings; training covers basic diagnostic techniques, specialized diagnostic techniques, and neurological assessment procedures. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

PSYC 8618 - Res Prac Cogn Psych/Sci (1-3)
May be repeated for a maximum of 3 credits. Grades of S, U, or IP will be given.

PSYC 8619 - Child/Family Practicum (1-3)
May be repeated for a maximum of 9 credits. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

PSYC 8620 - Major Area Paper (3-6)
Independent investigation of an approved topic of the student's specialization, leading to the preparation of a publishable paper following the format of the Psychological Bulletin or the Psychological Review. Only 6 hours may be counted toward degree requirements. Grades of S, U, or IP will be given.

PSYC 8621 - Research Practicum (3)
This practicum is required of all first year doctoral students and others receiving department financial assistance and may be taken by General Psychology Masters students. This course serves to introduce the student to research currently being conducted by faculty in the Department of Psychology. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

PSYC 8622 - Res Prac: Behav Med (1-3)
May be repeated for a maximum of 12 credit hours. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

PSYC 8701 - Behavioral Neuroscience (3)
A comprehensive study of the relationships between brain function and behavior; topics include neuroanatomy, neurophysiology, neuropharmacology, sensory systems, learning and memory, motor systems and disorders, and neuropsychiatric diseases. Restricted by Program or by Permit.

**PSYC 8705 - Neuropsychopharmacology (3)**
Overview of basic principles of neuropharmacology and contemporary issues in clinical psychopharmacology; introduces principles of pharmacokinetics and dynamics, drug-receptor pharmacology, neuroanalytical methodology, and chemical neuroanatomy of the brain; culminates with overviews of contemporary drug treatment strategies for a range of cognitive, pathological, and neurological disorders, including substance abuse.

**PSYC 8707 - Professional Issues (1)**
Prepares late-doctoral students in school and clinical psychology for internship and future careers; includes developing a professional vita, articulating a theoretical orientation and professional identity, obtaining an internship, career options, effective supervision, licensure and private practice issues. May be repeated for a maximum of 4 credit hours. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given. Restricted to Program or by Permit.

**PSYC 8800 - Intro School Psychology (3)**
Survey of school psychology including historical foundations, roles and functions, school and community practices, standards and ethics, issues, technological developments; trends in credentialing and practice at the state and national level.

**PSYC 8802 - Child Disability/Family (3)**
An overview of childhood disability and family considerations applied to psychological services in school and agency settings; agency and family visitations provide experiential learning in addition to theory and research. PREREQUISITES: Course on characteristics of exceptional children and permission of instructor.

**PSYC 8803 - Psych Ed Assessmnt I (4)**
Critical analysis of intellectual assessment including skill development in administration, scoring, and interpretation of major individual tests of intelligence; related psychoeducational instruments with emphasis on case study data collection and report writing. PREREQUISITE: Admission to graduate studies in psychology or permission of the instructor.

**PSYC 8804 - Psych Ed Assessmnt II (3)**
Critical analysis of personality assessment including skill development in administration, scoring, and interpretation of major personality assessment techniques; related psychoeducational instruments with emphasis on case study data collection and report writing. PREREQUISITE: PSYC 7803 and permission of instructor. School psychology students must have a grade of 3.0 or higher in PSYC 7803. Restricted by Program or by Permit.

**PSYC 8805 - Psych Consultation (3)**
This course teaches the theory and skills needed for providing consultation to students and families in educational and clinical settings; focusing on an ecological, problem-centered model, content will include factors influencing the consultation process at the individual, group, and system level. Restricted by Program or by Permit.

**PSYC 8806 - Sch Psych Interventions (3)**
Students will acquire skills needed to provide individual, group, family, and crisis intervention services to children and adolescents in educational and clinical settings; course material will include empirically-validated interventions focusing on issues related to the academic, social, emotional, and psychological needs of the child/adolescent. PREREQUISITE: PSYC 7805-8805, COUN 7542 or equivalent. School Psychology students must have a grade of 3.0 or higher in PSYCH 7805.

**PSYC 8807 - Adv Sch Psych Intrvntn (3)**
Students will refine skills in both direct and indirect school psychological services using empirically-validated interventions; course material will cover current intervention issues in school psychology, the role of supervision in school psychology, evaluating the efficacy of interventions, and the link between assessment and treatment planning. PREREQUISITES: PSYC 7803-8803, 7804-8804, 7805-8805, and 7806-8806. Restricted by Program or by Permit.

**PSYC 8808 - Psychoed Assessment III (3)**
Introduction to psychoeducational assessment of preschool children; includes issues surrounding early assessment, skill development with preschool instruments, and related report writing, conferencing. PREREQUISITE: Permission of instructor.

**PSYC 8809 - Adv Sch Psych Practicum (3)**
Applied experience utilizing both direct and indirect school psychological services and supervision; students will assume the role of case manager providing comprehensive services for multiple clients; students will also be expected to supervise students in the beginning intervention practicum. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given. Restricted by Program or by Permit.

**PSYC 8812 - Intern: School Psyc (3-6)**
Supervised field placement in school and/or community agency settings; requires a minimum of 1200 hours for the EdS, at least half of which must be in a school setting. May be repeated for a maximum of 12 hours applied toward the degree. PREREQUISITE: Admission to the school psychology program, permission of program director, grades of S in all previous practica. Grades of S, U, or IP will be given. Restricted by Program or by Permit. Doctoral program students complete PSYC 8999.

**PSYC 8900 - Psychology of Gender (3)**
This course will examine how gender affects all aspects of our lives at both the societal/cultural level and the individual level within the societal/cultural context.
**PSYC 8999 - Predoctoral Internship (0)**
Psychology majors may not use this course to fulfill degree requirements. Restricted by Program or by Permit.

**PSYC 9000 - Dissertation (1-9)**
Independent research for Doctor of Philosophy degree. Application for writing a dissertation must be filled out on an approved form after consultation with the major professor and filed with the Graduate School. Only 9 hours may be counted toward degree requirements. Student must be enrolled in this course during the semester in which the student expects to graduate. Grades of S, U, or IP will be given.
SOCIOLOGY (SOCI)

In addition to the courses below, the department may offer the following Special Topics courses:
SOCI 6900-09. Special Topics in Sociology. (3). Topics are varied and announced in online class listings.

SOCI 7901-7909–8901-8909. Special Topics in Sociology. (1-3).

SOCI 6210 - Rise of Sociological Theory (3)
Nature, grounds, and explanatory powers of various forms of sociological theory; analysis of bases for scientific and philosophical assumptions and social and political contexts; major theorists including Durkheim, Marx, Weber, Simmel.

SOCI 6211 - Contemp Soc Theory (3)
A course that examines the trends and the development in sociological theory from the mid-20th century to today. Theories covered range from descriptive to explanatory to critical theories of social action, organization, inequality, and change, as well as the interaction between people, groups, and even societies.

SOCI 6312 - Intermed Soc Stat (3)
Multivariate analysis of social data; use of computer programs for data management and statistical analysis.
PREREQUISITES: SOCI 3311 and 3322, or their equivalent, or permission of the instructor.

SOCI 6425 - Environmental Sociology (3)
Role of social institutions, power, and inequality in shaping environmental discourse and action; dynamics of environmental social movements.

SOCI 6842 - Soci Of Occup & Prof (3)
Sociological analysis of the division of labor, occupational groupings, career patterns, and professional associations in modern American society.

SOCI 7210 - Theory Seminar (3)
An advanced analysis of recent developments in sociological theory, including the relationship of theory to empirical research.

SOCI 7212 - Mult Racial Femnst Thry (3)
Intensive analysis of major figures and issues in contemporary multi-racial feminist theory, emphasis on theory that grapples with conceptual and methodological requirements for multi-racial feminist politics of diversity that draws on both United States and international scholarship.

SOCI 7320 - Sem Meth Soc Res (3)
Issues and techniques in data collection for the design and implementation of independent research projects; logic of conducting social scientific research, ethical considerations, logic of sampling, various methods of collecting data for social research (e.g. experimental design, participant observation, survey research/questionnaire construction,
and content analysis), and writing research proposals.

**SOCI 7322 - Sem Quant Data Analysis (3)**
Preparation, analysis, and interpretation of existing quantitative data; data processing, multivariate analysis, interpretation, and writing results for research projects. PREREQUISITE: SOCI 6312, equivalent, or permission of instructor.

**SOCI 7325 - Sem Qualitative Resrch (3)**
Examination of qualitative social science research methods, particularly the rationale behind these methods, how and when they are employed, and processes of analyzing qualitative data.

**SOCI 7410 - Sociology Of Gender (3)**
Social definitions of gender and impact of these definitions on women's and men's lives; women's and men's responses to these conditions.

**SOCI 7411 - Social Stratification (3)**
Theoretical analysis of how social class status and power shape social relations, determine life chances, and affect attitudes, opinions, and political choices of individuals and groups; processes that perpetuate systems of class, gender, and race inequality, and degree of social mobility in societies.

**SOCI 7421 - Racial & Social Inequal (3)**
(7810). A comparative study of racial, ethnic, and social minorities focusing on inequality as global and historical phenomena. Includes theoretical and empirical research on multiple interactions of race, class and gender.

**SOCI 7442 - Sociology Of Poverty (3)**
Patterns of wealth and income inequality in contemporary society; consequences of poverty for society and individuals in various institutional contexts. Critical evaluation of traditional theories of poverty and contemporary alternatives.

**SOCI 7450 - Seminar On Aging (3)**
Aging as sociological phenomenon through understanding and applying principles of gerontological analysis to contemporary topics in aging, including acquaintance with and use of computer accessible literature data base.

**SOCI 7511 - Theories Of Deviance (3)**
A seminar in the sociological approaches to the study of deviance and social disorganization with an emphasis on current sociological theory and research.

**SOCI 7631 - Urban Theory Seminar (3)**
Competing theories and accompanying research findings on current issues in macro and micro urban theory; rise and fall of cities; effects of urbanism and urban form on individual and group behavior; how urban social groups
(e.g., social classes, race/ethnic groups) manage their lives and their relations with others, and how these groups mobilize in efforts to change or resist change.

**SOCI 7655 - Socio Found Cmmtys Stds (3)**
Ecological, interaction, and social system perspectives for community analysis; contemporary applications of theories within context of American society; implications of current changes for community life and social stratification, leadership and power structure, social differentiation and integration, community development, and ideology.

**SOCI 7711 - Sem Globlztn/Soc Chng (3)**
Sociological and historical perspectives on social, political, and economic differences among countries and regions of the world; global/ transnational processes in uneven development; state formation; class transformation; democracy.

**SOCI 7721 - Sem Social Movements (3)**
Origins, organization, and consequences of intentional, collective efforts at social change; social movement theory; in-depth examination of selected movements, both domestic and international.

**SOCI 7751 - Sem Socio Social Psyc (3)**
Advanced course in sociological social psychology surveying various classical and contemporary microsociological theories and methodological orientations. Topics include symbolic interaction, role theory, dramaturgical analysis, self and socialization, social exchange, group dynamics and many other relevant current research and theoretical perspectives.

**SOCI 7811 - Sociology of Organizations (3)**
(7460). Examination of competing theories of formal and complex organizations and accompanying empirical research on macro organizational behavior, the internal and external dynamics of organizations, the relationships between organizations and institutions, and organizational change.

**SOCI 7820 - Sem Soci Of Education (3)**
Schools and school life from sociological perspective; how societal objectives are translated into school policies and practices.

**SOCI 7830 - Seminar In Family (3)**
(7420). An advanced course that is primarily concerned with research findings in the area of family disorganization, changes in family structure and function, parent-child interaction, working mothers, and problems of aging.

**SOCI 7851 - Medical Sociology (3)**
Sociological understandings of society, demographic processes, organizations, behavior, and health.
SOCI 7852 - Soci Mental Illness (3)
Social meaning of mental illness, with special emphasis on the cultural, organizational, and behavioral contexts of the occurrence and management of mental illness.

SOCI 7853 - Gender And Health (3)
Advanced course on sociological understandings of gender, health, and illness in the US; topics include health status, health behaviors, reproductive health, health professions, care-giving, aging and mortality with special attention to women and men of different class, racial, and ethnic groups.

SOCI 7860 - Sem Soci Of Religion (3)
A sociological examinations of religious institutions; cultural and social factors associated with religious structure, religious values, and religious behavior; secularization of culture and change of social structure; analysis of religious organizations, religious leadership, and religious movements.

SOCI 7912 - Directed Indiv Study (1-4)
Individually directed advanced reading and/or research in special areas of interest. NOTE: Course may be repeated for a maximum of 6 hours credit. PREREQUISITE: Permissions of Coordinator of Graduate Studies. Grades of A-F, or IP will be given.

SOCI 7914 - Wrkshp For Grad Assts (1-3)
Presentations of research methods and scholarly output by faculty, graduate students, and visiting scholars. May be repeated for a maximum of 12 credit hours. NOTE: Sociology majors may not use this course to fulfill degree requirements. PREREQUISITE: Limited to sociology majors; permission of graduate coordinator. Grades of S, U, or IP will be given.

SOCI 7996 - Thesis (1-6)
Supervised research in preparation for advanced degree thesis. Grades of S, U, or IP will be given.

SOCI 8210 - Theory Seminar (3)
An advanced analysis of recent developments in sociological theory, including the relationship of theory to empirical research.

SOCI 8212 - Mult Racial Femnst Thry (3)
Intensive analysis of major figures and issues in contemporary multi-racial feminist theory, emphasis on theory that grapples with conceptual and methodological requirements for multi-racial feminist politics of diversity that draws on both United States and international scholarship.

SOCI 8320 - Sem Meth Soc Res (3)
Issues and techniques in data collection for the design and implementation of independent research projects; logic of conducting social scientific research, ethical considerations, logic of sampling, various methods of collecting data
for social research (e.g. experimental design, participant observation, survey research/questionnaire construction, and content analysis), and writing research proposals.

**SOCI 8325 - Sem Qualitative Resrch (3)**
Examination of qualitative social science research methods, particularly the rationale behind these methods, how and when they are employed, and processes of analyzing qualitative data.

**SOCI 8410 - Sociology Of Gender (3)**
Social definitions of gender and impact of these definitions on women's and men's lives; women's and men's responses to these conditions.

**SOCI 8411 - Social Stratification (3)**
Theoretical analysis of how social class status and power shape social relations, determine life chances, and affect attitudes, opinions, and political choices of individuals and groups; processes that perpetuate systems of class, gender, and race inequality, and degree of social mobility in societies.

**SOCI 8422 - Race/Class/Gender (3)**
Concepts, theories, and contemporary empirical research regarding multiple intersections of race, class, and gender; implications for sociological theory and methodology.

**SOCI 8442 - Sociology Of Poverty (3)**
Patterns of wealth and income inequality in contemporary society; consequences of poverty for society and individuals in various institutional contexts. Critical evaluation of traditional theories of poverty and contemporary alternatives.

**SOCI 8511 - Theories Of Deviance (3)**
A seminar in the sociological approaches to the study of deviance and social disorganization with an emphasis on current sociological theory and research.

**SOCI 8655 - Socio Found Cmmty Stds (3)**
Ecological, interaction, and social system perspectives for community analysis; contemporary applications of theories within context of American society; implications of current changes for community life and social stratification, leadership and power structure, social differentiation and integration, community development, and ideology.

**SOCI 8711 - Sem Globlztn/Soc Chng (3)**
Sociological and historical perspectives on social, political, and economic differences among countries and regions of the world; global/ transnational processes in uneven development; state formation; class transformation; democracy.
SOCI 8721 - Sem Social Movements (3)  
Origins, organization, and consequences of intentional, collective efforts at social change; social movement theory; in-depth examination of selected movements, both domestic and international.

SOCI 8751 - Sem Socio Social Psyc (3)  
Advanced course in sociological social psychology surveying various classical and contemporary microsociological theories and methodological orientations. Topics include symbolic interaction, role theory, dramaturgical analysis, self and socialization, social exchange, group dynamics and many other relevant current research and theoretical perspectives.

SOCI 8811 - Sociology of Organizations (3)  
(7460). Examination of competing theories of formal and complex organizations and accompanying empirical research on macro organizational behavior, the internal and external dynamics of organizations, the relationships between organizations and institutions, and organizational change.

SOCI 8830 - Seminar In Family (3)  
(7420). An advanced course that is primarily concerned with research findings in the area of family disorganization, changes in family structure and function, parent-child interaction, working mothers, and problems of aging.

SOCI 8851 - Medical Sociology (3)  
Sociological understandings of society, demographic processes, organizations, behavior, and health.

SOCI 8852 - Soci Mental Illness (3)  
Social meaning of mental illness, with special emphasis on the cultural, organizational, and behavioral contexts of the occurrence and management of mental illness.

SOCI 8860 - Sem Soci Of Religion (3)  
A sociological examinations of religious institutions; cultural and social factors associated with religious structure, religious values, and religious behavior ; secularization of culture and change of social structure; analysis of religious organizations, religious leadership, and religious movements.

SOCI 8912 - Directed Indiv Study (1-4)  
Individually directed advanced reading and/or research in special areas of interest. NOTE: Course may be repeated for a maximum of 6 hours credit. PREREQUISITE: Permission of Coordinator of Graduate Studies. Grades of A-F, or IP will be given.
Graduate School

2015-2016 Academic Calendar

Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
URBAN AFFAIRS AND PUBLIC POLICY (SUAP)

SUAP 7100 - Public Policy Statistic (3)
Introduction to processes of conducting statistical analyses of data relevant to public issues, problems, and
policies in the areas of public administration, criminal justice, planning, and health administration; particular emphasis on providing an understanding of statistical concepts and techniques necessary for empirical analysis and decision-making.

SUAP 8100 - Public Policy Statistic (3)
Introduction to processes of conducting statistical analyses of data relevant to public issues, problems, and policies in the areas of public administration, criminal justice, planning, and health administration; particular emphasis on providing an understanding of statistical concepts and techniques necessary for empirical analysis and decision-making.
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CITY AND REGIONAL PLANNING (PLAN)

In addition to the courses below, the department may offer the following Special Topics courses:
PLAN 7610-7620. Special Topics in City and Regional Planning. (3). Topics vary and are announced in the online class listing.

CORE CURRICULUM

PLAN 7000 - Planning the American City (3)
Introduces the origins, evolution, and current state of American city planning. Examines the role planners play in promoting more sustainable, vibrant, and just towns, cities, and regions. Reviews critical issues confronting professionals engaged in such areas of specialization as: land use, site planning, urban transportation, affordable housing, community development, capital budgeting, and urban design.

PLAN 7002 - Planning Theory & Perspectives (3)
Theories of city planning with emphasis on decision-making, managing change and evaluating influence. Explores the multiple frameworks and theories that underpin approaches to planning and policy interventions.

PLAN 7004 - Land Use Controls (3)
Methods of regulating land use, including zoning, subdivision controls, and growth management techniques; legal framework for planning, including enabling legislation, local ordinances, and significant judicial decisions.

PLAN 7006 - Comprehensive Planning Studio (3)
Individual and group practice in collection, analysis, and presentation of field data on selected planning problems. Client-based field course that requires the synthesis and application of knowledge, skills, and competencies acquired in the core planning curriculum. PREREQUISITE: PLAN 7000, PLAN 7012, and PLAN 7202 or permission of the instructor.

PLAN 7007 - Project Planning Studio (3)
Application of skills and competencies toward implementation strategies for specific planning project(s) typically identified in a preceding Comprehensive Planning Studio course. Programs, urban design proposals, etc. will address critical issues affecting local communities and integrate ecological, environmental, economic, social, historical, and cultural perspectives. PREREQUISITE: PLAN 7006 or permission of the instructor.

PLAN 7008 - Site Planning (3)
Principles and methods of preparing site plan for development project with an emphasis on sustainable urban and regional form; techniques of determining suitability/sustainability of site resources and compatibility of land uses; use of GIS and CAD software in site planning and design; site impact analysis, development regulations, and site plan review procedures.

PLAN 7011 - Planning & the Metro Economy (3)
Introduces key economic and fiscal issues in local government, explores the relationship between planning
and urban/surburban/rural fiscal health. Considers: economic role of government, public investment, economic impacts of growth and development, and local redevelopment tools.

PLAN 7012 - Analysis for Comm Planning (3)
Methods used in the assessment of current socio-economic conditions of communities, trend analysis, and forecasts of future population and employment for the purpose of developing comprehensive plans and other analyses common to the planning profession.

PLAN 7202 - Land Use Planning (3)
Theory and practice of land use planning, with emphasis on methods of land use analysis and economic and social basis for land use decisions.

ELECTIVES

PLAN 6002 - Urban Food Security (3)
Origins, evolution, and current state of urban food distribution and accessibility; current challenges encountered by poor and working class individuals and families in accessing food in economically distressed areas; examination of alternative policies, plans, and programs designed to promote more equitable access to healthy foods in inner city communities. Course will include community-based field work.

PLAN 6003 - Community Economic Development (3)
Origins, evolution, and current state of community-based economic development. Course will include community-based field work.

PLAN 6004 - Community Organizing (3)
Origins, evolution, and current state of direct action organizing in the United States; principles, methods, and techniques of grassroots organizing. Course will include community-based field work.

PLAN 6201 - Urbanization/Environmnt (3)
(Same as ESCI 6201; GEOG 6201). A study of the ways humans have changed the natural environment by urbanization and how physical features and processes influence the development and function of cities.

PLAN 6231 - Water Resources (3)
(Same as ESCI 6231; GEOG 6231). Study of hydrologic processes and their application to needs of cities, industry, agriculture, and recreation.

PLAN 6261 - Plan/Sustainable Cities/Region (3)
(ESCI 6261). Multidisciplinary and multi-scaled approach to understanding the sustainability of natural and built environments in planning cities and regions; methods for measuring sustainability; emerging development concepts and practices; technology, efficiency, social equity and public health implications of sustainability; sustainable urban/regional form of the future.
PLAN 6443 - Transportation Planning (3)
(Same as ESCI 6443; GEOG 6443). Planning for various transportation modes and networks and the impact they have on urban land use and contemporary development problems.

PLAN 6502 - Computer Cartography (3)
(Same as ESCI 6502; GEOG 6502). Instruction in use of computer mapping programs as effective techniques for visual presentation of a wide variety of data. Two lecture, two laboratory hours per week. PREREQUISITE: BASIC, FORTRAN, or other computer language.

PLAN 6515 - Geographic Info Science (3)
(Same as ESCI 6515; GEOG 6515). Introduction to the basic concepts, components, and functions of Geographic Information Science using ARC/INFO GIS; topics include concepts and structure of spatial data, database planning and design, data quality control, automating spatial data, attribute data management, spatial manipulation, and spatial analysis techniques. PREREQUISITE: ESCI (GEOG) 1010 or 1020 or 1301 or 3430 or 4201 or permission of instructor.

PLAN 6521 - Quantitative Methods (3)
(Same as ESCI 6521, GEOG 6521). An introduction to quantitative methods in spatial analysis.

PLAN 7101 - Regional Planning (3)
(Same as ESCI 7101) Origins of regionalism, emergence of new regionalism, delineating and designing the region; economic, ecologic, and social principles for planning the regional city; public policy in region-building; regional planning organization and governance; the functions and problems of regional plan preparation, and plan implementation.

PLAN 7201 - Plan Comm Facilities (3)
Planning the location and design of community facilities in the light of changing concepts of public service and community organization.

PLAN 7203 - Ecology and Planning (3)
This course proposes an ecological approach to planning and design, aiming at creating an understanding of how human society interacts with ecosystems. It introduces theories and practices of planning and design framed into the ecological paradigm, especially focused on social, economic, environmental sustainability. It covers topics such as ecological thought, environmental issues, ecological cycles (water, energy, waste), thermodynamics, ecological footprint analysis, environmental justice movements, de-growth theory, ecological planning and design. It includes the study of planning and design practices in urban and rural areas in USA and Europe, with a special emphasis on community-based experiences in both contexts.

PLAN 7204 - Urban Revitalz Plan (3)
Changing urban land uses, first in areas that must improve or rebuild obsolete patterns, functions, and forms; and second in areas with acceptable uses, structures, and institutions, which in the interest and welfare of all the people must have additional space for growth and expansion.

PLAN 7205 - Sem Urban Design (3)
History and theory of urban form and implications for the design of cities; survey of urban design techniques.

PLAN 7206 - Housing (3)
Survey of housing market characteristics, financing, development, preservation, and redevelopment from both public and private perspectives.

PLAN 7208 - Economics of Cities (3)
Focuses on economics of spatial structure and urban problems; introduces economic theories explaining where and how cities grow; uses economic concepts to explore issues such as poverty, transportation and mass transit, housing and homelessness, education, employment, crime, zoning and land use, suburbanization and sprawl, metropolitan government, and public finance.

PLAN 7210 - Research Problems Seminar (3)
Provides students with a process for developing a research proposal by using building-block assignments with a formal timeline and providing opportunities for consistent feedback. Students will review and critique each others' written assignments and use class time to workshop ideas. Students will be expected to develop a clear research question, supported by relevant and useful literature, that leads to an appropriate and executable research methodology.

PLAN 7302 - Geographic Environ Anly (3)
(Same as ESCI 7201; GEOG 7201). Analytical and qualitative critique of the physical environment with emphasis on environmental quality, including air and water quality standards, soil erosion, solid waste management, and nuisance control.

PLAN 7504 - Sem Geog Info Systems (3)
(Same as ESCI 7504; GEOG 7504). Discussion of short- and long-term GIS science research topics by University Consortium of Geographic Information Science (UCGIS), such as internet GIS, possible effects of internet GIS on society, public participation GIS, participatory GIS, GIS for homeland security, geo-spatial society, and geo-visualization.

PLAN 7613 - Historic Preservation Planning (3)
This class introduces students to the origins, the evolution, the practice, and potential future developments of Historic Preservation Planning, a field aimed at enhancing the quality of life of American cities by preserving and enhancing its most historic portions of the built environment.

PLAN 7701 - Directed Research (1-3)
Independent investigation directed toward research problems in city and regional planning May be repeated for a maximum of 3 hours credit. Grades of A-F, or IP will be given.

PLAN 7708 - Planning Practice (3)
Practical skills in operating a planning office in both public and private sectors. PREREQUISITE: Approved planning experience.
PLAN 7890 - Planning Internship (1)
Experiential learning assignment to be achieved via an approved work assignment with a public or private planning organization or a member of the planning faculty. NOTE: Does not count toward degree requirements. Grades of S, U, or IP will be given.

PLAN 7896 - Capstone Project (1-3)
Preparation of a research paper that exhibits mastery of process and substantive area of planning. May be repeated for a maximum of 12 hours credit. Grades of S, U, or IP will be given.
CRIMINOLOGY AND CRIMINAL JUSTICE (CJUS)

In addition to the courses below, the department may offer the following Special Topics courses:
CJUS 6010-19. Special Topics in Criminal Justice. (1-3). Topics are varied and announced in online course listings.

CJUS 7190-99. Special Topics in Criminal Justice. (3). Systematic and comprehensive examination of important and timely issues and development in the field of criminal justice. May be repeated for a maximum of 6 hours.

CJUS 6160 - Forensic Sciences (3)
Forensic specialties will be discussed in terms of their history, the scientific rationale upon which each is based, and the problems that may compromise accuracy or validity; introduction to field techniques and analysis of evidence.

CJUS 6180 - Corp/White Collar Crime (3)
Organizational and occupational crime in comparison to other types of criminality; emphasis on causes, frequency, control, and social impact.

CJUS 6190 - Terrorism Soc/Legl Prsp (3)
Theoretical and ideological aspects of practice of and response to international and domestic terrorism; terrorism as crime from political, social, economic, historical, and legal perspectives.

CJUS 6520 - Substantive Crimnl Law (3)
Substance of the crime, including common-law sources and basic principles, types of offenses, responsibility, justification and excuse, and related areas.

CJUS 6531 - Issues/Constitnl Rights (3)
Issues in constitutional rights related to criminal defendants, including the exclusionary rule, application of First Amendment to criminal law, due process, and equal protection; examination of civil and criminal remedies for protecting and vindicating constitutional rights.

CJUS 6533 - Juvnl Delinq Thry/Procs (3)
Theories of juvenile delinquency, gang activities, and status offenses; history, organization, programs, and procedures of agencies charged with control and prevention of juvenile delinquency including police, juvenile units, juvenile courts, and juvenile correctional agencies.

CJUS 6535 - Capital Punishment/America (3)
Social science research on death penalty in United States; legal history of death penalty; structure of modern capital trials and appeals; wrongful death convictions; racial disparities; jury decision-making; life histories of capital defendants; deterrence, brutalization, incapacitation; human costs of murder and execution.

CJUS 7100 - CJ Administration (3)
Examination of the structure and interrelationship of the major components of the criminal justice system, with an emphasis on the impact of social and political forces on roles and functions of criminal justice agencies.

**CJUS 7110 - Ind Dir Study (1-4)**
Individual directed research/readings in special areas of interest in the field of criminal justice. May be repeated for a maximum of 4 credit hours. **PREREQUISITE:** Permission of Coordinator of Graduate Studies. Grades of S, U, or IP will be given.

**CJUS 7128 - Rsrch Mthds Crim Justice (3)**
Principles of social science research as applied to the study of the criminal justice system; sampling techniques and research strategies; emphasis on the development of research skills enabling the student to conduct an independent research project.

**CJUS 7129 - Advanced Stat In Cj (3)**
Introduction to intermediate and advanced topics related to statistical analysis of data from the National Archive of Criminal Justice Data; emphasis on Bureau of Justice Statistics data describing principal activities of the system and on complex data sets or those showing special promise for informing theoretical issues. **PREREQUISITE:** Permission of the Graduate Coordinator.

**CJUS 7130 - Crime Anly/Crim Bhvr (3)**
In-depth study of "normal crimes"; the analysis of the characteristics of the criminal, the victim, and the setting for specified offenses; the typical demographic and ecological elements of each type of crime with the purpose of providing a framework for analysis and comparison.

**CJUS 7131 - Res Practicum In Cj (3)**
The student will be exposed to development, implementation, and/or analysis of research methodology. Each student will work under direction of one faculty member on an experimental, theoretical or applied research study. May be repeated for a maximum of 6 credit hours. **PREREQUISITE:** CJUS 7128.

**CJUS 7141 - Reading For Comps (1-6)**
Arranged on an individual basis for Criminology and Criminal Justice graduate students only and directed by faculty. **PREREQUISITES:** Student must have completed required course work or be in the last semester of required course work. **NOTE:** Criminology and Criminal Justice majors may not use this course to fulfill degree requirements. Grades of S, U, or IP will be given.

**CJUS 7150 - Intrnship Criml Justce (3-6)**
Experience in a criminal justice setting through assignment to an enforcement, judicial, or correctional agency under joint supervision of agency officials and university faculty. **PREREQUISITE:** Permission of Coordinator of Graduate Studies. Grades of S, U, or IP will be given.
CJUS 7160 - Sem Cj Administration (3)
Theories of organization with emphasis on structures, principles, techniques, and processes of criminal justice agencies; factors affecting behavior within such organizations; motivation, leadership, group dynamics, conflict management, unionization, selection, training, performance evaluation, organizational change, and political factors in public agency operation.

CJUS 7161 - Intervention Strategies (3)
Development of intervention, prevention, and suppression strategies by criminal justice agencies; role of social and political institutions and forces on design and implementation of strategies; emphasis on how design and implementation impact communities and residents.

CJUS 7460 - Race, Ethnicity, Gender (3)
Looks at ways race, ethnicity, and gender have an impact on how offenders and victims are treated within the criminal justice system, focusing on majority/minority relations and how attitudes revolving around these relations are reflected within the criminal justice process.

CJUS 7510 - Law And Society (3)
Examination of law as a system of control and as a mechanism for the resolution of conflict; relationship of law to political, economic, and social systems critically analyzed; the development of the legal profession.

CJUS 7523 - Cncpt Of Criminal Law (3)
Social foundation and principles on which our system of criminal law is based.

CJUS 7535 - Seminar in Capital Punishment (3)
In depth study of the death penalty in the United States, with focus on four areas: history of death penalty in U.S.; legal issues and rulings; current social science research; effects of homicide and capital punishment on society.

CJUS 7541 - Crim Theory (3)
An overview of historical, sociological, biological, and economic theories of crime causation; particular attention will be paid to critically analyzing each of the theories presented in terms of research findings.

CJUS 7542 - Victimology (3)
An overview of the study of crime victims and the process, etiology, and consequences of criminal victimization, with focus on the types of crime victims, theories of victimization, and the victim's treatment within the criminal justice system using national data as well as recent research findings.

CJUS 7570 - Legal Issues CJ Admin (3)
Relationship between legal and constitutional issues and concepts of ordered liberty and administration of justice; application of legal methodology to analysis of current issues in constitutional rights and remedies.
CJUS 7996 - Thesis (1-6)
Grades of S, U, or IP will be given.

CJUS 8100 - Cj Administration (3)
Examination of the structure and interrelationship of the major components of the criminal justice system, with an emphasis on the impact of social and political forces on roles and functions of criminal justice agencies.

CJUS 8110 - Ind Dir Study (1-4)
Individual directed research/readings in special areas of interest in the field of criminal justice. May be repeated for a maximum of 4 credit hours. PREREQUISITE: Permission of Coordinator of Graduate Studies. Grades of S, U, or IP will be given.

CJUS 8141 - Reading For Comps (1-6)
Arranged on an individual basis for Criminology and Criminal Justice graduate students only and directed by faculty. PREREQUISITES: Student must have completed required course work or be in the last semester of required course work. Grades of S, U, or IP will be given.

CJUS 8150 - Intrnshp Criminl Justce (3-6)
Experience in a criminal justice setting through assignment to an enforcement, judicial, or correctional agency under joint supervision of agency officials and university faculty. PREREQUISITE: Permission of Coordinator of Graduate Studies. Grades of S, U, or IP will be given.
PUBLIC ADMINISTRATION (PADM)

In addition to the courses below, the department may offer the following Special Topics courses:
PADM 6710-19. Special Topics in Public Administration. (1-3). In-depth study of selected topics and issues related to public and nonprofit administration. May be repeated for a maximum of 6 hours.

PADM 7710-19–8710-19. Special Topics in Public Administration. (1-3). Intensive study of selected topics in public administration. May be repeated for a maximum of 6 hours.

PADM 6101 - Political Statistics (3)
( Same as POLS 6101). Introduction to analysis of quantitative data used to test, statistically, hypotheses in fields of political science and public and health administration.

PADM 6207 - Health Politics/Policy (3)
Introduction to political, economic, and social forces affecting the health care system in the United States; emphasizes development and comparison of health policies within the context of American politics; analysis of health policies within the context of the stages of American public policy-making.

PADM 6221 - Issues/Urban Admin (3)
Examination of politics, administration, and public policy in an urban context; focus on the administrative aspects of selected governmental policy-making processes; interrelationships of governments at various levels, urban challenges facing modern public administration.

PADM 6225 - Application/Urban Admin (3)
Study of the tools and strategies of public and nonprofit administration to accomplish collective purposes, develop communities, and enhance civic capacity toward improved quality of life in urban settings.

PADM 6228 - Grant Development/Management (3)
Elements of grant writing process; skills to seek, solicit, and receive grant awards from foundation and government sources; administration of awards to meet goals of recipient and granting agency.

PADM 6401 - Comparative Public Adm (3)
Comparative examination of differing concepts and perspectives of public administration, addressing variability in administrative systems, political power and control over public bureaucracies, education and recruitment of public bureaucrats, and the bureaucratic concept of public interest and responsiveness to the public.

PADM 6412 - Neigh Dev/Social Entrep (3)
( Same as ANTH 6412). Role of various institutions and their relationship to developmental needs of inner-city neighborhoods; evolution of American cities as context for understanding urban neighborhoods and poverty; institutions that shape urban development policy; partnerships and collaborations of neighborhood associations, governments, and nonprofit agencies.
PADM 7213 - Sem Publ Pol Analysis (3)
Empirical and normative analysis of public policy at the local, state, national, and international levels, emphasizing the theories, literature, and methodologies current to this field. PREREQUISITE: POLS 7601 or equivalent or permission of instructor.

PADM 7224 - Sem Urban Problems (3)
Problems inherent in the growing urban developments in the United States; the governmental organization of metropolitan areas and the difficulties of coordination of government functions; proposed remedies and the reception of new approaches in selected metropolitan areas.

PADM 7235 - The Memphis Economy (3)
(Same as ECON 7235). Analytic and descriptive review of the Memphis regional economy; includes labor markets, industrial and corporate organizations, logistical systems, urban sprawl, and demographics of race and gender. PREREQUISITE: A course in principles of economics.

PADM 7600 - Sem Adm Theory & Ethics (3)
Significance of public administration in American government; includes an introduction to formal organization theory and bureaucracy, decision-making theory, leadership and motivational theory, and current trends and problems in the study of public administration. PREREQUISITE: PADM 7661 or permission of instructor.

PADM 7601 - Research Methods (3)
Issues and techniques in data collection for design and implementation of independent research projects; logic of conducting research in public administration, measurement, and sampling; introduction to program evaluation and specific quantitative decision-making techniques.

PADM 7602 - Public Bdgt Adm/Fin (3)
Detailed study of administrative and political problems of fiscal policy, the budgetary process, and fiscal controls.

PADM 7603 - Pblc/Nonprofit Contr (3)
Theoretical and practical examination of projects and contracts as tools of policymaking in the public and nonprofit sectors; management projects and third party vendors; alternative mechanisms for public service delivery and an appreciation for the difficulties involved.

PADM 7604 - Social Science In Law (3)
(Same as POLS 7604). Applications of social science to such public policy questions as discrimination, obscenity, parole, trademarks, death penalty, child custody, and criminal offender profiles.

PADM 7605 - Human Resources Admin (3)
Policies, methods, and techniques utilized in public and health organizations; special attention is given to problems reflecting contemporary demands upon human resource systems, capacity to diagnose problems, select the most
effective means of addressing them, and plan appropriate courses of action developed through case studies.

**PADM 7606 - Sem Administrative Law (3)**
Role and nature of administrative law, including procedural requirements and judicial review of administrative actions and liability of government for torts and breach of contract.

**PADM 7607 - Public Mgmt Leadership (3)**
Theoretical and applied aspects of public and nonprofit leadership addressed in a holistic approach; focus on the most current literature and public debate; leadership examined from various perspectives reflected across the curriculum: administrative theory, public law, finance, ethics, research methods, and public policy. PREREQUISITE: Completion of at least 24 hours, including PADM 7600 and 7601, or permission of graduate coordinator.

**PADM 7608 - Public Mgmt Inf Sys (3)**
(POLS 7608-8608). Analysis and application of responsibilities of public organization managers; focus on technological strategies and skills for meeting those responsibilities including budget processes, information systems and dissemination, decision-making, citizen participation, and program development and evaluation.

**PADM 7609 - Sem Administratv Ethics (3)**
Introduction to ethical theories and principles as they apply to the practice of public administration, basic legal constraints such as conflict of interest laws, and more subtle ethical dilemmas that arise in the exercise of discretion of public administrators.

**PADM 7610 - Internship Public Admin (3-6)**
Participation in some type of field experience, including a written report critically describing the student's responsibilities. Field experience may result from a supervised internship in cooperating public or nonprofit organizations or from appropriate administrative experience if the student is employed in a public or nonprofit organization. PREREQUISITE: Permission of the Coordinator of Graduate Studies.

**PADM 7611 - Practicum (3-6)**
Application of knowledge, concepts, analytical tools to contemporary issues challenging modern managers; individuals pursue special projects in local public and nonprofit organizations, conducting research under the guidance of a faculty committee, or work with the Institute of Governmental Studies and Research on current problems in public administration. May be repeated for a total of 6 credits. PREREQUISITE: Permission of the Coordinator of Graduate Studies. Grades of A-F, or IP will be given.

**PADM 7612 - Program/Policy Evaltn (3)**
Models, theories, and techniques of program and policy evaluation in public administration; evaluation research design, data collection and analysis, dissemination of results, and possible applications of evaluations to policy-making and administration; organizational and political contexts of evaluation. PREREQUISITE: PADM 7601.
PADM 7614 - Interagency Collab/Adm (3)
Theoretical and applied aspects of public sector administrative innovation focusing on changing intergovernmental relationships and the growing number and types of partnerships between the public and nonprofit sectors; topics include designing innovative public service programs/structures, potentials for conflict, ethical dilemmas, performance monitoring, and accountability requirements. PREREQUISITE: PADM 7600 or permission of instructor.

PADM 7635 - Issues Pub Human Resour (3)
Special issues of current interest that relate to management, planning, and development of human resources in nonprofit and public agencies. PREREQUISITE: PADM 7600 and 7605, or permission of graduate coordinator.

PADM 7641 - Thry/Prac Nonprofit Adm (3)
Introduction to theoretical foundations, structures, and processes of nonprofit organizations; historical development and impact, social, political, legal, and economic environment in which nonprofit organizations exist; complexities of organizational governance shared by volunteer and professional staff decision-makers.

PADM 7642 - Res Dev Nonprofit Org (3)
Introduction to various resources important to nonprofit organizations including financial support, volunteers, and community awareness, and to wide range of organization activities utilized for acquisition and maintenance of these resources. PREREQUISITE: PADM 7641 or permission of instructor.

PADM 7643 - Semn Nonprofit Adm&Philanth (3)
Introduction to principles and practices of managerial and financial accounting in nonprofit organizations, including examining performance and financial condition; emphasis on making program choices and decisions using financial management concepts to further effective and accountable nonprofit administration. PREREQUISITE: PADM 7641.

PADM 7661 - Contemp Persp PA (3)
In-depth examination of contemporary theories of public administration; emphasis on study of political, administrative, and legal context of public administration to further understanding of trends that affect present-day performance of government and nonprofit agencies.

PADM 7662 - Application/Public Serv (3)
Assessment of current administrative needs in government and nonprofit agencies, social capital theory, project management and organizational learning concepts, quality improvement of public administrative practice; applied, field-based experiences. PREREQUISITES: Completion of 21 hours in PADM program, including PADM 7600 and 7601, and permission of instructor.

PADM 7663 - Issue Public Mgmt Polcy (3)
Special issues of current interest that relate to planning, implementation, and evaluation of programs in public and nonprofit agencies; emphasis on policy analysis techniques. PREREQUISITES: PADM 7600, 7601, 7213, or permission of instructor.

PADM 7702 - Independent Study (1-3)
Independent investigation of research problems or directed readings in selected areas of public administration. May be repeated for a maximum of 6 credit hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

PADM 7996 - Thesis (1-6)
The student must write and defend satisfactorily a thesis on a subject approved by the major professor and the committee. Grades of S, U, or IP will be given.

PADM 8213 - Sem Publ Pol Analysis (3)
Empirical and normative analysis of public policy at the local, state, national, and international levels, emphasizing the theories, literature, and methodologies current to this field. PREREQUISITE: PADM 7601 or equivalent or permission of instructor.

PADM 8224 - Sem Urban Problems (3)
Problems inherent in the growing urban developments in the United States; the governmental organization of metropolitan areas and the difficulties of coordination of government functions; proposed remedies and the reception of new approaches in selected metropolitan areas.

PADM 8600 - Sem Adm Theory & Ethics (3)
(POLS 7600-8600). Significance of public administration in American government; includes an introduction to formal organization theory and bureaucracy, decision-making theory, leadership and motivational theory, and current trends and problems in the study of public administration. PREREQUISITE: PADM 7661 or permission of instructor.

PADM 8601 - Research Methods (3)
Issues and techniques in data collection for design and implementation of independent research projects; logic of conducting research in public administration, measurement, and sampling; introduction to program evaluation and specific quantitative decision-making techniques.

PADM 8602 - Public Bdgt Adm/Fin (3)
Detailed study of administrative and political problems of fiscal policy, the budgetary process, and fiscal controls.

PADM 8603 - Pblc/Nonprofit Contr (3)
Theoretical and practical examination of projects and contracts as tools of policymaking in the public and nonprofit sectors; management projects and third party vendors; alternative mechanisms for public service delivery and an
appreciation for the difficulties involved.

**PADM 8605 - Human Resources Admin (3)**

Policies, methods, and techniques utilized in public and health organizations; special attention is given to problems reflecting contemporary demands upon human resource systems, capacity to diagnose problems, select the most effective means of addressing them, and plan appropriate courses of action developed through case studies.

**PADM 8606 - Sem Administrative Law (3)**

Role and nature of administrative law, including procedural requirements and judicial review of administrative actions and liability of government for torts and breach of contract.

**PADM 8607 - Public Mgmt Leadership (3)**

Theoretical and applied aspects of public and nonprofit leadership addressed in a holistic approach; focus on the most current literature and public debate; leadership examined from various perspectives reflected across the curriculum: administrative theory, public law, finance, ethics, research methods, and public policy.

**PADM 8608 - Public Mgmt Ing Sys (3)**

Analysis and application of responsibilities of public organization managers; focus on technological strategies and skills for meeting those responsibilities including budget processes, information systems and dissemination, decision-making, citizen participation, and program development and evaluation.

**PADM 8609 - Sem Administratv Ethics (3)**

Introduction to ethical theories and principles as they apply to the practice of public administration, basic legal constraints such as conflict of interest laws, and more subtle ethical dilemmas that arise in the exercise of discretion of public administrators.

**PADM 8612 - Program/Policy Evaltn (3)**

Models, theories, and techniques of program and policy evaluation in public administration; evaluation research design, data collection and analysis, dissemination of results, and possible applications of evaluations to policy-making and administration; organizational and political contexts of evaluation. PREREQUISITE: PADM 7601 or permission of instructor.

**PADM 8614 - Interagency Collab/Adm (3)**

Theoretical and applied aspects of public sector administrative innovation focusing on changing intergovernmental relationships and the growing number and types of partnerships between the public and nonprofit sectors; topics include designing innovative public service programs/structures, potentials for conflict, ethical dilemmas, performance monitoring, and accountability requirements. PREREQUISITE: PADM 7600 or permission of instructor.
PADM 8634 - Training/Dev Human Res (3)
Organizational, group, and individual development processes and philosophy for public, nonprofit, and health care agencies; special emphasis on application of knowledge and skills.

PADM 8635 - Issues Pub Human Resour (3)
Special issues of current interest that relate to management, planning, and development of human resources in nonprofit and public agencies. PREREQUISITE: PADM 7600 and 7605, or permission of graduate coordinator.

PADM 8641 - Thry/Prac Nonprofit Adm (3)
Introduction to theoretical foundations, structures, and processes of nonprofit organizations; historical development and impact, social, political, legal, and economic environment in which nonprofit organizations exist; complexities of organizational governance shared by volunteer and professional staff decision-makers.

PADM 8642 - Res Dev Nonprofit Org (3)
Introduction to various resources important to nonprofit organizations including financial support, volunteers, and community awareness, and to wide range of organization activities utilized for acquisition and maintenance of these resources. PREREQUISITE: PADM 7641 or permission of instructor.

PADM 8662 - Application/Public Serv (3)
Assessment of current administrative needs in government and nonprofit agencies, social capital theory, project management and organizational learning concepts, quality improvement of public administrative practice; applied, field-based experiences. PREREQUISITES: Completion of 21 hours in PADM program, including PADM 7600 and 7601, and permission of instructor.

PADM 8663 - Issue Public Mgmt Polcy (3)
Special issues of current interest that relate to planning, implementation, and evaluation of programs in public and nonprofit agencies; emphasis on policy analysis techniques. PREREQUISITES: PADM 7600, 7601, 7213, or permission of instructor.

PADM 8702 - Independent Study (1-3)
Independent investigation of research problems or directed readings in selected areas of public administration. May be repeated for a maximum of 6 credit hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

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SOCIAL WORK (SWRK)

In addition to the courses below, the department may offer the following Special Topics courses:
SWRK 7060-65. Special Topics in Social Work. (1-3). Topics are varied and announced in the class schedule; may be repeated with different topics. PREREQUISITE: SWRK 7021, SWRK 7022, SWRK 7002, SWRK 7003.

SWRK 6911 - Substance Abuse Treatment (3)
Prepare students for evidence-based practice in the field of substance abuse treatment.

SWRK 6912 - SW Pract/Integrated Health Care (3)
Introduce Social Work students to the direct practice of integrated behavioral health in primary care.

SWRK 6934 - Child Welfare Policy/Services (3)
Historic overview and contemporary application of child welfare policy; problems in policy development; contemporary American child welfare services in both public and private domains. PREREQUISITE: SWRK 2010, 2911. COREQUISITE: SWRK 3920.

SWRK 6935 - Child Welfare II (3)
Roles and responsibilities of social workers practicing within child welfare system; mastery of practice skills at a range of levels, such as individual, family, and environment designed to develop culturally competent child welfare workers. PREREQUISITE: SWRK 2010, 2911. COREQUISITE: SWRK 3903.

SWRK 6937 - School of Social Work (3)
This course develops the knowledge and skills necessary for successful and competent social work in public schools; covering the varied roles and functions of school social workers in their practice with diverse groups of students, families, school personnel, and communities. Best practices in assessing, intervening, and evaluating social work practice across all system levels are emphasized. PREREQUISITE: admission to the MSW program or permission of the instructor

SWRK 7001 - Skills Prof Pract SWRK (3)
The course covers the profession's unique mission, values, roles and typically practice used in the conduct of social work practice. It further examines theories of practice and generalist roles and skills. The course is designed to prepare students for their initial field experience in Field Placement I. The course introduces students to the Practice Wheel as a primary model for serving children and families. PREREQUISITE: Admission to MSW program.

SWRK 7002 - Individuals and Families (3)
A required foundation course designed to prepare students to apply evidence-based interventions to social work practice with individuals and families. Foundation knowledge and skills are developed in the areas of theory, therapeutic alliance, risk assessment, case formulation, ethical decision-making, critical thinking and evidence-based practice. Particular emphasis is placed on social work practice with culturally diverse, vulnerable and high-risk populations. PREREQUISITE: Admission to MSW program.
SWRK 7003 - Groups (3)
A required foundation course designed to prepare students to apply evidence-based interventions to social work practice with groups. The course emphasizes mezzo practice skills/roles, evidence-based theories, problem-solving processes, group dynamics, phases of group development, needed for group work with organizations and community groups. Issues inherent to diversity, at-risk populations and social justice are integrated. PREREQUISITE: SWRK 7001.

SWRK 7004 - Cognitive Behavioral Intervent (3)
The course is designed to prepare students to apply cognitive and behavioral theory and techniques to social work practice with single and multiple member systems. The course includes the history and evolution of evidence-based cognitive behavioral intervention approaches and includes integration of problem-solving processes that contribute to planned change. PREREQUISITE: SWRK 7002 and SWRK 7003.

SWRK 7005 - Assessmnt,Diag,Psychopath (3)
Provides students with current information about the assessment and diagnosis of mental disorders utilizing DSM classification system. Students will demonstrate an understanding of the etiology, prevention, assessment and treatment approaches for a number of commonly diagnosed mental health disorders. Students will identify individuals, social and systemic issues effecting individuals with a mental illness. PREREQUISITES: SWRK 7002, 7021, and 7022.

SWRK 7006 - Dual Diagnosis (3)
The course explores models for the treatment and rehabilitation of individuals with a psychiatric disability complicated by substance abuse issues. Students will demonstrate an understanding of stabilization, recovery, and relapse prevention approaches to assist individuals experiencing a combination of chemical dependency and mental illness. Students will compare and contrast program models and treatment interventions. PREREQUISITE: SWRK 7002, SWRK 7021, and SWRK 7022.

SWRK 7010 - Violence and the Family (3)
An elective course designed to help students develop specialized knowledge and skills for working families who have experienced violence. Particular attention is given to safety planning, crisis intervention, the role of policy on direct practice, specific theories, multi-system interventions, collaborative service delivery and strengths based intervention models. An emphasis will be placed on diverse and at-risk families.

SWRK 7011 - Mental Health and Disabilities (3)
An elective course designed to integrate specialized knowledge and skills for practice with diverse children experiencing a range of health and mental health concerns. Recognizing that no single definition of child mental health adequately addresses the diverse families, this course seeks to provide practice frameworks that are culturally sensitive, collaborative, strength-promoting and empowering. PREREQUISITES: SWRK 7021, 7022, 7002, 7003, and 7005.
SWRK 7013 - Treatment of Trauma (3)
An elective course designed to broaden students ability to understand and treat persons exposed to traumatic events. The course examines roles, assessments and intervention strategies for social workers working with clients exposed to specific types of trauma; rape, war, natural disasters. Emphasis is placed on understanding biopsychosocial influences, psychopharmacology, incidence, course, treatment and evidence-based assessment and interventions skills.

SWRK 7014 - Brief Intervention (3)
An elective course designed to provide students with the knowledge and skills necessary to utilize brief interventions in social work practice. Theory and practice of planned short-term, and crisis interventions including an introduction to motivational interviewing and solution focused brief therapy are addressed. Learners are introduced to methods for improve treatment compliance and increase motivation for change with specific target populations.

SWRK 7016 - Adv. Individual Child/Youth (3)
The course covers advanced direct practice techniques with children and youth. Techniques include cognitive behavioral therapy and other evidence based techniques. PREREQUISITES: SWRK 7001 & 7002

SWRK 7017 - Adv. Family Child/Youth (3)
The course covers prevention and intervention approaches with families of children and youth at an advanced level. Topics include wrap around models of care for children/ youth in mental health, disability, juvenile justice, child welfare, and family violence service systems and integration across systems of care. PREREQUISITES: SWRK 7002 & 7003

SWRK 7018 - Adv. Individual Adults (3)
The course covers advanced direct practice with adults. Treatment techniques include cognitive behavioral therapy, motivational interviewing, and other evidence based practices. PREREQUISITES: SWRK 7001 & 7002

SWRK 7019 - Adv. Family Adults (3)
The course covers prevention and intervention approaches with families at an advanced level. Topics include integrative and holistic models of care across a range of settings in adult mental health, substance abuse, disabilities, chronic conditions, long term care, violence, and criminal justice. PREREQUISITES: SWRK 7002 & 7003

SWRK 7021 - SW Across the Lifespan (3)
Course provides a multidimensional understanding of person and environment relationships. An ecological/systems framework is paired with a developmental approach to provide an interactional understanding of human behavior. The course examines life span development from conception through older adulthood. Issues of human diversity (i.e. race, ethnicity, class, gender, sexual orientation) will be highlighted. PREREQUISITE: Admission to
MSW program.

**SWRK 7022 - Organizations and Communities (3)**
A required foundation course designed to prepare students to apply evidence based interventions to social work practice with organizations and communities. The course emphasizes macro practice skills/roles. The course stresses an eco-systems perspective and looks at social system malfunctions and inequities. The nature and dynamics of social service networks and social service network eco-systems perspective. PREREQUISITE: SWRK 7001.

**SWRK 7025 - Scientific Methods (3)**
A required foundation course designed to teach research methods and the elements of evidence based practice. The course focuses on social work practice-focused quantitative and qualitative research knowledge and skills including critical evaluation of empirical literature, basic research methodology including construct operationalization, study design, selection, development, implementation, measurement, specific instruments, data management and data analysis using statistical software. PREREQUISITE: Admission into the MSW program.

**SWRK 7026 - Evaluative Research (3)**
A required concentration course designed to teach students hard skills in ethical program evaluation; statistical analysis techniques; and research findings dissemination and application from the micro to the macro levels and throughout diverse areas of practice. PREREQUISITE: SWRK 7025.

**SWRK 7030 - Social Welfare Policy/Services (3)**
Examines local, state, national and international policies affecting social work practice; exploring the historical process leading to current welfare policy. Using rational and non-rational theoretical perspectives, it presents policy and service domains and the values and philosophies underlying welfare provision. Students explore NASW policy positions, social welfare policy in other countries and comparative policy. PREREQUISITE: Admission to MSW program.

**SWRK 7031 - Rural/Urban Poverty (3)**
This course examines the development and analysis of specific policies that impact rural and urban centers with high concentrations of poverty. Emphasis will be placed on the interaction effects of federal policies regarding crime, education, employment and housing, and federal and state income maintenance programs for the poor. The strengths and weaknesses of various approaches to policy development and analysis will be discussed. PREREQUISITE: Admission to MSW program.

**SWRK 7032 - Adv. Community Child/Youth (3)**
The course covers advanced community practice with children and youth. It examines public policies impacting children and youth. It covers the basics of program administration including budgeting and policy implementation in preparation for administrative practice. PREREQUISITES: SWRK 7022 & 7030
SWRK 7033 - Adv. Community Adults (3)
The course covers advanced community practice with adults. Students learn policies and administrative practices to serve adults and older adults, explore policy and program implementation programs, learn administration and budgeting basics, understand community practice models, and become prepared to assume leadership positions in social service agencies and organizations. PREREQUISITES: SWRK 7022 & 7030

SWRK 7050 - Advanced Standing Field (1)
The advanced standing field course connects generalist curriculum learned in undergraduate social work to the masters-level curriculum at the advanced level. Assignments encourage self-assessment, increase empathy towards populations served, and expose students to core competencies. PREREQUISITE: Admission to the Advanced Standing MSW Program.

SWRK 7051 - Field Placement I (3)
This course provides opportunities for students to integrate what they are learning in the classroom with practical experience in an agency that provides social work services. The first course prepares students for work as generalist social workers, to help them learn to apply critical thinking skills, to increase their range of social work skills and techniques, to understand the importance of the value base and increase their self-understanding. PREREQUISITE: Admission to MSW program.

SWRK 7052 - Field Placement II (3)
The first year of field placement is intended to prepare students for work as generalist social workers, to help them learn to apply critical thinking skills, to increase their range of social work skills and techniques, to understand the importance of the value base and ethical framework of the profession of social work, and to increase their self-understanding. Field Placement II builds on the learning foundation that was established in Field Placement I. PREREQUISITE: Field Placement I.

SWRK 7053 - Field Placement III (3)
The second year is directed toward an area of social work specialization and the development of advanced skills and practice, building on the first year of placement and providing opportunities for more complex application of social work theories, models, values, and ethics. Field Placement III builds on the learning foundation that was established in Field Placement I and II. PREREQUISITE: Field Placement I and II.

SWRK 7054 - Field Placement IV (3)
The second year is directed toward an area of social work specialization and the development of advanced skills and practice, building on the first year of placement and providing opportunities for more complex application of social work theories, models, values, and ethics. Field Placement IV builds on the learning foundation that was established in Field Placement I, II, and III. PREREQUISITE: Field Placement I, II, and III.

SWRK 7055 - Integrative Field Seminar I (3)
Course covers preparation for advanced social work practice and preparation for the social work licensure exam.
PREREQUISITE: Field Placement II

SWRK 7056 - Integrative Field Seminar II (3)
Course covers preparation for advanced social work practice and preparation for the social work licensure exam.
PREREQUISITE: Field Placement III

SWRK 7062 - Play Therapy Methods (3)
This course is designed to teach play therapy theory and techniques to graduate students. Students will learn theoretical underpinnings of directive and non-directive play therapy and the techniques by which the theory is practiced. This course is a blended design of face to face instruction and online class meetings.

SWRK 7070 - Independent Study (3)
Provides an opportunity for directed advanced reading, an advanced field project, and/or research in special areas of social work. Provides in-depth learning opportunities not otherwise available in the regular curriculum. Independent study replaces one elective. PREREQUISITE: SWRK 7021, SWRK 7022, SWRK 7002, SWRK 7003.

SWRK 7996 - Thesis (1-6)
Thesis provides the opportunity for a student to complete an advanced independent research project during a two-semester sequence. Students will develop and apply research skills and produce a comprehensive paper that will contribute to knowledge in the social work profession. The Master's thesis is a two-semester (6 credit hours) commitment that will be completed during the concentration year. Thesis is not required for completion of the Master's of Social Work program. PREREQUISITE: Successful completion of all foundation coursework with a GPA of 3.3 or higher and approval of a thesis proposal by the thesis committee chair.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
WOMEN’S AND GENDER STUDIES (WMST)

WMST 7320 - Women&Multi-Cultrl Exp (3)
Interdisciplinary study of women's creativity and representation, including aspects of race, gender, and
sexuality; focusing on theoretical approaches to and artistic practices in women's lives.

WMST 7340 - Independent Study (3)
Readings and written assignments designed to provide additional comprehension of ideas and skills related to a student's concentration.
BUsiness Administration (BA)

The courses listed below are designated with "BA" numbers in order that they may be available to advanced
graduate students with a major in the Fogelman College of Business and Economics. They may be accepted toward the completion of the degree requirements.

NOTE: Students taking Business courses will be charged an additional $30 per credit hour.

In addition to the courses below, the department may offer the following Special Topics courses:

**7700-30. Special Topics in Business Administration.** (1-6). Special study of problems in business and economics. Topic areas change each semester as determined by new developments in business. PREREQUISITE: Permission of associate dean for academic programs.

**BA 7651 - Health Systems Pharmacy Mgmt (3)**
Comprehensive analysis of a pharmacy service program critical to successful performance and outcomes in a hospital/healthcare system including 1) leadership and practice management, 2) methods to ensure rational medication therapy, 3) effective medication distribution and control systems, 4) appropriate staff, finances and technology to support operations, 5) facility resources, 6) pharmacy data management, 7) collaboration with other health care professionals and organizations/associations.

**BA 7750 - Surv Internatl Business (3)**
Overview of global business methods and practices, including management, marketing, financial, and economic complexities in a global business environment; varying emphasis on different functional areas of interest; an introduction and preparation for the International Business Practicum.

**BA 7800 - Internship In Business (1-6)**
Internship in business organization to gain on-the-job experience in actual management environment; project to be approved by College Internship Director and supervised by graduate faculty. PREREQUISITES: 15 semester hours of graduate credit and minimum GPA 3.25.

**BA 7900 - Research Pract/Masters (1-9)**
Practical demonstration of and experience in the design, practice, and methodology of research in business. May be repeated for a maximum of 9 hours. May not be used to satisfy degree requirements.

**BA 7910 - Problems Intl Bus (1-6)**
Directed independent or group study and research in international business area. Study projects may be designed by student(s) with approval of supervising faculty member. PREREQUISITE: Permission of associate dean for academic programs.

**BA 7920 - Contxt Envrn Intl Bus (1-12)**
Accommodates transfer credit (pre-approved by IMBA coordinator) taken abroad; business, language, and area study courses in cultural, economic, historical, philosophical, political, social or legal context. Credit varies
according to content; no more than 12 hours may apply toward degree. Restricted to students enrolled in IMBA concentration.

**BA 7950 - Practicum Intl Business (3-9)**  
Practicum in foreign business or academic organization to gain management skills and experience; work experience in non-English speaking country; enrollment must be approved by the Associate Dean for Academic Programs. PREREQUISITE: 12 hours of graduate business courses.

**BA 7960 - Pharm Exec Innovation Project (3)**  
A longitudinal project based on a practical health-system pharmacy problem currently faced by the student’s employer. The student will work under the guidance of full-time faculty members and an external coach (who will be an experienced health-system pharmacy director). A report on the completed project will be presented at the final residential week of the program. The project report will consist of a proposed solution to the problem under investigation.

**BA 8800 - Reading For Comps (1-12)**  
Directed readings as preparation for comprehensive examinations. Arranged on an individual basis; limited to Ph.D. students in Business Administration. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Students must have completed or be in the last semester of required course work and have permission of the College Ph.D. coordinator. Grades of S, U, or IP will be given.

**BA 8900 - Research Pract/Doctoral (1-9)**  
Practical demonstration of and experience in the design, practice, and methodology of research in business. May be repeated for a maximum of 9 hours. May not be used to satisfy degree requirements.

**BA 8901 - Teaching Practicum (1-6)**  
Practical demonstration of and experience in the art of teaching business topics. Required course for PhD students. May be repeated for a maximum of 9 credit hours. May not be used to satisfy any degree requirements.

**BA 8920 - Dissertation Seminar (1-3)**  
Research design and methodology in administrative sciences; guidance in preparing dissertation proposal; students present progress reports to other seminar members to critique the progress of fellow students and acquire skills and knowledge in research design and methodologies. To be taken during the last 12 hours of doctoral coursework.

**BA 9000 - Dissertation (1-12)**  
Independent research for Doctor of Business Administration degree. Only 18 hours will be counted towards degree requirement. Student must be enrolled in this course during the semester in which the student expects to graduate. PREREQUISITE: Successful completion of comprehensive exam or permission of the Vice Provost for Graduate Programs. Grades of S, U, or IP will be given.
ACCOUNTANCY (ACCT)

NOTE: Students taking Business courses will be charged an additional $35 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**ACCT 7920-7929. Special Topics in Accountancy. (1-3).** Varied topics. May be repeated with change in topic. PREREQUISITE: Permission of Faculty Director.

**ACCT 6211 - Adv Financial Reporting (3)**
Business combinations and consolidated financial statements, accounting for foreign currency transactions, translation of foreign subsidiary financial statements, and partnership accounting. PREREQUISITE: ACCT 3120.

**ACCT 6241 - Advanced Auditing (3)**
(0551). Auditing of computer-based accounting systems; emphasis on audit software and computer auditing techniques used to evaluate accounting system controls and test accounting data integrity; nature and use of expert systems in accounting with emphasis on their use as an audit tool. PREREQUISITE: ACCT 3120; PREREQUISITE OR COREQUISITE: ACCT 4240.

**ACCT 6520 - Taxation/Bus Entities (3)**
Introduction to the federal income taxation of corporations, partnerships, estates, and trusts. PREPREREQUISITE: ACCT 3510 or permission of instructor.

**ACCT 7000 - Fundamentals Of Acct (3)**
(7001). Accelerated and in-depth introduction to the conceptual foundations of accounting as a dynamic information system for measuring and communicating economic and financial data for planning and control purposes. Primarily for non-business students but is acceptable to remove accounting prerequisites for the MBA and MS programs.

**ACCT 7040 - Legal Concepts Business (3)**
A survey of the legal, social, and political factors that affect business operations; prerequisite for MBA Core Knowledge and Skills.

**ACCT 7050 - Corp Governance/Bus Ethics (2)**
Detailed analysis of the role of corporate governance in the free enterprise system and capital markets; focused consideration of moral principles, ethical standards, and corporate code of business ethics.

**ACCT 7080 - Financial/Managerial Acct Mgrs (3)**
Use of accounting information by an organization's investors, creditors, regulatory authorities and managers; develops financial credit analysis skills useful in business decision making; analysis of accounting information useful for monitoring efficiency, quality, and timeliness of an operation; pricing and costing of products and services; planning and performance measurement.

**ACCT 7110 - Acct for Decision Making (3)**
ACCT 7120 - Strategic Accounting (3)
Theoretical aspects of financial reporting focusing on the quality of accounting reports and contemporary accounting controversies; case studies and research projects. PREREQUISITE: ACCT 3120.

ACCT 7140 - Financial Statement Analysis (3)
Examining financial statements in the context of identifying the financial information available to analysts as well as techniques useful in transforming this basic information into forms more useful for analysis. PREREQUISITE: ACCT 2010 or ACCT 7110.

ACCT 7172 - Global Acct Policies (3)
Accelerated and in-depth introduction to conceptual foundations of financial and managerial accounting; selected tax topics. Restricted to students enrolled in IMBA concentration.

ACCT 7241 - Internal Auditing (3)
Authoritative internal audit standards, ethics of internal auditors, techniques of efficiency and effectiveness audits. PREREQUISITE: ACCT 4240.

ACCT 7310 - Adv Cost Accounting (3)
Budgets, determination of standards, variances and their functions, cost reports, profit projecting, direct costing, gross profit and breakeven analysis, cost-profit volume analysis, capital expenditure control, comparative cost analysis. PREREQUISITE: ACCT 3310 or ACCT 7110.

ACCT 7320 - Controllership (3)
Controllership function; evolution of management accounting; conceptual framework of management accounting compared and contrasted with financial accounting; functional tools used by controllers; emphasis on research, and written and oral communication skills in context of management accounting. PREREQUISITE: ACCT 3310.

ACCT 7412 - Legal/Acctg Aspects Entrep (3)
Prepares students to understand the regulatory framework for establishing a firm, legal forms of a business such as sole proprietorship, partnership, S corporation, and LLC; study of federal securities regulations, accounting, auditing, taxes, financial reporting, and uses of accounting data. The course also covers contract law, cyber law, copyrights and patents, ethics and social entrepreneurship.

ACCT 7420 - Acct Databases/Systems (3)
Accounting systems analysis and design; advanced system analysis tools; integrating accounting and computer controls; ACCESS; queries; forms and reports; achieving database normalization; development of working
accounting model; project; lab environment. PREREQUISITE: ACCT 3110.

ACCT 7510 - Tax Research & Theory (3)
Advanced study of federal taxation with emphasis on tax research methodology and various theoretical precepts; integration of basic tax knowledge with skillful tax research to accomplish desired ethical tax objectives. PREREQUISITE: ACCT 6520.

ACCT 7511 - Tax-Partnerships/Prtnrs (3)
Tax law organization, operation, and liquidation of partnerships; general overview of Subchapter K, acquisitions of partnership interests, basis of partner's partnership interest, taxation of partnership operations, transfers of partnership interests, partnership distributions, death or retirement of partner, adjustments to basis of partnership assets. PREREQUISITE: ACCT 7510 or permission of the instructor.

ACCT 7512 - Tax-Corp/Shrhldrs (3)
Tax law: organization, operation, and liquidation of corporations; organization of corporation under Code Section 351 and related problems; corporation's capital structure; corporate income tax; corporate elections under Subchapter S; stock redemptions and partial liquidations; and corporate reorganizations and liquidations. PREREQUISITE: ACCT 7510 or permission of the instructor.

ACCT 7514 - Estate And Gift Tax (3)
Transfer taxes (gift tax, estate tax, generation-skipping transfer taxes; all taxes on transfer of property accumulated after imposition of income tax); federal gift and death taxes with emphasis on tax planning. PREREQUISITE: ACCT 7510 or permission of the instructor.

ACCT 7518 - Selected Topics/Taxatn (3)
Special tax considerations of individuals, partnership, corporations, estates, trusts, exempt organizations, and governmental entities. PREREQUISITE: ACCT 7510 or permission of the instructor.

ACCT 7610 - Acct Issues/Servc Econ (3)
This culminating experience integrates financial, managerial, accounting information systems, auditing and tax knowledge and skills developed in core courses of the MS in accounting. PREREQUISITE: 15 hours of graduate-level accounting courses and permission of either Director of School of Accountancy or accounting masters advisor.

ACCT 7626 - Financial Report/Audit Stand (3)
Theory and practice of financial accounting and reporting for profit and non-profit entities, including governments; auditing and attestation standards and procedures. PREREQUISITE: permission of the School of Accountancy.

ACCT 7627 - Regulatory/Business Envrnmnt (3)
Theory and practice of regulatory and business environments; nature and types of common business structures;
technology in business environment; business laws and regulatory issues; taxation of businesses; individuals and property transactions. PREREQUISITE: permission of the School of Accountancy.

**ACCT 7910 - Problems In Acct (1-3)**
Directed independent reading and research projects in an area selected by the student with the approval of the supervising faculty member and Faculty Director. Proposed plan of study must be approved prior to enrollment. PREREQUISITE: Permission of the director. Grades of A-F, or IP will be given.

**ACCT 7911 - Intrnshp Accounting (1-6)**
Internship in business organization to gain on-the-job experience and to develop writing, organizational, and applied performance skills. Projects approved and supervised by area of Accountancy. NOTE: Credit not applicable to accounting master's degrees. PREREQUISITE: Graduate standing and permission of College Internship Director. Grades of A-F, or IP will be given.

**ACCT 7996 - Thesis (3-6)**
Grades of S, U, or IP will be given.

**ACCT 8000 - Indep Accounting Research (1-6)**
Examination of research issues, opportunities and challenges in accounting as related to a student's field of concentration under direction of a faculty member. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

**ACCT 8610 - Seminar/Audit Research (3)**
Examination of analytical, experimental and archival research in auditing relevant to all types of auditing and assurance services. This course focuses on the development of research skills related to auditing theory, practice and empirical research methods, a fundamental understanding and appreciation of the role of theory and anecdotal evidence in applied work and empirical research in auditing.

**ACCT 8621 - Agency and Fin Econ Theory Sem (3)**
Examination of theory and empirical research in financial accounting as related to capital markets and economic consequences. This course focuses on empirical accounting research, including the investigation of a broad range of research questions, and uses a variety of empirical research techniques, the role of accounting information in capital markets, the role of theory and anecdotal evidence in applied work and empirical research and economic consequences.

**ACCT 8710 - Acct Research Sem/Adv Cap Mkts (3)**
In-depth study of existing body of accounting literature in various areas of economics-based empirical research; emphasis on research design and methodology; design and development of individual research projects; applying various research methods in accounting literature; and experience in presenting research, refereeing papers, and publishing research projects.
ACCT 8720 - Acct Research Judgmt/Decision (3)
Examination of research on judgment and decision-making behavior in accounting that involves the observation of the behavior or beliefs of accountants or users of accounting information. This course focuses on experimental design, field studies and surveys as alternative methods for conducting empirical research relevant to real-world problem-solving activities.

ACCT 8731 - Seminar/Mgmt Accounting (3)
Examination of emerging and cutting-edge management accounting issues. This course focuses on the theoretical framework and empirical setting of managerial accounting research as relevant to the decision-making processes of management. Topics covered in this course include research on the application of knowledge and experience in accounting and financial reporting, budgeting, decision support, risk assessment and management, internal control and earnings management.

ACCT 8740 - Introductory Research Seminar (3)
Examination of the nature of accounting research, including theoretical framework, research questions, hypothesis development and research methodology and testing. Emerging and cutting-edge accounting research is examined in all areas of financial, managerial, auditing, tax, systems and international. This course develops research skills in retrieving data from databases and replicating existing accounting studies.

ACCT 8910 - Problems in Accounting (1-12)
Examination of research issues, opportunities and challenges in accounting as related to a student's field of concentration under direction of a faculty member. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

Graduate Catalog
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Graduate School

2015-2016 Academic Calendar
BUSINESS INFORMATION TECHNOLOGY (MIS)

NOTE: Students taking Business courses will be charged an additional $35 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**MIS 6000-09. Topics in Teaching Methods in Information Technology. (3).** Selected topics of current interest in management information systems and computer software applications. Designed for teacher certification requirements. Topics are varied and announced in online class listings. NOTE: Restricted to teacher certification; not applicable toward business degree requirements. PREREQUISITE: Permission of instructor.

**MIS 7470-9–8470-9. Topics in Information Systems. (1-3).** Studies in ISDS as applied to solution of current operational problems in businesses. Topics change each semester as determined by relevant developments in decision sciences; consult the online class listings for current topic. (Maximum 9 hours credit.) PREREQUISITE: Permission of instructor.

**MIS 8700-9. Topics in Information Systems. (1-3).** In-depth study of selected current topics in MIS and related areas. Topics change each semester as determined by relevant developments; consult online class listings for current topic. (Maximum of 9 hours credit). PREREQUISITE: Permission of instructor.

**MIS 7030 - Integ Software Appl (3)**
Emphasizes mastery of suite application software using an integrated approach to software applications and employing problem-based methods; course meets licensure standards.

**MIS 7060 - Program Devel & File Str (3)**
Programming principles, program logic development, internal data structures, and file organization; development of structures and computer programs using a modern programming language.

**MIS 7070 - Intro to MIS in Business (3)**
Provides essential business core content needed for IS/IT management; examines effective methods of hiring and maintaining qualified IS/IT employees, using accounting and financial information effectively for IS/IT strategic decisions and leadership.

**MIS 7160 - Comp Hardware/Sys Softw (3)**
Introduction to the technology of computing; processor operation including fetch/execute, input/output, instruction types, interrupt handling, addressing schemes and multiprocessing; business systems software including operating systems from single-user single-task to multi-user multitask; major current operating systems.

**MIS 7170 - Global Info Tech Mgmt (3)**
Information technology's impact on globalization of businesses; international IT environment; models and issues in international IS; planning and managing global systems; case studies and applications. PREREQUISITE: MIS 7465 or permission of instructor.

**MIS 7190 - Programing For Business (3)**
Fundamentals of programming for business projects, including Internet-based business applications and object-oriented programming languages. PREREQUISITE: MIS 7060 or permission of instructor.

**MIS 7435 - Web Site Devel (3)**
Focuses on Internet, intranets, and other online technologies to develop and maintain the enterprise web site in a business environment; web mastering techniques include coverage of web site creation, design, programming, planning, enhancement, and maintenance.

**MIS 7455 - Cyber Ethics in IT (3)**
Business ethics and computer ethics issues and concepts in an online environment, including relevant topics such as privacy, freedom of expression, intellectual property, software development and testing, and related IT management decisions. PREREQUISITE: 9 hours of graduate credit or permission of instructor.

**MIS 7480 - Thriving In Info Age (3)**
Introduction to information and technology challenges facing today's organization, including developing technology-enabled strategies and designing organizational systems and structures that facilitate development and execution of these strategies.

**MIS 7605 - Bus Database Systems (3)**
Management of database for effective support of management information systems. Topics include characteristics and design of schemas and subschemas for hierarchical, network, and relational data models.

**MIS 7610 - Sys Analysis & Design (3)**
Comprehensive structured approach to application system development process; emphasis on requirements analysis, logical specifications, structured design, and implementation of information systems.

**MIS 7615 - Data Comm Systms/Netwks (3)**
Introduction to concepts and terminology of data communication, network design, and distributed information systems; topics include equipment protocols and architectures, transmission alternatives, the communications environment, regulatory issues, and network pricing and management.

**MIS 7620 - Business Intelligence (3)**
Business Intelligence is the study of computerized support for management decision making. Topics include data mining, artificial neural networks, text and web mining, data warehousing, expert systems, and knowledge management. PREREQUISITES or COREQUISITES: MIS 7605, ISDS 7120 or equivalent, or permission of the instructor.

**MIS 7621 - Data Analytics for Business (3)**
This advanced course in business analytics goes into depth in techniques and methods applied to real world problems and data. Techniques covered include: artificial neural networks, decision trees, nearest neighbor
approaches, predictive modeling, and genetic algorithms. The emphasis will be on application in business. The course will provide guidance on building the business case and the model including problem definition and data evaluation, and evaluation of the modal. Hands-on exercises will be required using analytics packages/languages as Tableau, Rapid Miner, IBM Modeler, Microsoft SQL, R. PREREQUISITE or COREQUISITE: MIS 7620 and SCMS 7110, or instructor permission.

MIS 7630 - Informatn Systms Proj (3)
Development or evaluation or both of specialized software product; field studies to collect and analyze data pertinent to significant information systems issues. PREREQUISITE: MIS 7610. Grades of A-F, or IP will be given.

MIS 7640 - Inform Sys Mgmt/Plan (3)
Information systems planning and management for the corporate executive and information systems manager; emphasis on information as a critical resource and its role in policy and long-range planning. PREREQUISITES: MIS 7605 and 7615. COREQUISITES: MIS 7610.

MIS 7650 - Info Syst Global Enterprise (3)
Information systems and their roles and applications in global enterprises, including conceptual foundations, business applications, impacts on organizational behavior, and how IT may be used to implement global strategies to gain competitive advantage.

MIS 7655 - Adv Systems Analysis (3)
Advanced concepts in information systems planning and development with focus on current information technologies and systems development practices that lead to timely delivery of effective information systems solutions; special attention on communication and interpersonal skills required for today's systems development activities. PREREQUISITE: MIS 7610.

MIS 7660 - Advanced Data Management (3)
Advanced concepts in data management and in the strategic use of data. Topics will be selected from data strategy, business intelligence, data mining and the strategic use of data warehouses, data quality, the business value of data, unstructured data, modern data administration, master data management, data management in cloud computing, data issues in agile development, and other contemporary data topics. PREREQUISITE: MIS 7605.

MIS 7665 - Adv Business Compt Envn (3)
Technical aspects and managerial implications of several state-of-the-art technologies with potential effects on competitive advantage, probability and cost, and personnel resources. PREREQUISITES: MIS 7605, 7610, and 7615; or permission of the instructor.

MIS 7670 - Comp/Network Security (3)
Comprehensive survey of technical and managerial aspects of computer and network security in the business
environment. Emphasis is on managerial issues and decisions related to selecting and managing all aspects of information security.

**MIS 7671 - Project/Change Mgmt (3)**
Overview of theoretical and practical concepts in management of IT projects; explores unique and particular challenges resulting from rapid technological change and dynamic business environments; difficulty of managing changes in organizations resulting from introducing or revising information systems, emphasizing change management role of the IS specialist. PREREQUISITE or COREQUISITE: MIS 7610 or equivalent

**MIS 7672 - Advanced Project Management (3)**
The objective of this course is to examine the process and team factors, with an emphasis on the technology and global factors of project management. Individuals will learn advanced information systems project management principles and strategies. In addition, those taking this course will learn team building within the information systems project realm and how collaboration technologies are used to support project teams. PREREQUISITE or COREQUISITE: MIS 7671 or equivalent; permission of instructor.

**MIS 7681 - Mgmt of Software Testing (3)**
Topics will include software testing goals, objectives, planning techniques, and managerial structures. It will also cover manual and automated software testing techniques and test case generation. Prerequisite or Corequisite: MIS 7610.

**MIS 7682 - Software Test Tools/Tech (3)**
Topics will include detailed software testing methods and the role of software testers and users at all stages of software development, walkthroughs and reviews, as well as unit through acceptance testing techniques. Prerequisite: MIS 7681.

**MIS 7910 - Prob Mgmt Info Syst (1-6)**
Directed independent research projects in an area selected by the student with approval of supervising faculty member and Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

**MIS 7996 - Thesis (3-6)**
Grades of S, U, or IP will be given.

**MIS 8465 - Inform Sys In Organiztns (3)**
Information systems and their roles and applications in organizations, including conceptual foundations, underlying technologies, business applications, impacts on organizational behavior, and how IT may be used to implement organizational strategy and gain competitive advantage.

**MIS 8605 - Bus Database Systems (3)**
Management of database for effective support of management information systems. Topics include characteristics and design of schemas and subschemas for hierarchical, network, and relational data models.

MIS 8610 - Sys Analysis & Design (3)
Comprehensive structured approach to application system development process; emphasis on requirements analysis, logical specifications, structured design, and implementation of information systems.

MIS 8615 - Data Comm Systms/Netwks (3)
Introduction to concepts and terminology of data communication, network design, and distributed information systems; topics include equipment protocols and architectures, transmission alternatives, the communications environment, regulatory issues, and network pricing and management.

MIS 8620 - Business Intelligence (3)
Business Intelligence is the study of computerized support for management decision making. Topics include data mining, artificial neural networks, text and web mining, data warehousing, expert systems, and knowledge management. PREREQUISITES or COREQUISITES: MIS 8605, ISDS 7120 or equivalent, or permission of the instructor.

MIS 8640 - Inform Sys Mgmt/Plan (3)
Information systems planning and management for the corporate executive and information systems manager; emphasis on information as a critical resource and its role in policy and long-range planning. PREREQUISITES: MIS 7605 and 7615. COREQUISITES: MIS 7610.

MIS 8650 - Global Informatn Techn (3)
Information technology's impact on globalizations of businesses; international IT environment; models and issues in international IS; planning and managing global systems; case studies and applications. PREREQUISITE: MIS 7465 or permission of instructor.

MIS 8655 - Adv Systems Analysis (3)
Advanced concepts in information systems planning and development with focus on current information technologies and systems development practices that lead to timely delivery of effective information systems solutions; special attention on communication and interpersonal skills required for today's systems development activities. PREREQUISITE: MIS 7610.

MIS 8660 - Adv Networking/Data Mgt (3)
Advanced concepts in data management and in the strategic use of data. Topics will be selected from data strategy, business intelligence, data mining and the strategic use of data warehouses, data quality, the business value of data, unstructured data, modern data administration, master data management, data management in cloud computing, data issues in agile development, and other contemporary data topics. PREREQUISITE: MIS 7605.
MIS 8665 - Adv Business Compt Envn (3)
Technical aspects and managerial implications of several state-of-the-art technologies with potential effects on competitive advantage, probability and cost, and personnel resources. PREREQUISITES: MIS 7605, 7610, and 7615; or permission of the instructor.

MIS 8670 - Comp/Network Security (3)
Comprehensive survey of technical and managerial aspects of computer and network security in the business environment. Emphasis is on managerial issues and decisions related to selecting and managing all aspects of information security.

MIS 8710 - Sem/Inform Systms I (3)
Scientific methodology of MIS research; MIS frameworks and theory of MIS; organization-critique and analyze foundational papers; in-depth study of researchable topics. PREREQUISITE: Permission of instructor.

MIS 8720 - Sem/Inform Systms II (3)
Development of a research proposal; critique and evaluation related to research and the proposal. PREREQUISITE: MIS 8710 or permission of instructor.

MIS 8800 - Experimental Research Methods (3)
This seminar provides in-depth coverage of experimental design research issues and methods in business research. At the completion of the seminar, students should have in-depth knowledge on how to frame questions and hypotheses that are testable using experimental designs, how to frame an experimental study, how to acquire data, conduct the experiment, perform analyses with popular statistical software, and how to write-up research results from an experiment. Course includes weekly lecture and hands-on laboratory sessions. PREREQUISITE: permission of instructor.

MIS 8910 - Prob Mgmt Info Syst (1-6)
Directed independent research projects in an area selected by the student with approval of supervising faculty member and Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

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ECONOMICS (ECON)

NOTE: Students taking Business courses will be charged an additional $35 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**ECON 6760–69. Special Topics in Economics. (1-3).** Topics vary; may be repeated when topics change. PREREQUISITE: Permission of department chair.

**ECON 7940-49–8940-49. Special Topics in Economics. (1-3).** Special areas of economics not otherwise included in the curriculum. Consult the online class listings.

**ECON 6810 - Quant Economic Analysis (3)**
Introduction to the application of mathematical tools in business and economics; review of matrix algebra, differential and integral calculus; optimization with and without constraints; comparative statistics.

**ECON 7100 - Econ for Global Executive (3)**
Essential economic theory and its application to business and economic issues. Consumer behavior, managerial economics and strategy, market structure in a global context.

**ECON 7120 - Adv Quant Econ Analysis (3)**
Mathematical methods of economic dynamics; difference and differential equations; dynamic stability; dynamic programming; optimal control theory; applications to saving, investment, portfolio choice, labor supply, and asset pricing.

**ECON 7125 - Appl Stat Mthds for Bus & Econ (3)**
Probability and statistical techniques used in economics, finance, accounting, and management science.

**ECON 7126 - Economic Forecasting (3)**
Statistical models for forecasting and measuring risk, growth, cyclical and seasonal patterns in business, and economic time series. PREREQUISITE: ECON 7100 or permission of instructor.

**ECON 7130 - Industrial Organization (3)**
How different types of markets work; nature of the firm; monopoly; oligopoly; repeated games and collusion; monopolistic competition and product differentiation; entry, accommodation and exit. May also cover topics such as research and development, advertising, consumer search, among others. PREREQUISITE: ECON 7310-8310 or permission of instructor.

**ECON 7170 - Intnl Trade & Investmts (3)**
Introduction to trade theory and international macroeconomics. Determinants of trade flows, gains from trade and the distributional effects, optimal policy intervention. Basic international macroeconomics, including balance of payments, capital flows and exchange rate determination. PREREQUISITE: ECON 7100 or permission of instructor.
ECON 7175 - Intnl Trade Theory/Pol (3)
Advanced treatment of the theory of international trade; the theory of comparative advantage, the Hecksher-Ohlin model, specific factors, returns to scale and product life-cycle hypotheses; applications of tariffs and commercial policies, international factor movements, and selected topics in international economic development.
PREREQUISITE: ECON 7310-8310 or permission of instructor.

ECON 7176 - Intnl Monetary Thry/Pol (3)
Advanced treatment of open economy macroeconomics: determination of internal and external balance; balance of payments accounting; models of balance of payments adjustment, foreign exchange rate determination, and international capital flows; stabilization mechanisms and policies. PREREQUISITE: ECON 7320-8320 or permission of instructor.

ECON 7210 - Labor Economics (3)
Use of theory and statistical techniques to analyze various aspects of labor markets, including labor demand and supply, human capital, the wage structure, unemployment and discrimination.

ECON 7300 - Econ Theory & Decisions (3)
Basic exposition of decision-making theories of consumers and firms under different market structures and informational settings. PREREQUISITES: ECON 6810 and 7010 or equivalents of both.

ECON 7310 - Adv Microeconomics I (3)
A more advanced study of consumer preferences, competitive demand, producer theory; welfare economics, general equilibrium and basic cooperative game theory. PREREQUISITE: ECON 7300 or permission of instructor.

ECON 7313 - Econ Risk & Uncertainty (3)
Expected utility theory, criticisms and alternatives; stochastic dominance; risk aversion and prudence; log-supermodularity; multiple risks; comparative statics of choice under uncertainty; applications to insurance, saving, portfolio choice, labor supply, investment, and asset pricing.

ECON 7320 - Adv Macroeconomics I (3)
Microeconomic foundations of macroeconomic models; general equilibriums, overlapping generations, neoclassical growth and investment theory. Introduction to optimal control and dynamic programming.

ECON 7322 - Monetary Theory & Pol (3)
Role of money in the macroeconomy: includes theory of financial structure, money creation and monetary control, theory of money demand; general equilibrium financial models: static analysis, short-run dynamics, monetary growth; rules versus discretion debate: optimal monetary policy, historical conduct of monetary policy.
PREREQUISITE: ECON 3320, 7300, or 7320-8320, or permission of instructor.

ECON 7710 - Health Care Economics (3)
Applies basic economic concepts to analyze health care market and evaluate health policies; including distinctive economic characteristics of health, health care industry, and health care professionals; American system of health care; current health care policy issues such as health care reform, managed care, and manpower planning. 

PREREQUISITES: ECON 7100 or equivalent, or permission of instructor.

ECON 7711 - Appl Health Care Econ (3)

Uses economic theories and related methodologies to illuminate an array of health and health care issues. Evaluates theoretical and empirical problems in health and medical care. Covers the structure, conduct, and performance of markets for physicians, hospitals, pharmaceuticals, and long-term care. Covers health and health care policies of the US (local, state, federal) and select other countries. PREREQUISITE: ECON 7710 or permission of instructor.

ECON 7712 - Pharmaceutical Econ (3)

Comprehensive treatment of classic and emerging literature on the methodology and applications of industrial organization and resource-based theories in pharmaceutical and related health and medical care technology industries (e.g., medical devices, biotechnologies,?) in the global context. PREREQUISITE: ECON 7300 or equivalent or permission of instructor.

ECON 7715 - Global Healthcare Economics (3)

Applies basic economic concepts toward understanding market economics, regulatory apparatus, and other strategic complexities in the biomedical industry and related markets; analysis of global healthcare issues and systems. PREREQUISITE: ECON 7100 or permission of instructor.

ECON 7720 - Econ Public Sector (3)

Study of government’s role in the economy, both in theory and in practice. Production and financing of public goods, taxation, advantages and disadvantages of federalism, externalities, government programs and their effects. Emphasis on current problems and policy decisions. PREREQUISITE: ECON 7300 or permission of instructor.

ECON 7810 - Econometrics I (3)

Classical multivariate regression analysis and statistical inference under ideal and non-ideal conditions; theoretical foundations with emphasis on empirical implementation; estimation of models with categorical data, non-linearity, simple dynamics, or panel data. PREREQUISITE: ECON 7125-8125 or permission of instructor.

ECON 7811 - Econometrics II (3)

Estimation and statistical inference with a focus on microeconometric techniques; panel data; instrumental variables and simultaneous equations models; estimation of treatment effects; binomial and multinomial choice models; censored data and sample selectivity; regression discontinuity design; quantile regression.

ECON 7901 - Teaching Practicum (1-6)
Practical demonstrations of and experience in the art of teaching economics topics. Required of all PhD students and recommended for all graduate assistants. May be repeated for a maximum of 6 credit hours. Grades of S, U, or IP will be given.

**ECON 7910 - Prob In Economics (1-6)**
Directed independent reading and research in an area selected by the student with the approval of the supervising faculty member and Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

**ECON 7996 - Thesis (3-6)**
Independent research for the master's degree. Grades of S, U, or IP will be given.

**ECON 8120 - Adv Quant Econ Analysis (3)**
Mathematical methods of economic dynamics; difference and differential equations; dynamic stability; dynamic programming; optimal control theory; applications to saving, investment, portfolio choice, labor supply, and asset pricing.

**ECON 8125 - Appl Stat Mthds for Bus & Econ (3)**
Probability and statistical techniques used in economics, finance, accounting, and management science.

**ECON 8126 - Economic Forecasting (3)**
Statistical models for forecasting and measuring risk, growth, cyclical and seasonal patterns in business, and economic time series. PREREQUISITE: ECON 7100 or permission of instructor.

**ECON 8130 - Industrial Organization (3)**
How different types of markets work; nature of the firm; monopoly; oligopoly; repeated games and collusion; monopolistic competition and product differentiation; entry, accommodation and exit. May also cover topics such as research and development, advertising, consumer search, among others. PREREQUISITE: ECON 7310-8310 or permission of instructor.

**ECON 8175 - Intnl Trade Theory/Pol (3)**
Advanced treatment of the theory of international trade; the theory of comparative advantage, the Hecksher-Ohlin model, specific factors, returns to scale and product life-cycle hypotheses; applications of tariffs and commercial policies, international factor movements, and selected topics in international economic development. PREREQUISITE: ECON 7310-8310 or permission of instructor.

**ECON 8176 - Intnl Monetary Thry/Pol (3)**
Advanced treatment of open economy macroeconomics: determination of internal and external balance; balance of payments accounting; models of balance of payments adjustment, foreign exchange rate determination, and international capital flows; stabilization mechanisms and policies. PREREQUISITE: ECON 7320-8320 or
permission of instructor.

**ECON 8210 - Labor Economics (3)**
Use of theory and statistical techniques to analyze various aspects of labor markets, including labor demand and supply, human capital, the wage structure, unemployment and discrimination.

**ECON 8310 - Adv Microeconomics I (3)**
A more advanced study of consumer preferences, competitive demand, producer theory; welfare economics, general equilibrium and basic cooperative game theory. PREREQUISITE: ECON 7300 or permission of instructor

**ECON 8311 - Adv Microecon II (3)**
Advanced microeconomic applications of game theory; static and dynamic games of complete information; Bayesian games; repeated games; introduction to mechanism design. Application include: oligopoly, basic auctions, adverse selection, moral hazard, among others. PREREQUISITE: ECON 7300 or permission of instructor.

**ECON 8313 - Econ Risk & Uncertainty (3)**
Expected utility theory, criticisms and alternatives; stochastic dominance; risk aversion and prudence; log-supermodularity; multiple risks; comparative statics of choice under uncertainty; applications to insurance, saving, portfolio choice, labor supply, investment, and asset pricing.

**ECON 8320 - Adv Macroeconomics I (3)**
Microeconomic foundations of macroeconomic models; general equilibriums, overlapping generations, neoclassical growth and investment theory. Introduction to optimal control and dynamic programming.

**ECON 8321 - Adv Macroecon II (3)**
Introduction to practical stochastic dynamic programming. Topics covered include: consumption and saving; models of price determination; monetary policy, money and liquidity; bank runs; asset pricing; equilibrium search and matching models.

**ECON 8322 - Monetary Theory & Pol (3)**
Role of money in the macroeconomy: includes theory of financial structure, money creation and monetary control, theory of money demand; general equilibrium financial models: static analysis, short-run dynamics, monetary growth; rules versus discretion debate: optimal monetary policy, historical conduct of monetary policy. PREREQUISITE: ECON 3320, 7300, or 7320-8320, or permission of instructor.

**ECON 8710 - Health Care Economics (3)**
Applies basic economic concepts to analyze health care market and evaluate health policies; including distinctive economic characteristics of health, health care industry, and health care professionals; American system of health care; current health care policy issues such as health care reform, managed care, and manpower planning.
ECON 8711 - Appl Health Care Econ (3)
Uses economic theories and related methodologies to illuminate an array of health and health care issues. Evaluates theoretical and empirical problems in health and medical care. Covers the structure, conduct, and performance of markets for physicians, hospitals, pharmaceuticals, and long-term care. Covers health and health care policies of the US (local, state, federal) and select other countries. PREREQUISITE: ECON 7710 or permission of instructor.

ECON 8712 - Pharmaceutical Econ (3)
Comprehensive treatment of classic and emerging literature on the methodology and applications of industrial organization and resource-based theories in pharmaceutical and related health and medical care technology industries (e.g., medical devices, biotechnologies,?) in the global context. PREREQUISITE: ECON 7300 or equivalent or permission of instructor.

ECON 8720 - Econ Public Sector (3)
Study of government’s role in the economy, both in theory and in practice. Production and financing of public goods, taxation, advantages and disadvantages of federalism, externalities, government programs and their effects. Emphasis on current problems and policy decisions. PREREQUISITE: ECON 7300 or permission of instructor.

ECON 8810 - Econometrics I (3)
Classical multivariate regression analysis and statistical inference under ideal and non-ideal conditions; theoretical foundations with emphasis on empirical implementation; estimation of models with categorical data, non-linearity, simple dynamics, or panel data. PREREQUISITE: ECON 7125-8125 or permission of instructor.

ECON 8811 - Econometrics II (3)
Estimation and statistical inference with a focus on microeconometric techniques; panel data; instrumental variables and simultaneous equations models; estimation of treatment effects; binomial and multinomial choice models; censored data and sample selectivity; regression discontinuity design; quantile regression.

ECON 8812 - Econometrics III (3)
Analysis and modeling of economic and financial time series with applications. ARIMA and ARCH processes; stationarity, causality and cointegration; vector autoregression, structural model and equilibrium correction models.PREREQUISITE: ECON 7810.

ECON 8901 - Teaching Practicum (1-6)
Practical demonstrations of and experience in the art of teaching economics topics. Required of all PhD students and recommended for all graduate assistants. May be repeated for a maximum of 6 credit hours. Grades of S, U, or IP will be given.
ECON 8910 - Prob In Economics (1-6)
Directed independent reading and research in an area selected by the student with the approval of the supervising faculty member and Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.
FINANCE (FIR)

NOTE: Students taking Business courses will be charged an additional $35 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**FIR 7726-35–8726-35. Current Topics in Finance, Insurance, and Real Estate. (3).** Consult the online class listings for topics.

**FIR 6310 - Real Estate Law (3)**
This course covers law and legal instruments as applied to real estate and is designed to serve the needs of property owners and those engaged in the real estate business.

**FIR 6320 - Real Estate Finance (3)**
Terminology, legislation, principles, and analytical techniques pertaining to financing of real estate; perspective of lender, residential borrower, and income property borrower.

**FIR 6331 - Stock Portfolio Mgmt (3)**
(Same as FIR 4331). Development and monitoring of investment portfolio by explaining possible investment alternatives; terminology and analysis techniques necessary to fulfill future financial goals. Undergraduate students will assist graduate students in managing a real equity portfolio of $500,000.

**FIR 6340 - Real Estate Appraisal (3)**
Basic terminology, principles, procedures, and issues; nature of value, principles of value, appraisal process, market approach, cost approach, capitalization of income approach, gross rent multiplier approach, and appraisal reports.

**FIR 6350 - Real Estate Investment (3)**
Principles and practices reviewed and evaluated; investment strategy, ownership forms, tax implications, cash flow analysis, measures of return, risk management, and property selection.

**FIR 6610 - Cases Managerial Fin (3)**
Application of tools and principles introduced in previous courses to develop up-to-date problem-solving techniques; cases approached from standpoint of top-level management, utilizing both quantitative and qualitative analysis. PREREQUISITE: FIR 7070 or equivalent.

**FIR 6720 - Mgmt Financl Institutns (3)**
Financial policies and decision-making peculiar to financial institutions in the United States; management of institutions consistent with adequate standards of liquidity and solvency. PREREQUISITES: FIR 3410 and FIR 3720.

**FIR 6721 - Financial Derivative Markets (3)**
Introduction to futures, options, forwards, and swaps (widely used by investment firms and corporations to manage financial risks), with primary emphasis on their practical application in financial and commodity markets.
PREREQUISITE: FIR 3710.

**FIR 6770 - Security Analysis/Port Mgmt (3)**
Development of techniques for finding actual worth of securities, primarily stocks and bonds; selection, timing, diversification, and other aspects of supervising investment funds. PREREQUISITE: FIR 3710.

**FIR 6810 - Prop & Lbility Insur (3)**
Forms and functions of fire, marine, automobile, general liability, and other types of property and liability insurance; emphasis on business and industrial applications.

**FIR 6820 - Life & Health Insurance (3)**
Functions of life and health insurance; emphasis on economic security needs, human behavior, and problems related to death and dying; individual life, health, and annuity contracts and social insurance; concepts in risk selection and regulation.

**FIR 7070 - Financial Conc/Business (3)**
(7010). Discounting, risk measurement, valuation, capital budgeting, cost of capital, capital structure, dividend policy, working capital, financial instruments, and markets.

**FIR 7155 - Global Financial Mgmt (3)**
Theory and practice of modern financial theory as currently practiced in an interdependent global economy by corporate financial managers, financial consultants, and managers of financial institutions.

**FIR 7160 - Executive Financial Mgmt (2)**
Advanced capital budgeting theory and practice including different types of cash flow estimation and analysis, equivalent annual annuity, levelized and unlevelized costs, and product pricing; covers theory and practice of a firm's capital structure, dividend policy, stock repurchasing decisions, and financial planning and forecasting.

**FIR 7170 - Multinational Financial Mgmt (3)**
Covers financial management practiced by multinational enterprise with emphasis on balance of payments, foreign exchange risk management, global money and capital markets, multinational treasury functions and political risk analysis.

**FIR 7171 - Intl Financial Markets (3)**
Analysis of operation and regulation of international financial markets for derivatives (options, futures, and swaps), equities, debt, and currencies.

**FIR 7173 - Financial Analys/Certification (3)**
Course is designed to accomplish three objectives: (1) Prepare students for careers in financial markets, (2) Develop investments skills for person financial planning such as savings and retirement, and (3) Familiarize
students with certifications such as CFA, CFP and the content for such exams.

**FIR 7301 - Contemp Rles Thry/Prac (3)**
Overview of significant topics in real estate finance, investments, and valuation; lecture and group discussion of key issues in real estate theory and practice.

**FIR 7302 - RI Estate Dvlpmt & Sustainblty (3)**
Analysis of methodologies and market strategies in the evaluation of investments in commercial and industrial land development; identification, conceptualization, and execution of action programs associated with developing energy efficient and sustainable real estate projects, industrial parks, warehouse-distribution centers, and related land uses.

**FIR 7310 - Sustainable Real Estate (3)**
Course will examine the decisions to minimize present and future energy needs, as well as the societal collective decision to promote technological change for lower energy consumption, and to foster market forces that will sustain our environment and our economy.

**FIR 7320 - Financing Real Est Trans (3)**
Economic, institutional, and legal issues associated with real estate finance; emphasis on investor and developer financing, and secondary mortgage market.

**FIR 7350 - Real Est Invest Analys (3)**
Analytical tools, concepts, and decision rules for real estate asset acquisition and disposition; ownership forms, tax structuring, cash flow forecasting, risk analysis, and decision making.

**FIR 7410 - Invst Thry Portfol Mgmt (3)**
Introductory graduate level course in the area of investments and portfolio management; considers qualitative and quantitative risk and return characteristics of various investment opportunities, fundamental valuation models, timing techniques, efficient markets, speculation and hedging, and portfolio theory and practice. PREREQUISITE: FIR 7155 or equivalent.

**FIR 7648 - Entrepreneurial Finance (3)**
The purpose of this course is to provide students with an understanding of how new business ventures are conceived, planned, financed and harvested. The course is taught primarily from the vantage point of the entrepreneur, but will also view things from the perspective of investors (Angel investors, Venture Capitalists, etc.).

**FIR 7710 - Sem Investment Thry (3)**
Current literature in investment theory and portfolio analysis; topics include statistical techniques of analysis, technical analysis, fundamental analysis, investor perceptions, efficient markets, investigation of risk measurements, portfolio theory and applications, and speculative markets. PREREQUISITE: FIR 7410 or
permission of instructor.

**FIR 7721 - Financial Derivatives (3)**
Understanding futures, options, forwards, and swaps (widely used by investment firms and corporations to manage financial risk), with primary emphasis on their practical application in financial and commodity markets.
PREREQUISITE: FIR 7155 or equivalent.

**FIR 7724 - Micro-Structure Theory (3)**
Market microstructure theory; empirical underpinnings, empirical research, and critical contemporary issues.

**FIR 7725 - Eqty Mkt's:Trad/Struct (3)**
Trading technologies, measuring and controlling trading costs, competition between exchanges and alternative trading systems, global market developments, trading strategies, impact of networks and regulation; simulation software provides hands-on experience making tactical trading decisions in different market structures.

**FIR 7810 - Adv Financial Mgmt (3)**
The most significant contributions to the advanced literature on managerial finance. Topics include capital budgeting under risk, capital rationing, cost of capital, capital structure, dividend policy, firm valuation, and working capital management. PREREQUISITE: FIR 7155 or equivalent.

**FIR 7840 - Quantitative Finan App (3)**
Application of statistical and quantitative tools to problem solving and decision making in all disciplines of finance. The tools include, but are not limited to, spreadsheet analysis, linear programming, and regression analysis. Extensive use of computer software packages. PREREQUISITE: FIR 7155 or equivalent.

**FIR 7910 - Problems In Fir (1-6)**
Directed independent reading and research projects in the finance, insurance, or real estate areas selected by the student with approval of supervising faculty member and Faculty Director. Program of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

**FIR 7911 - Internship in FIR (3)**
Internship in Finance, Insurance and Real Estate to gain on-the-job experience in real-life environment. Project to be approved and supervised by department faculty. Credit allowed only after acceptance of report. Prerequisite: 3.00 overall GPA and completed 15 hours of coursework.

**FIR 7996 - Thesis (1-6)**
Candidates desiring to write a thesis must fill out an application on the approved form after consulting with the major professor. Grades of S, U, or IP will be given.

**FIR 8170 - Intl Financial Mgmt (3)**
(7620). Selected problems in international finance, foreign investment, and the international payments system; gold movements; foreign central banking, and international aspects of money markets; the impact of international financial cooperation. PREREQUISITES: FIR 3410; ECON 3610; or permission of instructor.

**FIR 8410 - Invst Thry Portfol Mgmt (3)**
Introductory graduate level course in the area of investments and portfolio management; considers qualitative and quantitative risk and return characteristics of various investment opportunities, fundamental valuation models, timing techniques, efficient markets, speculation and hedging, and portfolio theory and practice. PREREQUISITE: FIR 7155 or equivalent.

**FIR 8710 - Sem Investment Thry (3)**
Current literature in investment theory and portfolio analysis; topics include statistical techniques of analysis, technical analysis, fundamental analysis, investor perceptions, efficient markets, investigation of risk measurements, portfolio theory and applications, and speculative markets. PREREQUISITE: FIR 7410 or permission of instructor.

**FIR 8721 - Financial Derivatives (3)**
Understanding futures, options, forwards, and swaps (widely used by investment firms and corporations to manage financial risk), with primary emphasis on their practical application in financial and commodity markets. PREREQUISITE: FIR 7410 or 3710 or equivalent.

**FIR 8724 - Micro-Structure Theory (3)**
Market microstructure theory; empirical underpinnings, empirical research, and critical contemporary issues.

**FIR 8725 - Eqty Mkts:Trad/Struct (3)**
Trading technologies, measuring and controlling trading costs, competition between exchanges and alternative trading systems, global market developments, trading strategies, impact of networks and regulation; simulation software provides hands-on experience making tactical trading decisions in different market structures. PREREQUISITE: FIR 7155 or equivalent.

**FIR 8810 - Adv Financial Mgmt (3)**
The most significant contributions to the advanced literature on managerial finance. Topics include capital budgeting under risk, capital rationing, cost of capital, capital structure, dividend policy, firm valuation, and working capital management. PREREQUISITE: FIR 7155 or equivalent.

**FIR 8820 - Thry/Prac Finan Mgmt (3)**
Study of the more recent advanced literature of managerial finance and its applications; intensive pursuit of approved individual topics; oral presentations of research papers and cases. PREREQUISITE: FIR 8810.

**FIR 8840 - Quantitative Finan App (3)**
Develops an understanding of fixed income markets and interest rate derivatives. Topics include bond mathematics, interest rate models, fixed income securities, corporate debt, and interest rate derivatives; also applies statistical and quantitative methods to solve problems in derivative securities. PREREQUISITE: FIR 7155.

**FIR 8850 - Seminar In Finance (3)**
Designed to encourage students in finance to develop a firm understanding of the important theoretical and empirical contributions to the literature and to develop the skills needed to advance knowledge in the field. Topics may vary. May be repeated for credit when topic varies.

**FIR 8910 - Problems In Fir (1-6)**
Directed reading and research in the finance, insurance, or real estate areas selected by the student with approval of supervising faculty member and PhD Coordinator. May be repeated for credit when topic varies. Grades of A-F, or IP will be given.
NOTE: Students taking Business courses will be charged an additional $30 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

MGMT 7940-49-8940-49. Special Topics in Management. (3). Topics vary and are listed in the online course listing.

MGMT 7030 - Management & Orgnztn (3)
(7000). Comprehensive analysis of concepts and applications required for effective performance of the manager's job in organizations with varied environments; management as a sub-function of the total organizational system interacting with objectives, planning, and control; organizational design and interpersonal relationships; nature of operations management.

MGMT 7125 - Org Behavior Internatnl (3)
Concepts and theories needed to understand the process of managing people, work groups, and organizations in a global environment; role of cultural differences relevant in international context. PREREQUISITE: Admission to IMBA concentration.

MGMT 7130 - Org Behav & Performance (3)
Study of human behavior, attitudes, and performance within an organizational setting; motivation, leadership, communication, group dynamics, organizational hange and development, power and politics, conflict management, cross-cultural issues; applications of theory, methods, and principles from behavioral sciences; study of individuals, groups, structure, and process to enhance organizational performance. NOTE: Open to degree-seeking students only. PREREQUISITE: MGMT 7030 or equivalent.

MGMT 7135 - Seminar in Leadership (2)
Theoretical and practical consideration of leadership in high performing business organizations; detailed analysis of relevant organizational behavior concepts; particular focus on theories of motivation, styles of leadership, and emotional intelligence.

MGMT 7136 - Exec. Seminar in Leadership (3)
Theoretical and practical consideration of leadership in high performing business organizations; team building; detailed analysis of relevant organizational behavior concepts; particular focus on theories of motivation, styles of leadership, and emotional intelligence. NOTE: only open to those enrolled in the Executive MBA program.

MGMT 7160 - Global Strategic Mgmt (3)
(7410). Decisions and actions for development and implementation of long-term plans that determine organizational performance; role of top management decision making in establishing the firm's mission; focus on strategic analysis of alternative actions; evaluation of environmental conditions, industry characteristics, and organizational capabilities in determining strategy in a global context.

MGMT 7161 - Intl Business Strategy (3)
Business strategy from perspective of general manager in a multinational enterprise, promoting long-term success of the organization; heavy emphasis on case study; includes management of multinational enterprise, strategic thinking in a global context, internal firm analysis, industry and competitor analysis, and related international strategy issues. PREREQUISITES: Admission to IMBA concentration.

MGMT 7170 - International Mgmt (3)
Foreign operations of American firms, impact of foreign competition on the domestic market, and management of multinational enterprises; identification, analysis, and resolution of managerial issues in multinational business operations.

MGMT 7173 - Executive Communications (3)
Theory of communication essential to management with written, oral, and interpersonal applications; use of case problems to develop effective, efficient, and ethical communication strategies; impact of communication technology; intercultural communication; collection, analysis, and organization of primary and secondary data, followed by written and oral presentations.

MGMT 7210 - Sem Industrl Relations (3)
An in-depth examination of selected problems in labor management relations; emphasis on an understanding of past practices as well as current trends that relate to present-day activities in industrial relations.

MGMT 7220 - Semn Humn Res Mgmt I (3)
Problems and issues deriving from movements and trends in the management of human resources caused by changing laws, union activities, and the demands of our culture. The student is required to select one or more recent concepts or problems for intensive study and critical analysis.

MGMT 7250 - Strategic Human Captl Mgmt (3)
Theories, research, and practice in managing human resources strategically in business organizations. Topics include strategic HRM and planning, legal environment and managing diversity, job analysis, job design, recruitment, selection, training and development, performance management, turnover, and retention.

MGMT 7260 - Semn Humn Res Mgmt II (3)
Concepts and issues concerning understanding of jobs and performance of jobs; job analysis that creates foundation for selection and performance; use of job requirements for developing selection criteria and performance standards. PREREQUISITE: MGMT 7030.

MGMT 7270 - Ventur/Bldg/Sust Succ Enterp (3)
The field of business venturing, which emphasizes the start-up phases of entrepreneurship, is a popular and growing area of the business curriculum. This course is designed to accomplish the fundamental objectives of learning how to design, implement, and sustain a business around a new business idea. This course provides a foundational introduction to the process of venturing for MBA students.
MGMT 7421 - Self Leadership/Executives (2)
Application of critical thinking skills to the major theories, concepts, and principles of self leadership; emphasizes understanding each stage of the self leadership process, applying critical thinking skills to each element of self leadership, and the overall logic of self leadership.

MGMT 7422 - Sem Organizational Thry (3)
Major historical and contemporary theories of organization; emphasis on study of organizational structures, principles, techniques, and processes as they relate to management of organizations. Individual studies will be pursued with group analysis and discussion at regular class meetings.

MGMT 7423 - Sem/Organztl Behavr II (3)
Employee-organization linkages, theories of human stress and cognition in organizations; cognitive processes in organizational contexts including social cognition, commitment, self-regulation, intrinsic-extrinsic rewards, coping with stressful organizational and life events, and determinants of pro-social behavior in work contexts.

MGMT 7500 - Sem/Strategic Mgmt (3)
Literature of strategic management, including contributions of other fields to strategic management.

MGMT 7506 - Sem/Indstry & Comp Anlys (3)
Competitive environment of business organizations; emphasis on understanding industry structure and the positioning of firms in relation to major rivals.

MGMT 7508 - Sem/Corporate Strategy (3)
Research literature on corporate-level strategy topics; corporate strategy as well as decision and implementation processes and problems; strategic issues of multibusiness firms.

MGMT 7510 - Sem/Strtgy & Plan Rsrch (3)
Specialized areas in strategic management review of relevant literature and methodology; emphasis on problem determination, analysis, and preparation of comprehensive reports and research proposals.

MGMT 7520 - Semn Org Change Mgmt (3)
Diagnosis of problems reducing organizational effectiveness, techniques for introducing and implementing change in organizations, theoretical basis of organizational development, and rationale for organizational development. PREREQUISITE: MGMT 7030.

MGMT 7910 - Problems In Mgmt (1-6)
Directed independent research projects in an area selected by the student with approval of the staff member supervising and permission of Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.
MGMT 7996 - Thesis (3-6)
Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Faculty Director of Master's Programs. Grades of S, U, or IP will be given.

MGMT 8220 - Sem in Humn Resource Mgmt I (3)
Problems and issues in human resource management such as staffing organizations, managing diversity in the workplace, and employee training. Students are required to select one or more recent concepts or problems for intensive study and critical analysis.

MGMT 8260 - Semn in Humn Resource Mgmt II (3)
Problems and issues in human resource management such as staffing organizations, managing diversity in the workplace, and employee training. Students are required to select one or more recent concepts or problems for intensive study and critical analysis.

MGMT 8421 - Sem/Organztl Behavr I (3)
Individual and group behavior within work organizations; emphasis on the study of behavioral science concepts and research and their applications to management of organizations. Individual studies will be pursued with group analysis and discussion at regular class meetings. PREREQUISITE: MGMT 7030.

MGMT 8422 - Sem Organizational Thry (3)
Major historical and contemporary theories of organization; emphasis on study of organizational structures, principles, techniques, and processes as they relate to management of organizations. Individual studies will be pursued with group analysis and discussion at regular class meetings.

MGMT 8423 - Sem/Organztl Behavr II (3)
Employee-organization linkages, theories of human stress and cognition in organizations; cognitive processes in organizational contexts including social cognition, commitment, self-regulation, intrinsic-extrinsic rewards, coping with stressful organizational and life events, and determinants of pro-social behavior in work contexts.

MGMT 8500 - Sem/Strategic Mgmt (3)
Literature of strategic management, including contributions of other fields to strategic management.

MGMT 8506 - Sem/Indstry & Comp Anlys (3)
Competitive environment of business organizations; emphasis on understanding industry structure and the positioning of firms in relation to major rivals.

MGMT 8508 - Sem/Corporate Strategy (3)
Research literature on corporate-level strategy topics; corporate strategy as well as decision and implementation processes and problems; strategic issues of multibusiness firms.
MGMT 8510 - Sem/Strtgy & Plan Rsrch (3)
Specialized areas in strategic management review of relevant literature and methodology; emphasis on problem determination, analysis, and preparation of comprehensive reports and research proposals.

MGMT 8520 - Semn Org Change Mgmt (3)
Diagnosis of problems reducing organizational effectiveness, techniques for introducing and implementing change in organizations, theoretical basis of organizational development, and rationale for organizational development. PREREQUISITE: MGMT 7030.

MGMT 8910 - Problems In Mgmt (1-6)
Directed independent research projects in an area selected by the student with approval of the staff member supervising and permission of Faculty Director. Proposed plan of study must be approved prior to enrollment. Grades of A-F, or IP will be given.

MGMT 8921 - Sem Mgmt Research (3)
Some of the statistical techniques available to the business researcher, including contingency tables, bivariate correlation analysis, regression analysis, ANOVA, discriminant analysis, and factor analysis; use of computerized statistical packages and interpretation of the results of these packages. PREREQUISITE: ISDS 3711 or 7020 or equivalent.

BUSINESS EDUCATION (BUED)

NOTE: Students taking Business courses will be charged an additional $30 per credit hour.

BUED 7655 - Mat & Meth In Voc Educ (3)
Instructional media and aids relating to vocational office education with emphasis on recent developments and research; particular emphasis on individual instruction techniques for the block-time approach to office education programs.

Graduate Catalog
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Graduate School
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
NOTE: Students taking Business courses will be charged an additional $30 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**MKTG 7230-39–8230-39. Special Topics in Marketing and Supply Chain Management. (3).** Special study of problems in marketing. Topics areas change each semester as determined by relevant developments in marketing. Course may be repeated once with a change in content. Current topic listed in online class listings. 
PREREQUISITE: MKTG 7060 or permission of Faculty Director of Master's Programs.

**MKTG 7060 - Marketing Management (3)**
For graduate students with undergraduate degrees in fields other than business administration. Marketing management as it relates to product, price, place, and promotional activities in both profit and nonprofit organizations; external environment as it affects marketing.

**MKTG 7140 - Global Strategic Marketing (3)**
Marketing strategy and in-depth analysis of issues impacting global management of marketing, including: interrelationships among global business environments and strategies, analysis value creating global strategies, competitive intelligence gathering, customer segment analysis, integrated marketing technologies, customer relationship management.

**MKTG 7170 - Multinational Mktg Sem (3)**
Emphasis on the cross-cultural aspects of multinational marketing through case studies and individual research; execution of marketing concepts and theories in different cultures and environments; similarities and differences of applications and results.

**MKTG 7213 - Research Methodology (3)**
Business research methods and tools; exploratory, descriptive, and causal research designs; primary and secondary sources of data; hands on experience with univariate and multivariate analysis techniques; emphasis on the interpretation and communication of research findings to aid decision makers. PREREQUISITE: Permission of instructor.

**MKTG 7251 - Ethics In Business (1.5)**
Ethical frameworks, theories, and definitions available for use in ethical business decision-making; legalization of business ethics, and processes involved in developing a business code of ethics; ability to recognize and identify ethical issues in business decision-making emphasized.

**MKTG 7510 - Negotiation Strategies (3)**
Application of negotiation strategies and tactics in a variety of business, non-profit, and political environments; emphasis on collaborative and competitive styles of negotiating. PREREQUISITE: Permission of Faculty Director of Master's Programs.

**MKTG 7511 - Market Driven Quality (3)**
Application of TQM principles and techniques in marketing operations; emphasis on measuring and analyzing quality from customer's perspective. PREREQUISITE: Permission of Faculty Director of Master's Programs.

**MKTG 7520 - Medical Dev New Prod Dev (3)**

Covers strategic planning and policy for new products, opportunity analysis, idea generation and concept development, project evaluation, product design and development, prototyping and testing, product launch and commercialization, and various product management tools. PREREQUISITES: MKTG 7140, SCMS 7315, HADM 7718.

**MKTG 7540 - Applied Consumer Behavior (3)**

Application of basic and advanced concepts of consumer behavior in business to consumer and business to business contexts; application of value based marketing to acquisition, development and maintenance of profitable customer relationships; psychological underpinnings of consumer behavior; exploring consumer behavior in a multicultural environment. Prerequisite: MKTG 7140 or equivalent.

**MKTG 7542 - Retail Marketing Strategy (3)**

Focus on strategic role of retailing in the distribution of consumer goods and services; understanding consumer insights and execution of critical factors for building retail brands; role of new technology and media in developing multi channel retailing strategies. Prerequisite: MKTG 7140 or equivalent.

**MKTG 7544 - Integ Mktg Comm/Branding (3)**

Application of theories in marketing communications and marketing psychology to understanding consumers responses to new media; study changing media trends; study theories on branding such as brand personalities, branding services, people as brands and brand communities; building and measuring brand equity; leveraging brands for brand extension and managing a brand portfolio in a global context. Prerequisite: MKTG 7140 or equivalent.

**MKTG 7546 - Mktg in Digital Environment (3)**

Studying and applying marketing orientation in a digital environment; understanding emerging business models for the online market space; studying and implementing eCommerce project management techniques; understand the converging trends in the digital world in relation to consumers and consumer segments. PREREQUISITE: MKTG 7140 or equivalent.

**MKTG 7555 - Creativity and Innovation (2)**

Focused analysis and discussion of imaginative, creative processes used for innovation in business contexts; explores theoretical underpinnings of creativity and innovation, with special attention to environmental effects on individual and group creativity; creativity knowledge is applied in areas of ideation, innovation management, and product design.

**MKTG 7910 - Problems in Marketing (1-6)**

Directed independent research projects in an area selected by the student with the approval of the faculty member supervising and permission of the Faculty Director. Proposed plan of study must be approved by Ph.D. coordinator prior to enrollment. Grades of A-F, or IP will be given.

**MKTG 7996 - Thesis (3-6)**
Grades of S, U, or IP will be given.

**MKTG 8215 - Ethical Criticism (3)**
Ethical analyses and critiques of scientific writing; deconstructive strategies of reading; emphasis on literary and rhetorical tactics employed in presentation of marketing theory.

**MKTG 8216 - Measurement/Stuc Equa (3)**
Theoretical and methodological issues in research design, measurement, and analysis; development of measures of constructs and empirical assessment of measurement properties; model development and testing to expand theory; covariance structure analysis to test measurement and structural models. PREREQUISITE: SCMS 8540 or equivalent.

**MKTG 8217 - Theory Const & Eval (3)**
Analyses of development of theory in marketing and management; critiques of dominant paradigms; examination of tenets of philosophy of science as they relate to theory generation and testing. PREREQUISITE: permission of instructor

**MKTG 8222 - Adv Mktg Management (3)**
Seminar focusing on the major research streams in marketing management; analyses of foundations of marketing management theory; emphasis on assessing the conceptual development of marketing constructs; examination of current journal articles to assess new research approaches to improve marketing theory and practice. PREREQUISITE: permission of instructor

**MKTG 8223 - Adv Consumer Behavior (3)**
Survey of theoretic and methodological contributions of consumer behavior research in areas of human information processing, information search, complex decision-making, motivation, and attitude; emphasis on tracing major research streams in the literature through examination of current journal articles; research paper required. PREREQUISITE: Permission of instructor.

**MKTG 8225 - Adv Topics Marketing Mgmt (3)**
Seminar on the primary research issues in the field of marketing management; emphasis on the conceptual development of marketing constructs. Course includes discussion and analysis of both conventional and state-of-the-art research approaches to the investigation of problems in marketing management. PREREQUISITE: permission of instructor.
MKTG 8910 - Problems in Marketing (1-6)
Directed independent research projects in an area selected by the student with the approval of the faculty member supervising and permission of the Faculty Director. Proposed plan of study must be approved by Ph.D. coordinator prior to enrollment. Grades of A-F, or IP will be given.

MKTG 8930 - Adv Research Methods (3)
Detailed coverage of topics relevant to conducting research in behavioral sciences, particularly marketing, including sampling techniques; experimental design concepts (blocking designs, multi-factor, use of repeated measures); development and evaluation of measurement instruments; application of multivariate techniques to marketing problems. PREREQUISITE: SCMS 8540 or equivalent.

SUPPLY CHAIN MANAGEMENT SCIENCES (SCMS)

NOTE: Students taking Business courses will be charged an additional $30 per credit hour.

SCMS 7020 - Statistical Methods (3)
(ISDS 7020) Statistical concepts and methodology useful in understanding, assessing, and controlling operations of business and economic society. PREREQUISITE: ECON 6810 or equivalent.

SCMS 7080 - Prncpl Prdctn & Oprtns (3)
(ISDS 7080) Role of P/OM function and relationship to other functional areas; basic production techniques and tools for both manufacturing and service operations. PREREQUISITE: SCMS 3711 or 7020.

SCMS 7110 - Quantitative Tools for Mgrs (3)
(ISDS 7110) Statistical concepts and tools, optimization and simulation techniques useful in understanding, assessing, and controlling operations of business and society.

SCMS 7120 - Mgmt Science/Decsn Tech (3)
(ISDS 7120) Insights into model-assisted decision making and Management Science/Operations Research: value focused thinking in problem framing, modeling, analysis, and communication; analyses of complexities related to enterprise-wide decision technologies; building and analyzing sequential decisions, simultaneous decisions, and dynamic systems; emphasis on supply chain modeling, visualization, and analysis. NOTE: Open only to degree-seeking students.

SCMS 7170 - Intnl Prodctn Oper Mgmt (3)
(ISDS 7170) Tools and techniques to capture the opportunities of world markets for enhancing competitiveness of a business through higher productivity and quality in a time-based mode of operations; effective resource utilization
and reliable supply-chain strategies emphasized. Focus on creating and managing global suppliers and global customers. PREREQUISITE: SCMS 7080 or permission of instructor.

**SCMS 7201 - Pharm Supply Chain Mgmt (3)**
(ISDS 7201) Concepts and tools for assessment, design, and management of modern pharmaceutical supply chains; includes strategic supply chain performance, metrics, and drivers, network design and assessment, strategic sourcing, supply and demand forecasting, aggregate planning, inventory resource planning, transportation network design and management, pricing and revenue management, customer relationship management, supply chain risk management, and enabling role of information technology across the supply chain.

**SCMS 7310 - Sem Prod Operatns Mgt (3)**
(ISDS 7/8310) Problems and issues encountered in productions and operations management environment; master planning, capacity management, resources planning, and shop floor management; managerial decision-making process for improving productivity and better utilization of scarce resources; implementation problems and solutions; manufacturing and service operations. PREREQUISITE: SCMS 8510 or equivalent or permission of instructor.

**SCMS 7311 - Seminar in SCM (3)**
(ISDS 7/8311) In-depth approach to integrated supply chain management (SCM) as a key element of the competitive strategy for supply chain member organizations; topics include key management, logistics, information systems and technologies, organizational relationships and global issues. PREREQUISITE: SCMS 7310 or permission of instructor.

**SCMS 7312 - Sem Val Chain Res Mgmt (3)**
(ISDS 7/8312) Multifunctional analysis of problems and issues associated with planning critical resources in the value chain of a business; emphasizes acquiring, consuming, and disposing of key resources in an ethical and socially responsible manner to provide a business with sustainable strategic competitive advantage while delivering maximum value to the customer. PREREQUISITE: SCMS 7310 or equivalent or permission of department chair.

**SCMS 7313 - Global Operations Mgmt (3)**
(ISDS 7/8313) Acquisition, transformation, and distribution of goods and services within the global supply chain; covers concepts, tools, and strategies to design and manage operations, such as strategic implications, performance measurement, process management, sourcing, operations design, quality, inventory, logistics, enabling information systems and technology, and global issues among other topics.

**SCMS 7315 - Dsgn/Mgmt Sup Chns Biom Ind (3)**
(ISDS 7315) Concepts and tools for designing and managing modern supply chains in the biomedical industry; includes purchasing and sourcing, demand forecasting, inventory resource planning, domestic and international transportation, customer relationship management, facility location, service-response logistics, and performance measurement.
SCMS 7425 - Determ Model Mgmt Sci (3)
(ISDS 7/8425) Deterministic models concerned with optimal allocation of limited resources among competing activities; business applications of linear programming including duality and post-optimality analysis as well as branch-and-bound and network flow methods of integer linear programming. PREREQUISITE: SCMS 7120 or equivalent.

SCMS 7430 - Adv Quan Tpcs Bus Dec (3)
(ISDS 7/8430) Advanced study of management decision-making using various quantitative methods of analysis; specialized applications of specific foundation courses in management science. PREREQUISITES: SCMS 7120 and ECON 6810 or equivalent.

SCMS 7431 - Applied Modeling (3)
(ISDS 7/8431) The application of management science modeling across business disciplines through readings, case studies, and projects; computer modeling languages utilized. PREREQUISITES: SCMS 7120 and business calculus.

SCMS 7450 - Intg SCM And Tech (3)
(ISDS 7/8450) Modeling techniques in designing and operating effective supply chains; current modeling applications, integration of informational and physical supply chains, operational planning and inventory management; organizational adaptation to modeling systems and applications. PREREQUISITES: SCMS 7120 and 7311.

SCMS 7921 - Sem SCMS Research (3)
(ISDS 7/8921) Some statistical techniques available to business researcher; topics may include: contingency tables, bivariate correlation analysis, regression analysis, ANOVA, discriminant analysis, and factor analysis; use of computerized statistical packages and interpretation of results of packages. PREREQUISITE: SCMS 2711 or 7020 or equivalent.

SCMS 8310 - Sem Prod Operatns Mgt (3)
(ISDS 7/8310) Problems and issues encountered in productions and operations management environment; master planning, capacity management, resources planning, and shop floor management; managerial decision-making process for improving productivity and better utilization of scarce resources; implementation problems and solutions; manufacturing and service operations. PREREQUISITE: SCMS 8510 or equivalent or permission of instructor.

SCMS 8311 - Seminar in SCM (3)
(ISDS 7/8311) In-depth approach to integrated supply chain management (SCM) as a key element of the competitive strategy for supply chain member organizations; topics include key management, logistics, information systems and technologies, organizational relationships and global issues. PREREQUISITE: SCMS 7310 or
SCMS 8312 - Sem Val Chain Res Mgmt (3)
(ISDS 7/8312) Multifunctional analysis of problems and issues associated with planning critical resources in the value chain of a business; emphasizes acquiring, consuming, and disposing of key resources in an ethical and socially responsible manner to provide a business with sustainable strategic competitive advantage while delivering maximum value to the customer. PREREQUISITE: SCMS 7310 or equivalent or permission of department chair.

SCMS 8313 - Global Operations Mgmt (3)
(ISDS 7/8313) Acquisition, transformation, and distribution of goods and services within the global supply chain; covers concepts, tools, and strategies to design and manage operations, such as strategic implications, performance measurement, process management, sourcing, operations design, quality, inventory, logistics, enabling information systems and technology, and global issues among other topics.

SCMS 8425 - Determ Model Mgmt Sci (3)
(ISDS 7/8425) Deterministic models concerned with optimal allocation of limited resources among competing activities; business applications of linear programming including duality and post-optimality analysis as well as branch-and-bound and network flow methods of integer linear programming. PREREQUISITE: SCMS 7120 or equivalent.

SCMS 8430 - Adv Quan Tpcs Bus Dec (3)
(ISDS 7/8430) Advanced study of management decision-making using various quantitative methods of analysis; specialized applications of specific foundation courses in management science. PREREQUISITES: SCMS 7120 and ECON 6810 or equivalent.

SCMS 8431 - Applied Modeling (3)
(ISDS 7/8431) The application of management science modeling across business disciplines through readings, case studies, and projects; computer modeling languages utilized. PREREQUISITES: SCMS 7120 and business calculus.

SCMS 8450 - Intg SCM And Tech (3)
(ISDS 7/8450) Modeling techniques in designing and operating effective supply chains; current modeling applications, integration of informational and physical supply chains, operational planning and inventory management; organizational adaptation to modeling systems and applications. PREREQUISITES: SCMS 7120 and 7311.

SCMS 8530 - Stat Tech Business Rsch (3)
(ISDS 8530) Introduction to statistical methods pertinent to business research; hypotheses testing procedures, association analyses, regression and forecasting techniques, and nonparametric methods; intensive research orientation and use of statistical software; critical review of current usage of various research and data analysis permissions of instructor.
techniques. PREREQUISITE: ISDSSCMS 7020 or equivalent and working knowledge of SPSS.

SCMS 8540 - Multv Analys/Bus Rsch (3)
(ISDS 8540) Multivariate techniques available to the business researcher; use of computerized statistical packages and their interpretation. PREREQUISITE: SCMS 8530 or equivalent.

SCMS 8921 - Sem SCMS Research (3)
(ISDS 7/8921) Some statistical techniques available to business researcher; topics may include: contingency tables, bivariate correlation analysis, regression analysis, ANOVA, discriminant analysis, and factor analysis; use of computerized statistical packages and interpretation of results of packages. PREREQUISITE: SCMS 2711 or 7020 or equivalent.
ARCH (ARCHITECTURE)

NOTE: The ARCH courses below require a $20 per credit hour materials fee.
ARCH 6021 - Architecture Independent Study (1-3)
Independent research in selected area of architecture faculty. May be repeated for a maximum of 6 hours credit.
PREREQUISITE: Permission of instructor.

ARCH 6022 - Architecture/Urbanism Seminar (3)
Review of contemporary concepts in architectural design in the context of the urban environment; attitudes and phenomena making the particular culture of today and their impact on the built environment. PREREQUISITE: Permission of instructor.

ARCH 6023 - Urban Design Seminar (3)
Comprehensive overview of significant issues of contemporary urban design; emphasis on experiential nature of cities and role of the architect in urban design. PREREQUISITE: Permission of instructor.

ARCH 6221 - Determinants of Modern Design (3)
Significant works of architecture and urban design from 1900 to present; focus on Europe, the US, and non-Western world; examines architecture as a mode of cultural production in relation to its aesthetic. PREREQUISITE: ARCH 1211, 1212, or equivalent.

ARCH 6231 - Issues in City Building (3)
Review of historical and contemporary issues in architecture, urban design, planning, and real estate development within the context of urban environment. PREREQUISITE: permission of instructor.

ARCH 6421 - Sustainable Design (3)
Principles of sustainable design as it relates to architecture and interior design. Topics include successful integration of sustainable design principles into building solutions; systematic evaluation of various design strategies in order to determine the most appropriate application. PREREQUISITE: permission of instructor.

ARCH 6430 - Internship in Architecture (1-6)
Experiential learning to be achieved through an approved work assignment with a design firm, appropriate public or private entity, or a Department of Architecture faculty member. PREREQUISITE: permission of instructor.

ARCH 6451 - Site+Environmental Planning (3)
Building sites; selection and utilization, including environmental influences; technical aspects such as zoning, contour lines, parking, ingress/egress, site drainage, building location, and sustainable design. PREREQUISITE: Permission of instructor.

ARCH 6613 - Graphic Design for Architects (3)
Advanced design, modelling, and analytical concepts using various computer software programs. PREREQUISITE: Permission of instructor.
ARCH 6811 - Parameters+Architecture Studio (3-6)
Comprehensive overview of differences and relationships of history, technology, and culture in terms of impact on architecture and urban design; concepts of form generation and historic dimensions of architecture with respect to human settlement. May be repeated for a maximum of 6 hours when topic changes. PREREQUISITE: Permission of instructor.

ARCH 6812 - Furniture Design Studio (4)
Examination of the historical precedents in modern style and the place of furniture in architecture; design philosophy, expression of materials, and construction. PREREQUISITE: Permission of instructor.

ARCH 6821 - Urban Design Studio (6)
Comprehensive overview of significant issues of contemporary urban design; emphasis on experiential nature of cities, role of public policy, and genesis and development of urban building types. PREREQUISITE: Permission of instructor.

ARCH 6822 - Architecture+Urbanism Studio (6)
Advanced design studio for identifying needs, resources, and operational methodologies across an expanded range of environmental scales; methods for identifying socio-cultural needs and coordination of complex variables, information, and resources, leading to conceptualization and development of design of components of the built environment.

ARCH 6833 - Architectural Illustration (3)
Basics of phenomenological theory as it applies to design communication; techniques of observational analysis; skills in applied color theory, perspective drawing, compositional refinement, and characteristics of materials and light; precedents of representation; graphic and verbal presentation. PREREQUISITE: permission of instructor.

ARCH 6841 - Studio Study Abroad (3-9)
Comparative studies of cultures; relationships of culture to physical environment, organization of cities; history and behavior of inhabitants; analysis and documentation of elements of physical environment and relationship between buildings and urban fabric. PREREQUISITE: Permission of instructor.

ARCH 7011 - Advanced Design Seminar I (3)
Offered in conjunction with advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes life-safety, building envelope and service systems, materials and assemblies. COREQUISITE: ARCH 7711.

ARCH 7012 - Advanced Design Seminar II (3)
Advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes structural and environmental issues as design determinants. PREREQUISITE: ARCH 7711;
COREQUISITE: ARCH 7712.

ARCH 7013 - Advanced Design Seminar III (3)
Offered in conjunction with advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes comprehensive design. COREREQUISITE: ARCH 7713.

ARCH 7021 - Arch Independent Study (1-3)
Independent research in selected area of architecture faculty. May be repeated for a maximum of 6 credit hours in increments of 1, 2, or 3 credit hours. PREREQUISITE: Permission of instructor. Grades of A-F, of IP will be given.

ARCH 7031 - Research and Training (1-3)
Collaborative research with faculty in selected areas of architecture. The primary goal of the course is to learn about common research methods used in the design fields and to develop skills in written communication of such research.

ARCH 7211 - Contemporary Arch Theory (3)
Critical study of contemporary theoretical writings and related architectural production; contemporary issues informing current architectural discourse; the Modernist canon and "-isms" from the mid-twentieth century to the present.

ARCH 7222 - Contemporary Architecture 2 (3)
This course investigates the state of contemporary architecture as represented by significant practices, buildings, theories and criticisms. Themes to be considered include the ethics and aesthetics of sustainability, contemporary urbanism and new approaches to materials and structure.

ARCH 7232 - Advanced Issues City Building (3)
Analysis and understanding of the qualities of the existing physical environment, natural and built, and social and economic issues within the context of the urban environment. Prerequisite: Permission of instructor.

ARCH 7421 - Advanced Environmental Systems (3)
Advanced principles, appropriate applications and performance of environmental systems; acoustical, lighting, climate modification systems, and energy use integrated with the building envelope. PREREQUISITE: ARCH 3421 (or approved equivalent) or permission of instructor.

ARCH 7431 - Advanced Professional Practice (3)
Principles of practice including communication skills, technical documentation, financial consideration, human behavior, client role, project management, practice management, leadership, legal responsibilities, ethics and professional judgment, and community and social responsibility. PREREQUISITE: permission of instructor.

ARCH 7711 - Advanced Design Studio 1 (6)
Advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes life-safety, building envelope and service systems, materials and assemblies. COREQUISITE: ARCH 7011.

ARCH 7712 - Advanced Design Studio 2 (6)
Advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes structural and environmental issues as design determinants. PREREQUISITE: ARCH 7711, 7011; COREQUISITE: ARCH 7012.

ARCH 7713 - Advanced Design Studio 3 (6)
Advanced studio problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes comprehensive design. COREREQUISITE: ARCH 7013.

ARCH 7833 - Experiential Drawing Studio (3)
Phenomenological theory as it applies to design communication and pedagogy; narrative compositional refinement; precedents of representation; aesthetic theory of depiction and representation. Prerequisite: Permission of instructor

ARCH 7930 - Architecture Research (3)
Study in research in a specific area culminating in an integrating experience through individual project; research techniques, preliminary research, and conceptual development of an architectural project; site analysis and selection, case studies; development of thesis or professional project proposal. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

ARCH 7995 - Professional Project Studio (6)
Studio research problems in architecture; changing topics address a variety of critical and ideological constructs; emphasizes creative professional research and design in a course of study developed with architecture faculty based on the individual research interest of the student. PREREQUISITE: ARCH 7930, permission of instructor.

ARCH 7996 - Architecture Thesis Studio (1-6)
Emphasizes comprehensive integration of disciplinary and professional skills through formulation of architectural propositions grounded in theoretical, critical, and creative research. PREREQUISITE: ARCH 7930. Grades of S, U, or IP will be given.

Graduate Catalog
Learn more about our degree programs.
ART (ART)

NOTE: The ART courses below require a $20 per credit hour materials fee.
In addition to the courses below, the department may offer the following Special Topics courses:

**ART 6010-19. Special Topics in Studio Art.** (1-3). Topics are varied and announced in online class listings. May be repeated to a maximum of 9 hours when topic varies.

**ART 6020-29. Special Topics in Art Education.** (1-3). Topics are varied and announced in online class listings. May be repeated to a maximum of 9 hours when topic varies.

**ART 7010-19–8010-19. Special Topics in Studio Art.** (1-3). Topics are varied and announced in online class listings. May be repeated for a maximum of 9 credit hours when topics varies.

**ART 7020-29–8020-29. Special Topics in Art Education** (1-3). Topics are varied and announced in online class listings. May be repeated for a maximum of 9 credit hours when topics varies.

**ART 6011 - Mural Painting as Public Art (3)**
Fundamental principles of painting in the creation of indoor and outdoor murals; various techniques specific to mural painting and the design and creation of murals.

**ART 6211 - Writing/Design Process (3)**
Focus on synthesis of verbal and visual problem-solving methods and use of writing as an integral phase of design process. PREREQUISITES: ART 3213 and 3222 or permission of instructor.

**ART 6221 - Graphic Dsgn/Print Comm (3)**
Practical problems in the areas of publication, information, corporate, and promotional design. PREREQUISITES: ART 3213 and 3222 or permission of instructor.

**ART 6222 - Intrctv Mltimd/Grph Des (3)**
Introduction to time-based, electronic media in graphics design, impact of electronic interface on visual communication; emphasis on visual design of narrative, commercial, editorial and/or educational multimedia presentations on computer. PREREQUISITES: ART 2223 and admission to Graphic Design concentration.

**ART 6223 - Special Studies/Graphic Des (3-12)**
Advanced instruction in electronic imaging, typography, and publication design, 3-dimensional design, corporate and promotional design, or information graphics. May be repeated to a maximum of 12 hours when topics vary.

**ART 6224 - History Graphic Design (3)**
Cultural, theoretical, and stylistic aspects of major movements in field of graphic design in Europe and America from the Industrial Revolution to present. PREREQUISITE: Admission to Graphic Design concentration.

**ART 6314 - Art of The Book (3)**
Comprehensive study of skills and processes involved in design of traditional and non-traditional book formats; investigates history of the book, the book as aesthetic object and as vehicle for creative expression. PREREQUISITE: ART 3313, 3314, or permission of instructor.

**ART 6321 - Drawing & Painting I (3)**
An advanced course in drawing and painting methods with emphasis on transparent watercolor.

**ART 6322 - Drawing & Painting II (3)**
A continuation of Art 6321 with attention given to various mixed media.

**ART 6331 - Painting III (3)**
Advanced problems in oil painting, presupposing that the student has mastered basic techniques and is ready for a more experimental approach to the subject.

**ART 6332 - Painting IV (3)**
A continuation of Art 6331 with emphasis on development of a personal style.

**ART 6333 - Painting V (3)**
Continuation of ART 6332; emphasis on development of personal style. PREREQUISITE: ART 6332 or permission of instructor.

**ART 6351 - Adv Printmaking I (3)**
Specialization in one or two printmaking media with emphasis on development of personal imagery and technical skills.

**ART 6352 - Adv Printmaking II (3)**
Advanced work in one or two printmaking media with continued development of personal imagery and advanced technical skills.

**ART 6353 - Com Image Prnt/Photo I (3)**
Use of digital imaging in one of several output options including inkjet printing, lithography, screen printing, etching, silver and non-silver photographic processes; emphasis on personal expression. PREREQUISITES: Computer course and either ART 2351 or 2701.

**ART 6354 - Com Imag Prnt/Photo II (1-3)**
Advanced project using digital imaging; proposal for study to be approved in advance; emphasis on personal expression. May be repeated to a maximum of 6 hours. PREREQUISITE: ART 6353 or permission of instructor.

**ART 6410 - Art Educ Independ Study (1-3)**
Theoretical and pragmatic ideas relevant to teaching of art. May be repeated for a maximum of 6 credit hours.
ART 6440 - Analysis of Teaching (4)
Advanced methods for art teaching practices in schools. PREREQUISITE: admission to TEP.

ART 6511 - Sculpture IV (3)
Advanced work in various sculptural media.

ART 6512 - Sculpture V (3)
A continuation of ART 6511 with emphasis on personal expression.

ART 6521 - Ceramics III (3)
Introduction to pottery-making, including hand forming and production processes using clays, plaster, and cements.

ART 6621 - Workshop In Art I (1-3)
Specific art problems as they apply to individual student; emphasis on basic art concepts and creative experience.

ART 6622 - Workshop In Art II (1-3)
Continuation of ART 6621, providing study of problems appropriate to needs of individual student.

ART 6641 - Study & Travel Art (3-6)
Travel to important art areas of the world with specialized study under direction of departmental faculty member; research problem assigned and evaluated by major professor required.

ART 6650 - Profess Art Practices (3)
Development of skills needed for success as practicing professional artist, including portfolio preparation and presentation, marketing, contracts, copyrights, and alternative art careers.

ART 6701 - Color Photography (3)
Exploration of photographic perception in color; survey of the history and aesthetics of color photography; techniques of color photography with emphasis on color printing. PREREQUISITE: ART 2702 or ART 6002 or permission of instructor.

ART 6702 - Photogrphc Mat/Process (3)
Primarily an advanced technical course exploring the creative potential in various contemporary photographic materials, processes and techniques; emphasis on aesthetic application of those materials and techniques. PREREQUISITE: ART 2702 or ART 6002 or permission of instructor.

ART 6703 - Altn Photogrphc Process (3)
Creative potential of archaic and non-traditional photographic processes such as Cyanotype, Gum Bichromate,
and Kwik-Print. PREREQUISITE: ART 2702 or permission of instructor.

**ART 6704 - Photographic Lighting (3)**
Advanced theory, technique, and equipment used by professional photographers for black and white and color; emphasis on aesthetic application in actual practice. PREREQUISITE: ART 2702 or permission of instructor.

**ART 6912 - Art Education Residency II (9)**
Implementing various methodologies, assessing students, classroom management, and classroom discipline. PREREQUISITE: admission to TEP.

**ART 6914 - Art Education Residency I (5)**
Implementing various methodologies, assessing students, classroom management, and classroom discipline. PREREQUISITE: admission to TEP.

**ART 7040 - Problems Graphic Design (3)**
Issues, theory, and methodology for graphic designers; research of assigned topic, class discussions, and studio projects. May be repeated for maximum of 12 hours when topics vary. Grades of A-F, or IP will be given.

**ART 7200 - Photography Seminar (3)**
Self-assigned visual/conceptual photographic problem in which journal is kept; group critiques and some seminar activities. May be repeated for a maximum of 6 hours.

**ART 7201 - Adv Research Phtgrphy (3)**
Independent work and research in photography. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

**ART 7240 - Visual Communctn Resrch (3)**
Group discussion and criticism of individual study problems; emphasis on independent studio research projects as related to general topic in visual communication.

**ART 7330 - Studies/Two Dimen Media (1-12)**
Exploration of an original visual arts idea in two-dimensional media. May be repeated for a maximum of 12 hours credit depending upon recommendation of advisor. Grades of A-F, or IP will be given.

**ART 7411 - Methods for Elem Art (3)**
Introduction to skills, methods, and content for teaching a comprehensive art education program in an elementary setting; includes studio and art appreciation activities, emphasizing materials and methods for children's art expression and development. NOTE: May include field experience and background check at student's expense.

**ART 7420 - Meth K-12 Art Instruct (2)**
Instructional planning, implementation, and evaluation applied to elementary and secondary school art programs.

ART 7421 - Positive Yth Devlp thru Arts (3)
Introduction to an asset or strength-based model for promoting positive youth development; investigates exemplar models of collaborative, interdisciplinary, cross-cultural creative arts programs for urban youth; students submit a process portfolio documenting their experiences. PREREQUISITE: Permission of instructor.

ART 7423 - Methods Art Second Schools (3)
Studio activities and related art education issues relevant to artistic development of adolescents; emphasizes multicultural concerns, practical classroom management skills, and a variety of art teaching methods and evaluation systems. NOTE: May require fieldwork and background check at student's expense. PREREQUISITE: Permission of instructor.

ART 7441 - Art Educ Prof Seminar (3)
Development of effective practices for art education; includes analysis and problem solving of art student teaching experience, and creation of professional portfolio. PREREQUISITE: Completion of all other licensure and degree requirements. COREQUISITE: ICL 7912.

ART 7550 - Studies/Three Dim Media (1-12)
Exploration of an original visual arts idea in three-dimensional media. May be repeated for a maximum of 12 hours credit depending upon recommendation of advisor. Grades of A-F, or IP will be given.

ART 7640 - Studies Computr Animtn (3)
Advanced techniques and principles of visual communication in the video animation format. PREREQUISITE: permission of instructor.

ART 7651 - Graduate Studio Sem (1)
Student presentation and discussion of current studio work in ceramics, painting, photography, printmaking, and/or sculpture courses at the 6000 or 7000 level. May be repeated once per semester for a maximum of 12 credit hours. Grades of S, U, or IP will be given.

ART 7660 - Direct Ind Study (1-12)
Individual investigation of special research problems or projects. May be repeated for a maximum of 12 hours credit upon recommendation of advisor. Grades of A-F, or IP will be given.

ART 7710 - Indep Studies B/W Photo (3)
Independent exploration of original black and white photographic art ideas and studio techniques. May be repeated for maximum of 6 hours upon recommendation of advisor. Grades of A-F, or IP will be given.

ART 7711 - Adv Photography Semnr (3)
Emphasis on finding a personal direction within the student's work, pursuing that direction, and discussing it in class critiques. **PREREQUISITE:** ART 7003 or permission of instructor.

**ART 7712 - Photo Portfolio Sem (3)**

Student must produce a book of photographs or portfolio (bound by student) that represents a coherent, in-depth picture statement. **PREREQUISITE:** ART 7711.

**ART 7770 - Studies Mixed Media (1-12)**

Explorations of an original visual arts idea in mixed media. May be repeated for a maximum of 12 hours credit upon recommendation of advisor. Grades of A-F, or IP will be given.

**ART 7996 - Thesis (1-6)**

Preparation and defense of a thesis prepared under direction of major professor. Studio Art thesis requires an exhibition. Grades of S, U, or IP will be given.

**ART 8201 - Adv Research Phtgrphy (3)**

Independent work and research in photography. May be repeated for a maximum of 9 credit hours. **PREREQUISITE:** Permission of instructor. Grades of A-F, or IP will be given.

**ART 8330 - Studies/Two Dimen Media (1-12)**

Exploration of an original visual arts idea in two-dimensional media. May be repeated for a maximum of 12 hours credit depending upon recommendation of advisor. Grades of A-F, or IP will be given.

**ART 8550 - Studies/Three Dim Media (1-12)**

Exploration of an original visual arts idea in three-dimensional media. May be repeated for a maximum of 12 hours credit depending upon recommendation of advisor. Grades of A-F, or IP will be given.

**ART 8660 - Direct Ind Study (1-12)**

Individual investigation of special research problems or projects. May be repeated for a maximum of 12 hours credit upon recommendation of advisor. Grades of A-F, or IP will be given.

**ART HISTORY (ARTH)**

In addition to the courses below, the department may offer the following Special Topics courses:

**ARTH 6030-39. Special Topics in Art History. (1-3).** Topics are varied and announced in online class listings. May be repeated to a maximum of 9 hours when topic varies.

**ARTH 7030-39–8030-39. Special Topics in Art History. (1-3).** Topics are varied and announced in online class listings. May be repeated up to a maximum of 9 hours when topic varies.
listings. May be repeated to maximum of 9 hours when topic varies.

**ARTH 6035 - The Great Bronze Age of China (3)**
This course focuses on the Bronze Age, a unique time for China when bronze served as a medium of symbolic power and wealth, but also a time when religious, philosophic, and social systems were solidified. The Formation of China's social and political practices and habits over a 2500-year period will be analyzed against a holistic background of major cultural movements and artistic monuments, moving from an initial Jade Age into a full-blown civilization with all the arts that could be termed an Old World Renaissance. New, cutting-edge archaeological finds will be the highlight of the course.

**ARTH 6037 - Conflict & Culture American Art (3)**
This course will examine art and visual culture produced in the United States between two defining conflicts in U.S. history: the Civil War and World War II. We will approach the issue of defining a national art from multiple perspectives, including dominant and marginalized voices. We will also consider the changing nature of what art could resemble, who could produce it, and the groundbreaking artists and exhibitions that shaped the course of American art during this period.

**ARTH 6111 - Art/Arch Egypt (3)**
Pre-dynastic to Late Period.

**ARTH 6112 - Egypt Art - Old Kingdom (3)**
Art, architecture, and archaeology, 3000-1500 BC.

**ARTH 6113 - Egypt Art - New Kingdom (3)**
Art, architecture, and archaeology, 1500 BC. to 642 AD.

**ARTH 6119 - Late Antique/Islamic Art/Egypt (3)**
Pharaonic and Hellenistic roots of Coptic Art, its 3rd and 4th century AD flourishing, place within the larger milieu of the Byzantine Empire's culture and artistic expression, interaction with the Late Antique arts of the Eastern Mediterranean, and influence on the Islamic Art of Egypt.

**ARTH 6121 - Ancient Art Near East (3)**
Architecture, sculpture, painting, and the minor arts in Mesopotamia, Anatolia, and Syria-Palestine.

**ARTH 6123 - Greek Art (3)**
Architecture, sculpture, and painting from the Bronze Age to the end of the Hellenistic period.

**ARTH 6124 - Roman Art (3)**
Architecture, sculpture, and painting from Etruscan Rome to the fall of the Empire.
ARTH 6125 - Art/Archaeology Pompeii (3)
Pompeii's excavations, art, artifacts, and architecture in reconstructing ancient Roman daily life.

ARTH 6129 - Ancient/Medieval Arch (3)
Selected topics comparing the architecture of ancient Egypt, the Classical world, and Medieval Europe.

ARTH 6130 - Art/Medieval World (3)
Architecture, sculpture, and painting, including manuscript illumination, of the Middle Ages; includes Western European and Byzantine traditions.

ARTH 6131 - Art/Early Middle Ages (3)
Advanced study of the architecture, sculpture, and painting of early medieval period.

ARTH 6134 - Art/High Middle Ages (3)
Advanced study of the architecture, sculpture, and painting, including manuscript illumination, stained glass, and ivories, of Romanesque and Gothic periods.

ARTH 6141 - Early Renaissance Italy (3)
Survey of the architecture, sculpture, and painting of Italy, 1300-1510.

ARTH 6142 - North Renaissance Art (3)
Fifteenth century art in Northern Europe with emphasis on panel painting, manuscript illumination, and printmaking.

ARTH 6143 - High Renaissance Italy (3)
Sixteenth century art in Italy, highlighting the works of Michelangelo, Raphael, Titian, and the Mannerists.

ARTH 6146 - Baroque Art (3)
Historical study of the architecture, sculpture, and painting produced in Europe during the seventeenth century.

ARTH 6148 - Neo-Class/Romanticism (3)
Western European art, ca. 1760-1850, emphasizing painting, sculpture, and art theory. PREREQUISITE: ARTH 2102 or permission of instructor.

ARTH 6149 - Realism & Impressionism (3)
Western European art, ca. 1850-1880, emphasizing painting, sculpture, and art theory. PREREQUISITE: ARTH 2102 or permission of instructor.

ARTH 6152 - Early Modern Art (3)
Movements in Western art and art theory, 1880-1905, that are the foundation of 20th century modernism, especially Symbolism and Post-Impressionism. PREREQUISITE: ARTH 2102 or permission of instructor.

**ARTH 6153 - Cubism Thru Surrealism (3)**
Modern European art movements from ca. 1905 to World War II; covers Cubism, Expressionism, Surrealism. PREREQUISITE: ARTH 2102 or permission of instructor.

**ARTH 6155 - High Modern Art (3)**
American and European art and art theory, emphasizing the development of modernism. PREREQUISITE: ARTH 2102 or permission of instructor.

**ARTH 6157 - Contemp Art/Theory/Crit (3)**
Historical movements, theory, and criticism from 1968 to the present. PREREQUISITE: ARTH 2102 or permission of instructor.

**ARTH 6158 - Modern Architecture (3)**
19th century styles, 20th century masters, contemporary developments in architecture, including historic preservation.

**ARTH 6160 - Architecture & Nature (3)**
Survey and analysis of spaces in variety of cultures from world history where relationship between the natural and the built environment is healthy.

**ARTH 6162 - Latin American Art (3)**
Hispanic arts of the Americas from 1500 to the present, considered in relation to Iberian and Indian traditions.

**ARTH 6163 - Pre-Columbian Art (3)**
A survey of the ancient arts of Mexico, Central America, and South America from c. 1000 BC. to European contact.

**ARTH 6166 - History Of American Art (3)**
(6167, 6168). American art examined in social, cultural, and historical contexts; presents broad range of creative expression, including fine and applied arts and popular culture, from conquest period to modern developments in American visual studies.

**ARTH 6181 - Arts Africa/Oceania/Na (3)**
Survey of arts created by Native Americans of US and Canada, peoples of sub-Saharan Africa, and Pacific islands, examined in relation to their cultural context and heritage.

**ARTH 6183 - Visual Arts Of Africa (3)**
Survey of arts of African continent from pre-historic to modern eras; African aesthetic traditions examined in relation to social and cultural contexts.

**ARTH 6184 - Arts of Colonialism/Empire (3)**
Major themes in the study of African Diaspora art, artists, and visual culture, specifically the histories of migration, dispersal, and mobility of peoples of African descent both within and outside the continent; aesthetics, race and representation, politics, gender, class differences, sexuality, strategies of resistance, cross-cultural influences, issues of patronage, and cultural identity formation.

**ARTH 6185 - African American Art (3)**
Introduction to African American visual expression and culture from Colonial to modern eras, covering fine arts, photography, film, and popular culture.

**ARTH 6186 - Afr American Diaspora Cinema (3)**
Visual culture that examines significant themes in US film history focusing on the development of African American cinema, and filmed representations of the African American experience. The history of African American film production is considered within historical, cultural, social, and political contexts. Readings in film criticism and theory examine the development of African American cinema as a particular genre of film and aesthetic expression. Diversity and difference are critical themes in the representation of race, ethnicity, gender, sexuality, and class in cinema, a quintessentially American art form. From an interdisciplinary and comparative perspective, film representative of the broader African Diaspora will also be examined.

**ARTH 6187 - Af Am Diaspora Photo Culture (3)**
African American photographic experience from the 19th century to the present time; exploration of the politics of representation in the history of American photography by examining blacks as subjects, creators, and theorists of a diverse range of visual "texts"; daguerreotypes, photo-essays, installations, and image-text collaborations, and the photographic traditions of portraiture, Colonialist photography, street photography, social documentary, Civil Rights photography, photo-journalism and commercial photography like photographs and magazine advertisements.

**ARTH 6381 - Art Curatorial Tech (3)**
Concentrates on curatorial responsibilities and functions, receiving and shipping methods, registration, physical and environmental security, research, conservation, and a study of the art market and publications.

**ARTH 6660 - Museum Collections (3)**
(Same as ANTH 6660). Museum collection theory and methods, including collection policy, development, preservation, documentation, and interpretation. PREREQUISITE: Permission of instructor.

**ARTH 6661 - Collections Research (3)**
(Same as ANTH 6661). Introduces students in object-based disciplines to museum collections research methods and their applications to exhibitions, catalogs, and scholarly publications. PREREQUISITE: Permission of
instructor.

ARTH 6662 - Museum Exhibitions (3)
(Same as ANTH 6662). Museum exhibition methods and theory, including research, design, layout, object selection and handling, installation, public programing, and evaluation. PREREQUISITE: Permission of instructor.

ARTH 6721 - History Photography I (3)
Survey of the history and theory of photography since its invention in the 19th century.

ARTH 6722 - History Photography II (3)
Historical and critical issues in photography from World War I to present.

ARTH 7000 - Semn Art/Vis Cult Afr/Afr Dias (3)
Interdisciplinary seminar exploring art and visual culture in a diversity of geographical contexts and historical periods. Topics will vary and may include: the arts of post-colonial Africa, contemporary African American art, the festival arts of the Caribbean, or imaging race in nineteenth century European art and visual culture.

ARTH 7110 - Adv Indv Stdy Art Hist (3)
Historical periods of art history with emphasis on individual research. May be repeated for credit when topic varies. PREREQUISITE: permission of instructor. Grades of A-F, or IP will be given.

ARTH 7114 - Intro Coptic Language/Culture (3)
Introduction to Coptic, with emphasis on the Sahidic dialect, combined with select readings from authentic texts and a discussion of the use of texts in Coptic iconography.

ARTH 7115 - Middle Egyptian I (3)
Grammar and translation of hieroglyphs.

ARTH 7116 - Middle Egyptian II (3)
Readings in hieroglyphs. PREREQUISITE: ARTH 7115 or equivalent.

ARTH 7117 - Middle Egyptian Lit (3)
Readings and translations of major literature of Ancient Egypt. PREREQUISITE: ARTH 7116 or equivalent.

ARTH 7118 - Egyptian Texts (3)
Advanced readings and translations of ancient Egyptian texts. PREREQUISITE: ARTH 7116 OR equivalent.

ARTH 7119 - Late Egyptian (3)
Readings in literature and other texts. PREREQUISITE: ARTH 7116 or equivalent.
ARTH 7120 - Grad Prob Medieval Art (3)
Selected areas or specific problems in Early Medieval, Romanesque, or Gothic Art. May be repeated for a
maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 7121 - Grad Prob Ancient Art (3)
Selected areas or specific problems in Egyptian, Near Eastern, Greek, or Roman Art. May be repeated for a
maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 7122 - Ancient Egyptian Cursive Scrip (3)
Reading of select egyptian texts written in hieratic. PREREQUISITE: ARTH 7119 or equivalent.

ARTH 7125 - Egyptian Art & Arch (3)
Topics and problems in Egyptian art and archaeology. May be repeated for a maximum of 12 hours when topic
varies.

ARTH 7130 - Art Hist Methods & Prac (3)
History of the discipline along with current research methods. Students develop research presentations in oral and
written formats.

ARTH 7140 - Grad Prob Renaissance (3)
Selected areas or specific problems of Renaissance Art. May be repeated for a maximum of 12 hours when topic
varies. Grades of A-F, or IP will be given.

ARTH 7150 - Grad Prob 19th Century (3)
Selected areas or specific problems in Nineteenth Century Art. May be repeated for a maximum of 12 hours when
topic varies. Grades of A-F, or IP will be given.

ARTH 7152 - Grad Prob 20th Century (3)
Selected areas or specific problems in Twentieth Century Art. May be repeated for a maximum of 12 hours when
topic varies. Grades of A-F, or IP will be given.

ARTH 7165 - Gr Prob Am Art Anc/Mod (3)
Selected areas or specific problems in Pre-Columbian, North American Indian, Spanish Colonial, or American Art.
May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 7660 - Dir Indiv Study (3-9)
Individual investigation of special research problems or projects. May be repeated upon recommendation of
advisor. Grades of A-F, or IP will be given.

ARTH 7661 - Museum Practices (3)
(Same as ANTH 7661). Museum administration, finance, collection management, conservation, education, exhibition design, marketing, and visitor services. PREREQUISITE: Permission of instructor.

**ARTH 7662 - Museums & Communities (3)**
(Same as ANTH 7662). History and theory of museums, governance, audiences, and current topics in the profession. PREREQUISITE: Permission of instructor.

**ARTH 7669 - Museum Internship (3-6)**
(Same as ANTH 7669). Structured experience in selected aspects of museum practice. Includes 150 contract hours in museum and colloquium. May be repeated for a maximum of 6 credit hours. PREREQUISITE: ANTH 7661, 7662 and/or permission of instructor. Grades of A-F, or IP will be given.

**ARTH 7900 - Art Historical Fieldwork (3-6)**
Structured experience in select aspects of fieldwork, including studying objects in museum collections, working with archival material, conducting interviews with artists, or participating in epigraphic or archaeological fieldwork. A minimum of 150 hours (or equivalent) required. PREREQUISITES: Completion of 18 graduate credit hours at The University of Memphis or permission of academic advisor or instructor.

**ARTH 7996 - Thesis (1-6)**
Preparation and defense of a thesis prepared under direction of major professor. Studio Art thesis requires an exhibition. Grades of S, U, or IP will be given.

**ARTH 8000 - Semn Art/Vis Cult Afr/Afr Dias (3)**
Interdisciplinary seminar exploring art and visual culture in a diversity of geographical contexts and historical periods. Topics will vary and may include: the arts of post-colonial Africa, contemporary African American art, the festival arts of the Caribbean, or imaging race in nineteenth century European art and visual culture.

**ARTH 8010 - Arts of Colonialism and Empire (3)**
The Arts of Colonialism and Empire is a 7000-8000 level seminar course that examines the historical relationship between the dispersal of the African Diaspora and the development of New World arts and visual cultures that have influenced the western world. It focuses on how modernity and visuality were shaped by the forced migration, dispersal, and the continuing mobility of peoples of African descent, both within and outside the continent. Themes of discussion will include aesthetics, race and representation, gender, politics and strategies of resistance, cross-cultural influences, class, and cultural identity formation. (offered in even years). Cannot be repeated.

**ARTH 8011 - AfricanAmericanCinema: Theory (3)**
Image, Theory, Criticism is a 7000-8000 level seminar that examines African American film production within historical, cultural, social, and political contexts. Readings in criticism and theory focus on African American cinema as a particular genre of film and aesthetic expression. From a global perspective the course also examines film and filmmakers representative of the broader African Diaspora. (offered odd years). Course is not repeatable.
ARTH 8012 - AfricanAmerican Photog. Culture (3)
African American Photographic Culture is a 7000-8000 level seminar course that examines the historical relationship between photography and the African American experience. It is an interdisciplinary course useful to a broad range of students interested in the black image and photographs as art, history, and material culture. The course focuses on African Americans as creators and theorists of photographic imagery. The course will also examine the broader picture of photographic traditions in Africa and the African Diaspora. Research projects will include investigation of significant photograph collections in local archives. (offered in odd years). The course is not repeatable.

ARTH 8120 - Grad Prob Medieval Art (3)
Selected areas or specific problems in Early Medieval, Romanesque, or Gothic Art. May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8121 - Grad Prob Ancient Art (3)
Selected areas or specific problems in Egyptian, Near Eastern, Greek, or Roman Art. May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8125 - Egyptian Art & Arch (3)
Topics and problems in Egyptian art and archaeology. May be repeated for a maximum of 12 hours when topic varies.

ARTH 8130 - Art Hist Methods & Prac (3)
History of the discipline along with current research methods. Students develop research presentations in oral and written formats.

ARTH 8140 - Grad Prob Renaissance (3)
Selected areas or specific problems of Renaissance Art. May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8150 - Grad Prob 19th Century (3)
Selected areas or specific problems in Nineteenth Century Art. May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8152 - Grad Prob 20th Century (3)
Selected areas or specific problems in Twentieth Century Art. May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8165 - Gr Prob Am Art Anc/Mod (3)
Selected areas or specific problems in Pre-Columbian, North American Indian, Spanish Colonial, or American Art.
May be repeated for a maximum of 12 hours when topic varies. Grades of A-F, or IP will be given.

ARTH 8660 - Dir Indiv Study (3-9)
Individual investigation of special research problems or projects. May be repeated upon recommendation of advisor. Grades of A-F, or IP will be given.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding nondiscrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
COMMUNICATION (COMM)

In addition to the courses below, the department may offer the following Special Topics courses:
COMM 6210-19. Special Topics in Communication Studies. (1-3). Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours when topic varies.

COMM 6220-29. Special Topics in Film. (1-3). Topics are varied and announced in online class listings. May be repeated for maximum of 9 hours when topic varies.

COMM 7210-19–8210-19. Special Topics in Communication Studies. (1-3). Topics are varied and announced in online class listings. May be repeated for maximum of 9 hours when topic varies.

COMM 6011 - Communicating in Organizations (3)
Communication systems and problems in contemporary organizations with emphasis on the role of communication in corporate culture and in organizational change.

COMM 6013 - Political Communication (3)
Investigation of various forms of political communication; texts drawn primarily from current political disputes in the US; focus on improving basic skills of critical thinking and writing about civic life.

COMM 6014 - Communication in Internet (3)
Research and theories examining role of the Internet and new technologies in everyday interaction; interpersonal and group communication, language change, online communities and social networks, identity and self-presentation online.

COMM 6015 - Health Literacy (3)
Development of health literacy as an area of concern in healthcare including patient/provider interactions, public health campaigns, health education, healthcare reform, and health insurance. PREREQUISITE: COMM 3012, or permission of instructor.

COMM 6016 - Public Health Campaigns (3)
Examination of the fundamentals of public health communication as well as the latest public health communication innovations, tools, technologies, research and strategies. PREREQUISITE: COMM 3012, or permission of instructor.

COMM 6340 - Listening (3)
Exploration of communication theory and practice from the perspective of listening; emphasis on philosophical, practical, and personal dimensions of listening as an art of being as well as a mode of doing.

COMM 6341 - Interpersonal Communication (3)
Theory, research, and practice regarding dyadic communication.
COMM 6342 - Small Group Communication (3)
Advanced study of group communication theory emphasizing group membership, member perceptions, group development, group process, and group outcomes.

COMM 6360 - American Eloquence (3)
Examination of notable public discourse from founding of the republic through the twentieth century; religious and secular foundations of American rhetoric; tensions of inclusion and exclusion in development of national self-understanding.

COMM 6363 - Dialogue (3)
Theoretical, philosophical, and practical exploration of dialogic communication and relations.

COMM 6364 - Voices/American Women (3)
Examines history of women's public discourse in the US from 19th through 20th centuries; considers social and cultural significance of women's participation in public discourse; issues of credibility and nature of argument both within and about women's public address.

COMM 6365 - Place/Community/Comm (3)
Explores interrelationships among human interaction, created places, and the natural world; emphasizes communication environment, broadly conceived, and its effects on community.

COMM 6373 - Interracial Communication (3)
The social problems encountered in communication between blacks and whites; readings, discussion, and field study on how prejudice, stereotypes, and self-concepts can affect communication; exploration of rhetorical methods to minimize these problems.

COMM 6375 - Intercultural Communication (3)
Special problems encountered in communication between people of different cultural backgrounds; focus on understanding communicative interaction between and among people with different national/cultural backgrounds and functioning more effectively in multicultural settings.

COMM 6380 - Communication/Conflict (3)
Theories and methods of conflict management and resolution, focusing on practical communication skills; emphasis on concepts of perception, listening, and peacemaking.

COMM 6802 - Internship (1-6)
Field studies in communication; supervised practical work with government institutions, private business, film company, or broadcast and electronic media firm; written analysis of experience required. May be repeated for a maximum of 6 semester hours. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

COMM 6811 - Media 2.0 (3)
Examination of long tail phenomenon and other theories behind convergent media; people and organizations producing and distributing their work on the Internet and other alternative channels; exploration of how these new distribution forms challenges and assumptions about how mass media should and does work.

COMM 6822 - Audio Prdctn Film/Video (3)
Intermediate principles and practices of audio (recording, editing, mixing, and design) with emphasis on film and video production. PREREQUISITE: Minimum grade of "C" in COMM 3824 or permission of instructor.

COMM 6824 - Cinema/Videography (3)
Art of visual interpretation with a strong concentration in the theory and techniques of lighting. Experience with professional film and video cameras and lighting equipment. PREREQUISITE: COMM 3824.

COMM 6825 - Editing/Post Production (3)
Aesthetics of continuity development in variety of editing styles; editing techniques and post-production procedures for both video and double system film. PREREQUISITE: Minimum grade of "C" in COMM 3824 or permission of instructor.

COMM 6841 - Television Workshop (4)
Production of television programming for local cablecasting. May be repeated for a maximum of 8 semester hours; repetition will not result in change of any grade previously given. PREREQUISITE: Permission of instructor.

COMM 6842 - TV Studio Production II (4)
Advanced training in TV studio/multiple camera techniques; extensive production work. PREREQUISITE: COMM 3842.

COMM 6850 - Film History I (3)
(6852). Historical survey of motion pictures from medium's pre-history to 1940 with emphasis on narrative film.

COMM 6851 - Film History II (3)
Historical survey of major movements, genres, and themes in narrative film from 1940 to 1960.

COMM 6853 - Documentary Form Film (3)
Development of non-fiction film as rhetorical and expressive form; analysis of individual films, genres, and filmmakers.

COMM 6854 - Documentary Form/Broadcasting (3)
History, theory, and criticism of non-fiction broadcasting, including docudrama and television documentaries.

COMM 6856 - Women And Film (3)
Women as performers, viewers, subjects, and creators in American and international film.

COMM 6858 - Contemporary Cinema (3)
Major themes and styles in international and American narrative film from 1980 to present.

COMM 6859 - Monster Films (3)
Survey of classic and contemporary monster films exploring monstrosity as a social and cultural category for organizing, classifying, and managing change.

COMM 6891 - Produce/Direct Film/Vid (3)
Research and script preparation; budgeting and production management; working with actors and crew. 
PREREQUISITE: Minimum grade of C in COMM 3824 or permission of instructor.

COMM 6960 - Documentary Writing (3)
Writing for nonfiction media.

COMM 6970 - Screenwriting (3)
Writing for fiction film and television. Basic dramatic theory, narrative structure, characterization, dialogue, adaptation and unique demands of audio/visual media.

COMM 7012 - Seminar Health Comm (3)
(Same as ENGL 7012-8012). Examines current issues in health communication research, including patient-provider relationships, new technologies and health promotion, and health organizations. May be repeated for a maximum of 9 credit hours.

COMM 7013 - Sem Political Comm (3)
Survey of critical and rhetorical theories of contemporary US political discourse; examines relationships among rhetoric, culture, and state power; assignments lead toward preparation of manuscript for eventual publication. May be repeated for a maximum of 9 hours credit.

COMM 7014 - Public Health Communication (3)
Explores the communication processes and practices that can be used to promote positive change in health behaviors, including the rhetorical exigencies inherent in public health care communication, the various formats for disseminating medical information, and the specific audience needs that health care communication must address.

COMM 7321 - Communication Theory (3)
Theories, models, and approaches to study of communication.

COMM 7322 - Persuasion & Influence (3)
Topical seminar examining how people use communication to alter attitudes and behaviors of others in public and
face-to-face settings; covers various social-scientific theories and research areas of persuasion and interpersonal influence. May be repeated for maximum of 9 hours.

**COMM 7331 - Sem Communication Thry (3)**
Specific topics, issues, and research in communication theory. May be repeated for a maximum of 9 hours credit.

**COMM 7332 - Seminar Comm Research (3)**
Examination of particular methodologies in communication research. Content will vary in response to current issues in the field. May be repeated for a maximum of 9 hours.

**COMM 7345 - Health Literacy (3)**
(Same as PUBH 7345-8345) This course will introduce students to the issues of health literacy from a public health perspective. We will explore the impact of health literacy on access to care, vulnerable populations, management of chronic illness, mental health, healthcare costs, and several other areas.

**COMM 7350 - Rhetorical Theory (3)**
(Same as ENGL 7350-8350). History of rhetoric from the sophists through the present; may include reading from Isocrates, Plato, Aristotle, Cicero, Augustine, Erasmus, Ramus, Campbell, Blair, John Q. Adams, and others.

**COMM 7362 - Sem Public Address (3)**
Intensive study of selected topics in the analysis and criticism of public arguments; emphasis on cross-cultural comparison of arguments and appeal in common rhetorical situations. May be repeated for a maximum of 6 hours credit.

**COMM 7369 - Sem Org Communications (3)**
Selected variables of organizational communication with emphasis on methods of analyzing and auditing communication within the organizational setting. May be repeated for a maximum of 9 hours credit.

**COMM 7371 - Rhetorical Criticism (3)**
(Same as ENGL 7371-8371). Examines principal modes of contemporary rhetorical analysis. PREREQUISITE: Permission of instructor for non-degree-seeking students.

**COMM 7374 - Independent Studies Comm Arts (1-3)**
Independent research in areas of special interest including rhetoric, communication, and film and video production. May be repeated for a maximum of 9 hours. PREREQUISITE: Permission of the instructor. Grades of A-F will be given.

**COMM 7434 - Qual Research Methods (3)**
Survey of qualitative research in communication. Practical experience in collecting and analyzing qualitative information.
COMM 7450 - Sem Interpersonal Comm (3)
Selected examination of theory about one-on-one interactions, related research, and application of that theory and research in diverse interpersonal contexts. May be repeated for a maximum of 9 hours credit.

COMM 7474 - Supv Comm & Leadership (3)
Examination of the communication issues, strategies, and concepts involved in supervisory communication effectiveness. Review of current research regarding supervision, leadership, and teams.

COMM 7616 - Contemp Rhet Theory (3)
Examines the relationship between rhetorical theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.

COMM 7621 - Seminar Argumentation (3)
(Same as ENGL 7621-8621). Examines historical and contemporary argumentation theories and how those theories are incorporated into teaching oral argumentation and composition.

COMM 7632 - Sem Rhet Criticism (3)
Examination of the principal modes of contemporary rhetorical analysis such as Neoclassical, Burkean, Feminist, Cultural/Critical, and Poststructuralist. Repeatable for 9 hours.

COMM 7802 - Internship (1-6)
Field studies in communication; supervised practical work with government institutions, private business, film company, or broadcast and electronic media firm; written analysis of experience required. May be repeated for a maximum of 6 semester hours. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

COMM 7803 - Seminar Film Criticism (3)
(COMM 7802) Intensive study of selected periods, genres, or filmmakers with emphasis on independent research project. May be repeated for a maximum of 9 hours.

COMM 7804 - Sem Media Theory/Crit (3)
Major critical approaches to media form and content; emphasis on film and television. May be repeated for a maximum of 6 hours.

COMM 7806 - Trends Mass Communicatn (3)
Critical issue or issues facing communications today. Topics will vary each time offered. May be repeated for a maximum of 6 credits.

COMM 7808 - Mass Comm & Society (3)
Interrelationships between mass communications, the individual, and society. Topics will vary each time offered.
May be repeated for a maximum of 6 credits.

**COMM 7809 - Sem Communication Hist (3)**
Selected topics in history of communication, including public address, film, broadcasting, and electronic media. May be repeated for a maximum of 6 hours.

**COMM 7815 - Sem History Rhetoric (3)**
(Same as ENGL 7815-8815). Examines different periods and issues of rhetorical history each semester; one semester will consider Greek rhetoric (beginnings through New Testament); another will consider Latin rhetoric (Cicero through Renaissance); a third will cover Scottish, British, and American rhetoric. May be repeated for a maximum of 9 hours when topic varies.

**COMM 7819 - Rhetoric Of Science (3)**
(Same as ENGL 7819-8819). This course examines scientific and technical communication from a rhetorical perspective, showing how scientific knowledge is shaped not only by data and method, but also by persuasive purposes and sociocultural forces.

**COMM 7820 - Topics In Rhetoric (3)**
(Same as ENGL 7820-8820). Topical seminar devoted to an important aspect of the history, theory, or criticism of rhetoric. May be repeated for a maximum of 9 hours when topic varies.

**COMM 7892 - Film/Video Production (1-3)**
Workshop for film and video production. Students write, produce, direct, or assume crew responsibilities on productions. May be repeated for a maximum of 6 credits. See departmental guidelines for independent production requirements and procedures. PREREQUISITE: COMM 3824 or permission of instructor. Grades of A-F will be given.

**COMM 7991 - Sem Comparative Media (3)**
To demonstrate through intensive analysis what happens to the form and content of a creative work in its various adaptations: novel, condensation, stage, movie, and television. Open to all Theatre and Dance, Communication, and English majors.

**COMM 7993 - Special Problems (1-3)**
Directed individual investigation of special research projects not included in thesis. Grades of A-F will be given.

**COMM 7994 - Culminating Project (3-6)**
Culminating research project in lieu of a thesis. Course may be repeated up to 6 hours. Grades of S, U, or I will be given.

**COMM 7995 - Production Practicum (3-6)**
Creative performance or production project suitable for public presentation and/or a practical application. Project to be determined in consultation with and directed by the student's supervisory committee. Grades of S, U, or I will be given.

COMM 7996 - Thesis (1-6)
Grades of S, U, or IP will be given.

COMM 8012 - Seminar Health Comm (3)
(Same as ENGL 7012-8012). Examines current issues in health communication research, including patient-provider relationships, new technologies and health promotion, and health organizations. May be repeated for a maximum of 9 credit hours.

COMM 8013 - Sem Political Comm (3)
Survey of critical and rhetorical theories of contemporary US political discourse; examines relationships among rhetoric, culture, and state power; assignments lead toward preparation of manuscript for eventual publication. May be repeated for a maximum of 9 hours credit.

COMM 8014 - Public Health Communication (3)
Explores the communication processes and practices that can be used to promote positive communication processes and practices that can be used to promote positive change in health behaviors, including the rhetorical exigencies inherent in public health care communication, the various formats for disseminating medical information, and the specific audience needs that health care communication must address.

COMM 8321 - Communication Theory (3)
Theories, models, and approaches to study of communication.

COMM 8322 - Persuasion & Influence (3)
Topical seminar examining how people use communication to alter attitudes and behaviors of others in public and face-to-face settings; covers various social-scientific theories and research areas of persuasion and interpersonal influence. May be repeated for maximum of 9 hours.

COMM 8331 - Sem Communication Thry (3)
Specific topics, issues, and research in communication theory. May be repeated for a maximum of 9 hours credit.

COMM 8332 - Seminar Comm Rsearch (3)
Examination of particular methodologies in communication research. Content will vary in response to current issues in the field. May be repeated for a maximum of 9 hours.

COMM 8345 - Health Literacy (3)
(Same as PUBH 7345-8345) This course will introduce students to the issues of health literacy from a public health
perspective. We will explore the impact of health literacy on access to care, vulnerable populations, management of chronic illness, mental health, healthcare costs, and several other areas.

COMM 8350 - Rhetorical Theory (3)
( Same as ENGL 7350-8350). History of rhetoric from the sophists through the present; may include reading from Isocrates, Plato, Aristotle, Cicero, Augustine, Erasmus, Ramus, Campbell, Blair, John Q. Adams, and others.

COMM 8362 - Seminar Public Address (3)
Intensive study of selected topics in the analysis and criticism of public arguments; emphasis on cross-cultural comparison of arguments and appeal in common rhetorical situations. May be repeated for a maximum of 6 hours credit.

COMM 8369 - Sem Org Communications (3)
Selected variables of organizational communication with emphasis on methods of analyzing and auditing communication within the organizational setting. May be repeated for a maximum of 9 hours credit.

COMM 8371 - Rhetorical Criticism (3)
( Same as ENGL 7371-8371). Examines principal modes of contemporary rhetorical analysis. PREREQUISITE: Permission of instructor for non-degree-seeking students.

COMM 8374 - Independent Studies Comm Arts (1-3)
Independent research in areas of special interest including rhetoric, communication, and film and video production. May be repeated for a maximum of 9 hours. PREREQUISITE: Permission of the instructor. Grades of A-F will be given.

COMM 8434 - Qual Research Methods (3)
Survey of qualitative research in communication. Practical experience in collecting and analyzing qualitative information.

COMM 8450 - Sem Interpersonal Comm (3)
Selected examination of theory about one-on-one interactions, related research, and application of that theory and research in diverse interpersonal contexts. May be repeated for a maximum of 9 hours credit.

COMM 8474 - Supv Comm & Leadership (3)
Examination of the communication issues, strategies, and concepts involved in supervisory communication effectiveness. Review of current research regarding supervision, leadership, and teams.

COMM 8616 - Contemp Rhet Theory (3)
Examines the relationship between rhetorical theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.
COMM 8621 - Seminar Argumentation (3)  
(Same as ENGL 7621-8621). Examines historical and contemporary argumentation theories and how those theories are incorporated into teaching oral argumentation and composition.

COMM 8632 - Sem Rhet Criticism (3)  
Examination of the principal modes of contemporary rhetorical analysis such as Neoclassical, Burkean, Feminist, Cultural/Critical, and Poststructuralist. Repeatable for 9 hours.

COMM 8803 - Seminar Film Criticism (3)  
Intensive study of selected periods, genres, or filmmakers with emphasis on independent research project. May be repeated for a maximum of 9 hours.

COMM 8804 - Sem Media Theory/Crit (3)  
Major critical approaches to media form and content; emphasis on film and television. May be repeated for a maximum of 6 hours.

COMM 8806 - Trends Mass Communicatn (3)  
Critical issue or issues facing communications today. Topics will vary each time offered. May be repeated for a maximum of 6 credits.

COMM 8808 - Mass Comm & Society (3)  
Interrelationships between mass communications, the individual, and society. Topics will vary each time offered. May be repeated for a maximum of 6 credits.

COMM 8809 - Sem Communication Hist (3)  
Selected topics in history of communication, including public address, film, broadcasting, and electronic media. May be repeated for a maximum of 6 hours.

COMM 8815 - Sem History Rhetoric (3)  
(Same as ENGL 7815-8815). Examines different periods and issues of rhetorical history each semester; one semester will consider Greek rhetoric (beginnings through New Testament); another will consider Latin rhetoric (Cicero through Renaissance); a third will cover Scottish, British, and American rhetoric. May be repeated for a maximum of 9 hours when topic varies.

COMM 8819 - Rhetoric Of Science (3)  
(Same as ENGL 7819-8819). This course examines scientific and technical communication from a rhetorical perspective, showing how scientific knowledge is shaped not only by data and method, but also by persuasive purposes and sociocultural forces.
COMM 8820 - Topics In Rhetoric (3)
(Same as ENGL 7820-8820). Topical seminar devoted to an important aspect of the history, theory, or criticism of rhetoric. May be repeated for a maximum of 9 hours when topic varies.

COMM 8993 - Special Problems (1-3)
Directed individual investigation of special research projects not included in thesis. Grades of A-F will be given.

COMM 8995 - Production Practicum (3-6)
Creative performance or production project suitable for public presentation and/or a practical application. Project to be determined in consultation with and directed by the student's supervisory committee. Grades of S, U, or I will be given.

COMM 8996 - Reading for Comps (1-9)
Arranged on an individual basis for communication students only. May be taken only at the end of coursework to fulfill the requirements for the PhD. Does not count toward the 45 hours of academic coursework required for the degree. Grades of S, U, or I will be given.

COMM 9000 - Dissertation (1-9)
For students who have passed their comprehensive exam and have an approved prospectus to write their dissertation under the direction of their advisor. Grades of S, U, or IP will be given.

Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
In addition to the courses below, the department may offer the following Special Topics courses:
JOUR 6800-09. Special Topics in Journalism. (3). Intensive study of a single critical issue or current topic. Topics may vary. May be repeated for a maximum of 6 hours.

JOUR 7200-09–8200-09. Special Topics in Journalism. (1-3). Topics are varied and announced in online class listings.

JOUR 6120 - Advanced Reporting (3)
Writing and reporting news and in-depth feature stories about topics, such as government, courts, education, science, trends and community-wide issues. The emphasis is on using public records and national sources as well as key local sources.

JOUR 6124 - Comptr Assistd Reportng (3)
Advanced use of computer technology and investigative techniques to access, analyze, and develop database information in combination with traditional news reporting.

JOUR 6140 - News Design (3)
Advanced skills and techniques for design of printed media, including magazine and newspaper design. Emphasis on story and page design, graphics, headlines and other display typography. Approaches to print design presentation on digital platforms.

JOUR 6301 - Event Management/HPRM & PR (3)
( Same as HPRM 4301). Development, execution and evaluation of events that support strategic communication practices; emphasis on advertising and public relations tactics for non-profit, for profit and communitybased initiatives and organizations. PREREQUISITE: students must have completed 60 hours of coursework.

JOUR 6328 - Strategic Adv Campaigns (3)
Development of an integrative campaign and its execution in include all advertising and promotion applications. (Sp).

JOUR 6421 - Crisis Comm in Public Relation (3)
Explores theories and research related to public relations communication before, during and after a crisis; examines the fundamentals of organizational communication, crisis management and strategic planning. PREREQUISITE: JOUR 4410.

JOUR 6431 - Music Promo/Public Relations (3)
Examines publicity and promotion of artists and events within the music industry. Focuses on music journalism; advanced writing of collateral material, hosting events, planning, preparing and working events for artists in various capacities. PREREQUISITE: students must have successfully completed 75 credit hours.
JOUR 6440 - Public Rel Campaigns (3)
Application of theory, research data, and problem-solving techniques in development of comprehensive public relations strategies.

JOUR 6500 - Web Publish I: html/CSS (3)
Introduction of web design software of Dreamweaver; development of website projects; incorporation of target audience analysis and web usability; presentation of website projects from servers.

JOUR 6526 - Advanced Digital Imaging (3)
Advanced skills and photojournalism techniques for still photography and video; emphasis on action, sports, fashion, food, and portraits. PREREQUISITE: JOUR 3526.

JOUR 6550 - Web Publish II/: html/CSS (3)
Creation and development of website projects; systematic training in writing html codes; focused learning of cascading style sheet (CSS); final production of a multimedia project. PREREQUISITE: JOUR 6500.

JOUR 6560 - Interactive News (3)
Creation and development of interactive news story for web using Flash and its ActionScript; integrating writing, reporting, designing and presenting audio, video, slideshows elements in production of multimedia story. PREREQUISITE: JOUR 4500.

JOUR 6700 - Mass Communication Law (3)
Origin and development of legal principles affecting freedom of expression and provisions of laws of libel, slander, copyright, and other statutes limiting communication in fields of publishing and broadcasting.

JOUR 6702 - Mass Media/Diversity/Society (3)
Advanced study of critical problems faced by mass media, with exploration of complexities that cause them.

JOUR 6708 - Mass Media Ethics (3)
Classical approaches to ethics presented with their application to the day-to-day considerations that journalism, public relations, and advertising professionals must face in working with employers, local publics, and a larger society dependent on a free flow of accurate information.

JOUR 6712 - Mass Media & Cultures (3)
International communication, flow of news and propaganda; role in national development and international affairs; growth and impact of global journalism, television news, advertising, and public relations; comparison of media systems.

JOUR 6900 - Multimedia VisualCommunication (3)
Planning, development, design and execution of a project for print and digital display, including data visualization,
JOUR Courses - Graduate Catalog - University of Memphis

illustration, branding, video and photography. PREREQUISITE: JOUR 3900, or permission of instructor.

**JOUR 6920 - Data Visualization (3)**
Visual presentation of quantitative and spatial information. Examines the planning, design, and preparation of statistical graphs, charts, timelines, diagrams, and maps. PREREQUISITE: JOUR 3900.

**JOUR 7000 - Media Writing/Editing (3)**
Information gathering, writing, and editing skills necessary for any field within journalism and mass communication through lectures, discussions, and exercises that meld theory to technique; both laboratory writing and field assignments.

**JOUR 7002 - Pro Seminar (1)**
Self-paced, online orientation for incoming master's students, addressing skills and issues relevant to graduate studies in mass communication. Grades of S/U, IP will be given.

**JOUR 7015 - Advanced Media Writing (3)**
Designed to help students become more precise as well as versatile writers by diagnosing their writing, polishing their grammar and editing skills, and teaching them to write with clarity, cohesiveness, and conciseness.

**JOUR 7025 - Law Mass Communication (3)**
Laws and regulations affecting mass media with attention to social and political forces that shape the law; exploration of First Amendment theories as well as the constitutional framework of the legal system; in-depth legal research in the student's selected area of interest.

**JOUR 7050 - Mass Comm Theory (3)**
Key concepts and development of theories offered to explain operation and effects of mass communication media; multidiscipline overview of theories dealing with advertising, broadcasting, print, and public relations messages, media, and effects.

**JOUR 7075 - Mass Comm Res Methods (3)**
Familiarization with content analysis, survey research, data analysis, and field studies as practiced by reporters, editors, and public relations decision makers; modern research techniques and class project using computer analysis. PREREQUISITE: JOUR 7050

**JOUR 7100 - Entrepreneurial Media (3)**
Examines business models and new media tools that can encourage entrepreneurial thinking and planning in various fields of mass communication, as well as the theory and practices of traditional media management. Subjects will include assessment, organization and strategy, budgeting, decision-making, and other functions in advertising, news, and public relations.

JOUR 7125 - Research in Mass Comm. History (3)
Examines the scholarship surrounding the major events, personalities, and issues that have shaped the development of mass media, with special emphasis on the history of American journalism/mass communication.

JOUR 7205 - Adv Soc Media&Comm Engagement (3)
A continuation of both writing and management, this course looks at how to create campaigns and relationships that build organizational voice, serial storytelling, and working with a community to encourage strong organization-public relationships. Will also look at content creation on multiple technologies and platforms, including both social and traditional media. Students will be exposed to a variety of case studies and community examples for analysis.

JOUR 7209 - Advanced 901 Meeman Strategies (3)
Student members of Meeman 901 Strategies, the student-run public relations firm, will gain hands-on experience by developing creative projects for campus and community clients at the U of M Crews Center for Entrepreneurship. Lecture/Lab. PREREQUISITES: this course is available to select journalism majors from advertising, news and public relations concentrations. by permit only.

JOUR 7300 - Mass Comm Literature (3)
Review of scholarly publications, books, periodicals, and databases in advertising, public relations, and news media.

JOUR 7320 - Mass Media & Diversity (3)
Research and analysis of the relationship among mass media, women, and minorities.

JOUR 7330 - Social Media Theory & Practice (3)
Examination of research and theory on the impact of social and new media on journalism, public relations, and advertising, and applying these core concepts to the real-world use of digital tools. Active use of blogs, RSS feeds, Twitter, widgets, social bookmarking, mapping, and other Web 2.0 tools to produce and curate content and interact with other professionals in the field.

JOUR 7340 - Advertising Management (3)
How to articulate the strategic process of advertising management, to understand the factors influencing media management decisions, to strategically evaluate functioning advertising management strategies, and identify, formulate and defend advertising decisions grounded in media management issues.

JOUR 7350 - Advanced Multimedia Reporting (3)
Recent research findings in news reporting, writing and editing principles; practical experience in preparing finished news reports suitable for publication or dissemination in professional-level mass medium.

JOUR 7375 - Integrated Communication (3)
Integration of advertising, direct mail, public relations, and other strategic communication tools to produce a
singular message that reaches every target audience segment; emphasis on application of theories to a particular case study.

**JOUR 7400 - PR Principles & Issues (3)**
Contemporary social trends, public relations roles and responsibilities, and applicable public relations theory.

**JOUR 7420 - Strategic Public Reltns Writing (3)**
Examination of strategies and forms of public relations communication, including traditional publicity, owned media, shared media, paid media and promoted media.

**JOUR 7440 - Orgnztnl Public Reltns (3)**
How organizations maintain rapport with their publics and the mass media by effectively communicating long-range goals.

**JOUR 7450 - Public Relations Mgmt (3)**
Development and management of public relations practice, department, or consultancy through study of planning and decision-making techniques; aspects of public relations practice that differ significantly from other enterprises; development of proposals and presentations; and management of financial and human resources.

**JOUR 7460 - Health News and Promotion (3)**
Advanced seminar that examines and critiques the literature on health communication in two specific areas: news about health and its impact on individuals, and health promotion campaigns.

**JOUR 7600 - Media Internship (3)**
Work in practical assignments at a media organization under supervision of qualified practitioners.
PREREQUISITE: Permission of the department's coordinator of graduate studies. Grades of S, U, or IP will be given.

**JOUR 7650 - Journalism Startup Practicum (3)**
Students will engage in a semester-long project that will involve building a business plan, developing prototypes or products, creating content, and/or making advertising or public relations materials and strategies for media-related startups. Project will be determined in consultation with instructor. PREREQUISITE: permission of the department's coordinator of graduate studies.

**JOUR 7700 - Individual Research (3)**
Projects on non-thesis related topics of special interest to the student, ending in a completed research article or report. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

**JOUR 7800 - Directed Indiv Readings (3)**
Preparation of literature review for master's thesis with extensive bodies of writing in topic areas. May be taken to
prepare scholarly papers on subjects of individual interest. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

JOUR 7996 - Thesis (1-6)
Grades of S, U, or IP will be given.

JOUR 7998 - Professional Project (1-6)
Completion of supervised professional project in student's area of expertise. Repeatable to maximum of 6 hours; only 3 hours applicable to degree. Grades of S, U, or IP will be given.

JOUR 8025 - Law Mass Communication (3)
Laws and regulations affecting mass media with attention to social and political forces that shape the law; exploration of First Amendment theories as well as the constitutional framework of the legal system; in-depth legal research in the student's selected area of interest.

JOUR 8050 - Mass Comm Theory (3)
Key concepts and development of theories offered to explain operation and effects of mass communication media; multidiscipline overview of theories dealing with advertising, broadcasting, print, and public relations messages, media, and effects.

JOUR 8075 - Mass Comm Res Methods (3)
Familiarization with content analysis, survey research, data analysis, and field studies as practiced by reporters, editors, and public relations decision makers; modern research techniques and class project using computer analysis.

JOUR 8100 - Entrepreneurial Media (3)
Examines business models and new media tools that can encourage entrepreneurial thinking and planning in various fields of mass communication, as well as the theory and practices of traditional media management. Subjects will include assessment, organization and strategy, budgeting, decision-making, and other functions in advertising, news, and public relations.

JOUR 8125 - Research in Mass Comm. History (3)
Examines the scholarship surrounding the major events, personalities, and issues that have shaped the development of mass media, with special emphasis on the history of American journalism/mass communication.

JOUR 8300 - Mass Comm Literature (3)
Review of scholarly publications, books, periodicals, and databases in advertising, public relations, and news media.

JOUR 8320 - Mass Media & Diversity (3)
Research and analysis of the relationship among mass media, women, and minorities.

**JOUR 8330 - Social Media Theory & Practice (3)**
Examination of research and theory on the impact of social and new media on journalism, public relations, and advertising, and applying these core concepts to the real-world use of digital tools. Active use of blogs, RSS feeds, Twitter, widgets, social bookmarking, mapping, and other Web 2.0 tools to produce and curate content and interact with other professionals in the field.

**JOUR 8340 - Adv Advertising Practice (3)**
Planning and design of advertising campaigns and tactics with primary emphasis on implementation.

**JOUR 8350 - Adv News Practices (3)**
Recent research findings in news reporting, writing and editing principles; practical experience in preparing finished news reports suitable for publication or dissemination in professional-level mass medium.

**JOUR 8375 - Integrated Communication (3)**
Integration of advertising, direct mail, public relations, and other strategic communication tools to produce a singular message that reaches every target audience segment; emphasis on application of theories to a particular case study.

**JOUR 8400 - PR Principles & Issues (3)**
Contemporary social trends, public relations roles and responsibilities, and applicable public relations theory.

**JOUR 8420 - Strategic Public Relations Writing (3)**
Examination of strategies and forms of public relations communication, including traditional publicity, owned media, shared media, paid media and promoted media.

**JOUR 8440 - Organizational Public Relations (3)**
How organizations maintain rapport with their publics and the mass media by effectively communicating long-range goals.

**JOUR 8450 - Public Relations Management (3)**
Development and management of public relations practice, department, or consultancy through study of planning and decision-making techniques; aspects of public relations practice that differ significantly from other enterprises; development of proposals and presentations; and management of financial and human resources.

**JOUR 8460 - Health News and Promotion (3)**
Advanced seminar that examines and critiques the literature on health communication in two specific areas: news about health and its impact on individuals, and health promotion campaigns.
JOUR 8700 - Individual Research (3)
Projects on non-thesis related topics of special interest to the student, ending in a completed research article or report. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

JOUR 8800 - Directed Indiv Readings (3)
Preparation of literature review for master's thesis with extensive bodies of writing in topic areas. May be taken to prepare scholarly papers on subjects of individual interest. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.
MUSIC INDUSTRY (MUID)

In addition to the courses below, the department may offer the following Special Topics courses:
MUID 6260-69. Special Topics in Commercial Music. (1-3). Topics are varied and announced in the online class listing. May be repeated with change of topics.

MUID 6603 - Copyright/Music Publish (3)
Detailed examination of intellectual property rights as they relate to the commercial music industry; examination of publishing and its role in the control and exploitation of the package of rights in music property; includes: publishing activities, performing rights organizations, catalog sales and acquisitions, publisher/songwriter relations, and royalty accounting; emphasis on practical applications. PREREQUISITE: MUID 2201 and permission of instructor.

MUID 7408 - Independent Study (1-3)
Individual research, under faculty supervision, on a selected topic in the business or technology of music. May be repeated when topic varies.

MUID 7699 - Media Music Prod Prac (3)
Grades of A-F, or IP will be given.

MUID 7800 - Tech Applic In Music (3)
Advanced instruction in current technology assisting the composer, teacher, and practical musician.

MUID 8408 - Independent Study (1-3)
Individual research, under faculty supervision, on a selected topic in the business or technology of music. May be repeated when topic varies.

MUID 8800 - Tech Applic In Music (3)
Advanced instruction in current technology assisting the composer, teacher, and practical musician.

MUSIC THEORY AND COMPOSITION (MUTC)

In addition to the courses below, the department may offer the following Special Topics courses:

MUTC 6260-69. Special Topics in Theory and Composition. (1-3). Topics are varied and announced in the online class listings. May be repeated with a change in topic.

MUTC 7260-89–8260-89. Special Topics in Theory and Composition. (1-3). Selected topics in theory or composition. May be repeated with change of topics.

MUTC 6501 - Composition (3)
Composition in varied forms for large and small ensembles and solo instruments; analysis of contemporary works and practical application of techniques. May be repeated for additional credit. NOTE: Composition is taught as applied music. Students receive the equivalent of one hour lesson per week. The additional fee for this instruction is $250.00 per semester.

**MUTC 7010 - Adv Improv Pract/Mat (3)**
Advanced improvisational techniques, including motivic development, pan-diatonic, panchromatic, and free improvisation; practices involving pentatonic, quartal, cluster, and polychordal compositions; survey and analysis of published improvisation teaching materials. PREREQUISITE: Two semesters (or equivalent) of undergraduate improvisation, and permission of instructor.

**MUTC 7101 - Pedagogy Of Theory (3)**
A practical course in classroom procedure; demonstrations by students and instructor in teaching the rudiments, elementary and advanced theory, various styles of counterpoint, and ear training; various theoretical systems; bibliography.

**MUTC 7104 - Analytic Studies Jazz (3)**
Directed study in selected areas of jazz historical styles; transcription and analysis of selected recordings and scores from specific jazz and popular styles; critical aural study of stylistic interpretation of major jazz big bands and combos of selected style periods. PREREQUISITE: Permission of instructor.

**MUTC 7201 - Theory I (3)**
Analysis of style features of the music of the eleventh century through the Baroque period.

**MUTC 7202 - Theory II (3)**
Analysis of style features of the music of the late 18th and 19th centuries.

**MUTC 7203 - Independent Study (1-3)**
Individual research, under faculty supervision, on a selected topic in music theory. May be repeated when topic varies.

**MUTC 7205 - Theory III (3)**
Analysis of style features of music since 1900.

**MUTC 7262 - History of Music Theory (3)**
In this course, students will read primary texts by authors from centuries past alongside contemporary scholarship to offer valuable insights into these texts, thus expanding their knowledge of music theory and analysis by gaining an understanding of how this music has been viewed.

**MUTC 7501 - Composition (2-6)**
Free composition in all forms. Applicants to this course are required to submit original works in various forms and media as proof of maturity and technical preparation for graduate work. The course may be repeated with the instructor's permission for successive semesters. NOTE: Composition is taught as applied music. Students receive the equivalent of two half-hour lessons per week. The additional fee for this instruction is $250.00 per semester.

**MUTC 7502 - Elec Cmpstnl Techniques (3)**
Emphasis on tape manipulation, synthesizer operation, and recording techniques in association with individual compositional projects. May be repeated for credit with permission of instructor. The additional fee for this instruction is $250.00 per semester.

**MUTC 7599 - Composition Practicum (3-6)**
Grades of S, U, or IP will be given.

**MUTC 7801 - Analyt Techniques I (3)**
Techniques of analysis of styles and structure of music focusing on the Middle Ages/Renaissance and tonal periods through the nineteenth century; modal analysis, hexachordal concepts, use of LaRue techniques, introduction to Schenkerian principles, and the rhythmic theories of Lester.

**MUTC 7802 - Analyt Techniques II (3)**
A continuation of Analytic Techniques I, including a more detailed look at Schenkerian techniques of analysis; extension of Schenker principles through Schacter, Salzer, and others; principles of atonal analysis using Forte set theory, historical theories from Hindemith, Messiaen, and others.

**MUTC 7996 - Thesis (1-3)**
Grades of S, U, or IP will be given.

**MUTC 8101 - Pedagogy Of Theory (3)**
A practical course in classroom procedure; demonstrations by students and instructor in teaching the rudiments, elementary and advanced theory, various styles of counterpoint, and ear training; various theoretical systems; bibliography.

**MUTC 8201 - Theory I (3)**
Analysis of style features of the music of the eleventh century through the Baroque period.

**MUTC 8202 - Theory II (3)**
Analysis of style features of the music of the late 18th and 19th centuries.

**MUTC 8203 - Independent Study (1-3)**
Individual research, under faculty supervision, on a selected topic in music theory. May be repeated when topic varies.
MUTC 8205 - Theory III (3)
Analysis of style features of music since 1900.

MUTC 8262 - History of Music Theory (3)
In this course, students will read primary texts by authors from centuries past alongside contemporary scholarship to offer valuable insights into these texts, thus expanding their knowledge of music theory and analysis by gaining an understanding of how this music has been viewed.

MUTC 8501 - Composition (2-6)
Free composition in all forms. Applicants to this course are required to submit original works in various forms and media as proof of maturity and technical preparation for graduate work. The course may be repeated with the instructor's permission for successive semesters. NOTE: Composition is taught as applied music. Students receive the equivalent of two half-hour lessons per week. The additional fee for this instruction is $250.00 per semester.

MUTC 8502 - Elec Cmpstnl Techniques (3)
Emphasis on tape manipulation, synthesizer operation, and recording techniques in association with individual compositional projects. May be repeated for credit with permission of instructor. The additional fee for this instruction is $250.00 per semester.

MUTC 8599 - Composition Practicum (3-6)
Grades of S, U, or IP will be given.

MUTC 8801 - Analyt Techniques I (3)
Techniques of analysis of styles and structure of music focusing on the Middle Ages/Renaissance and tonal periods through the nineteenth century; modal analysis, hexachordal concepts, use of LaRue techniques, introduction to Schenkerian principles, and the rhythmic theories of Lester.

MUTC 8802 - Analyt Techniques II (3)
A continuation of Analytic Techniques I, including a more detailed look at Schenkerian techniques of analysis; extension of Schenker principles through Schacter, Salzer, and others; principles of atonal analysis using Forte set theory, historical theories from Hindemith, Messiaen, and others.

MUTC 9000 - Dissertation (1-9)
Grades of S, U, or IP will be given.

MUSIC HISTORY AND LITERATURE (MUHL)
In addition to the courses below, the department may offer the following Special Topics courses:

**MUHL6260-69. Special Topics in Music History. (1-3).** Selected topics in Music History. May be repeated with change in topic.

**MUHL 7260-69–8260-69. Special Topics in Music History. (1-3).** Selected topics in Music History. May be repeated with change of topic.

**MUHL 6002 - Song Repertory I (2)**
Survey of solo literature from German and Italian schools of song. Offered even-numbered fall semesters.

**MUHL 6003 - Song Repertory II (2)**
Survey of solo literature from the French, British, and American schools of song. Offered off-numbered spring semesters.

**MUHL 6005 - History/Literature Organ (3)**
Literature for the organ and its effect on and interaction with organ design.

**MUHL 6008 - The Symphony (3)**
A survey of the development of the symphony from the eighteenth century to the present with a focus on important composers and works, including discussion of orchestration and form, aesthetics, and performance practice.

**MUHL 6009 - Choral Literature I (3)**
Survey of choral repertories from Gregorian chant to 1700; contemporary performance practices; techniques of performing early choral music with modern mixed choirs.

**MUHL 6010 - Choral Literature II (3)**
Survey of choral repertories from 1700 to the present; contemporary performance practices; problems of modern performance.

**MUHL 6011 - String Quart Literature (3)**
History of the string quartet; survey of its music from Haydn to the present; problems of performance.

**MUHL 6013 - Women And Music (3)**
An investigation of the roles women have played throughout the history of Western art music, and the music they have composed, performed, and inspired.

**MUHL 6014 - Chamber Music/Piano (3)**
Study of the development of works for piano and one other instrument, including piano trios, piano quartets, and piano quintets; stylistic analyses of works from classic, romantic, and twentieth-century repertory. Offered fall
MUHL 6015 - Guitar Literature (3)
Exploration of selected literature and overview of history of the guitar from 16th century to present; reading of lute tablatures. Offered odd-numbered fall semesters.

MUHL 6016 - Jazz Vocal Styles (3)
Survey of jazz vocal styles from the 1920's through the present, incorporating listening, lecture, and analysis. Recorded works by important figures from each style and period will be studied.

MUHL 6020 - Solo Brass Literature (3)
Examination of the solo literature for brass instruments from the seventeenth century to the present. Offered odd-numbered spring semesters.

MUHL 6021 - Amer Amateur Brass Band (3)
History and circumstances of the American amateur brass band movement in the 19th and early 20th centuries; practical exploration of its musical repertory. PREREQUISITE: MUHL 3302 or permission of instructor.

MUHL 6022 - Early Chamber Music (3)
Survey of chamber music for strings, winds, and keyboards before 1700; course designed around needs of practicing instrumentalists.

MUHL 6030 - Percussion Repertory (3)
Survey of available literature for percussion instruments. Offered odd-numbered spring semesters.

MUHL 6407 - History of Opera (3)
The history of opera from its origins to the present.

MUHL 6500 - String Repertory (3)
Histories, tests, methods, periodicals, orchestral studies, and solo and ensemble literature.

MUHL 6800 - World Musical Styles (3)
Introduction to the study of ethnomusicology; traditional and popular musical styles and the role of music in societies throughout the world. Offered fall semester.

MUHL 6801 - American Folk/Popular Music (3)
Folk and popular elements in American music; role of mass media in folk and popular music; historical development and interrelationships of various musical styles ranging from 19th century minstrelsy through rock and roll and hip-hop; emphasis on southern Anglo-American and Afro-American folk and popular musical styles. Offered fall semester.
MUHL 6804 - Blues (3)
Stylistic development of blues music from its beginnings; relationships to African-American and American culture and history. (Offered spring semester.)

MUHL 6805 - History Of Rock & Roll (3)
Stylistic origins and development of rock and roll music from its beginning to the present.

MUHL 6806 - History Of Jazz (3)
Stylistic origins and development of jazz; interaction of jazz and Western classical music styles.

MUHL 6807 - Memphis Music (3)
Distinctive forms of folk and popular music in Memphis since the beginning of the 20th century; relationships to history, culture, and social patterns of the city and mid-south region; folk music background; blues, jazz, country music, gospel music, soul music, and rock and roll emphasized. Offered spring semester.

MUHL 7003 - Piano Repertory (3)
Survey of stringed keyboard repertory from Bach and his contemporaries to the present; representative works analyzed in regard to historical, stylistic, formal, and aesthetic features. (Offered fall semester.)

MUHL 7400 - Biblio & Rsrch Methods (3)
Survey of the fields of historical and systematic investigation in music with bibliographical studies and research analysis.

MUHL 7401 - Medieval Music (3)
History of Western music from the earliest notations to c 1400.

MUHL 7402 - Renaissance Music (3)
History of Western music in the fifteenth and sixteenth centuries.

MUHL 7403 - Baroque Music (3)
History of Western music in the seventeenth and early eighteenth centuries.

MUHL 7404 - Classic Music (3)
History of Western music from c 1730 to c 1825.

MUHL 7405 - Music since 1900 (3)
History of Western art music from 1900 to the present.

MUHL 7406 - Nineteenth Cent Music (3)
History of Western music in the nineteenth century.

**MUHL 7408 - Independent Study (1-3)**
Individual research, under faculty supervision, on a selected topic in musicology. May be repeated when the topic varies.

**MUHL 7409 - Rep For Collab Pianists (3)**
Studies in selected areas of the collaborative piano repertory. May be repeated when topic varies:
PREREQUISITES: a repertory course pertinent to the topic, such as MUHI 6002, 6003, 6014 or permission of instructor.

**MUHL 7505 - Seminar Musicology (3)**
Seminars in selected areas of musicology. May be repeated when topic varies.

**MUHL 7506 - Composer Studies (3)**
Exploration of the life and works of a single composer or other musician. May be repeated for credit when the topic varies.

**MUHL 7507 - Advanced Studies in Art Song (3)**
Selected topics in the development and performance of the German Lied, the French melodie, and other art-song genres. May be repeated when topic varies.

**MUHL 7531 - Erly Musical Notation (3)**
Examination of history of Western musical notations from the ninth through seventeenth centuries; transcription of medieval music from its original sources into modern notation; singing and playing renaissance and early baroque music from facsimiles of original manuscripts and prints.

**MUHL 7551 - Performance Practice I (3)**
Historical techniques and conceptions of performance from Gregorian chant through the seventeenth century.

**MUHL 7552 - Performance Practice II (3)**
Historical techniques and conceptions of performance since 1700.

**MUHL 7800 - Fld Mthd In Ethnmsclgy (3)**
An exploration of techniques for designing field research subjects and gathering information in the field; special attention to techniques and problems related to the study of southern musical traditions.

**MUHL 7802 - Sem Ethnomusicology (3)**
Seminars in selected topics. May be repeated for credit when the topic varies.
MUHL 7804 - Intnshp Sthrn Reg Music (3)
Practical experience in the application of knowledge and skills learned through the study of southern regional music. The student will do supervised work in an area of music production, presentation, administration, or education for a public agency or in the private sector. This course may be repeated with a different type of internship, but only 3 credit hours may be applied toward any degree. PREREQUISITE: 18 credit hours in Ethnomusicology or Southern Regional Music.

MUHL 7996 - Thesis (1-3)
Grades of S, U, or IP will be given.

MUHL 8400 - Biblio & Rsrch Methods (3)
Survey of the fields of historical and systematic investigation in music with bibliographical studies and research analysis.

MUHL 8401 - Medieval Music (3)
History of Western music from the earliest notations to c 1400.

MUHL 8402 - Renaissance Music (3)
History of Western music in the fifteenth and sixteenth centuries.

MUHL 8403 - Baroque Music (3)
History of Western music in the seventeenth and early eighteenth centuries.

MUHL 8404 - Classic Music (3)
History of Western music from c 1730 to c 1825.

MUHL 8405 - Music since 1900 (3)
History of Western art music from 1900 to the present.

MUHL 8406 - Nineteenth Cent Music (3)
History of Western music in the nineteenth century.

MUHL 8408 - Independent Study (1-3)
Individual research, under faculty supervision, on a selected topic in musicology. May be repeated when the topic varies.

MUHL 8409 - Rep For Collab Pianists (3)
Studies in selected areas of the collaborative piano repertory. May be repeated when topic varies:
PREREQUISITES: a repertory course pertinent to the topic, such as MUHL 6002, 6003, 6014 or permission of instructor.
MUHL 8505 - Seminar Musicology (3)
Seminars in selected areas of musicology. May be repeated when topic varies.

MUHL 8506 - Composer Studies (3)
Exploration of the life and works of a single composer or other musician. May be repeated for credit when the topic varies.

MUHL 8507 - Advanced Studies in Art Song (3)
Selected topics in the development and performance of the German Lied, the French melodie, and other art-song genres. May be repeated when topic varies.

MUHL 8531 - Erly Musical Notation (3)
Examination of history of Western musical notations from the ninth through seventeenth centuries; transcription of medieval music from its original sources into modern notation; singing and playing renaissance and early baroque music from facsimiles of original manuscripts and prints.

MUHL 8551 - Performance Practice I (3)
Historical techniques and conceptions of performance from Gregorian chant through the seventeenth century.

MUHL 8552 - Performance Practice II (3)
Historical techniques and conceptions of performance since 1700.

MUHL 8800 - Fld Mthd In Ethnmsclgy (3)
An exploration of techniques for designing field research subjects and gathering information in the field; special attention to techniques and problems related to the study of southern musical traditions.

MUHL 8801 - Ethnomusicology (3)
A survey of concepts, problems, and methods of research in the interpretation of music in different social groups; emphasis on functional and popular music rather than art music, and on cultures other than Western European and North American.

MUHL 8802 - Sem Ethnomusicology (3)
Seminars in selected topics. May be repeated for credit when the topic varies.

MUHL 8804 - Intnshp Sthrn Reg Music (3)
Practical experience in the application of knowledge and skills learned through the study of southern regional music. The student will do supervised work in an area of music production, presentation, administration, or education for a public agency or in the private sector. This course may be repeated with a different type of internship, but only 3 credit hours may be applied toward any degree. PREREQUISITE: 18 credit hours in
Ethnomusicology or Southern Regional Music.

MUHL 8805 - Trnscrt/Anly Etnmsclgy (3)
An examination of the problems and methods of transcribing and analyzing non-Western and traditional music; the uses and limitations of staff notation; alternative descriptive systems.

MUHL 8806 - Sem Southern Reg Music (3)
Major issues in the study of southern folk and popular music; includes the relationship between Afro-American and Anglo-American styles and traditions, the relationships of these styles and traditions to African and European music, and the interplay of traditionalism and commercialism in southern music. PREREQUISITES: Completion of 18 graduate level credit hours in music, including MUHL 7400 and MUHL 6801.

MUHL 9000 - Dissertation (1-9)
Grades of S, U, or IP will be given.

SACRED MUSIC (MUSA)

In addition to the courses below, the department may offer the following Special Topics courses:


MUSIC EDUCATION (MUSE)

In addition to the courses below, the department may offer the following Special Topics courses:

MUSE 6260-69. Special Topics in Music Education. (1-3). Selected topics in Music Education. May be repeated when topic changes. Training teachers for beginning through intermediate level piano instruction; establishing strong artistic, musical, and technical foundations; supervised practice teaching. (Offered fall semester.) PREREQUISITE: Permission of instructor.

MUSE 7260-79–8260-79. Special Topics in Music Education. (1-3). Selected topics in Music Education. May be repeated when topic changes.

MUSE 6205 - Marching Band Technique (2)
Organizing and conducting the marching band; gridiron charting and marching procedures with a study of precision drill, formation, and pageantry. (Offered spring semester.) PREREQUISITE: Permission of instructor.
MUSE 6208 - Band Literature (3)
History and evolution of wind instruments and wind instrument playing and the history and development of the wind band and its literature, with general background material on the specific composers involved.

MUSE 6209 - Piano Tuning/Repair (2)
Basic techniques involved in piano tuning and adjustment. Some basic tools are required.

MUSE 6211 - Vocal Diction I (2)
Phonetic study of English and Italian languages in detail; introduction and basic rules of Latin pronunciation; includes International Phonetic Alphabet transcription of songs and arias. Open to collaborative pianists only or by permission of instructor. (Offered alternate years.)

MUSE 6212 - Vocal Diction II (2)
Phonetic study of German and French languages in detail; introduction and basic rules of Latin pronunciation; includes International Phonetic Alphabet transcription of songs, arias, and class recitations. Open to collaborative pianist only, or by permission of the instructor. Offered alternate years.

MUSE 6215 - Jazz Ensemble Technique (1)
Knowledge of jazz phrasing, articulation; ensemble setting; repertoire selection; administration of school jazz program. PREREQUISITE: Permission of instructor.

MUSE 6251 - Guitar Pedagogy (3)
Analysis of various technical issues and remedies to overcome technical problems; analysis of methods by Sor, Carcassi, Aguado, Vila-Lobos, and Shearer; discussion of pedagogical articles.

MUSE 6505 - Collab Piano Technique (2)
Performance class involving practical study of instrumental and vocal standard repertory and problems of ensemble playing; encourages facility in sight-reading and the ability to assimilate music rapidly; score reading, transposition, and figured-bass realization are introduced as skills necessary to well-rounded musicianship. (Offered spring semester.) PREREQUISITE: Permission of instructor.

MUSE 6508 - Prin Of Suzuki Piano (3)
Suzuki philosophy as applied to the development of the child's abilities and the role of the teacher and the parent; analysis of the technical and musical instruction of the beginning piano student. (Offered fall semester.) PREREQUISITE: Undergraduate upper-division piano proficiency.

MUSE 6514 - Brass Pedagogy (3)
Current literature, principles, methods, and psychology in brass playing and teaching. Offered even-numbered spring semesters.
MUSE 6520 - Percussion Pedagogy (3)
Basic principles of and materials for teaching percussion instruments. Offered even-numbered spring semesters.

MUSE 6521 - Woodwind Pedagogy (3)
Practical methods for teaching performance skills to woodwind students; current literature, principles, and methods in teaching woodwind instruments.

MUSE 6802 - Level I Orff-Schulwerk (1-3)
Basic Orff-Schulwerk techniques including body movement, soprano recorder, percussion, vocal performance, improvisation, and arranging. PREREQUISITE: Graduate standing in Music.

MUSE 7002 - Teaching Music in Higher Edu (3)
Problem and practices in the teaching of music in higher education. Topics will include tenure and promotion, syllabus design, curriculum vitae construction, mock interviews, etc.

MUSE 7101 - Jazz Program Admin (3)
Basic administration of a college level jazz program; course and curriculum development/design, scheduling/planning, material acquisition, basic equipment needs, budgeting and budget administration, concert and festival planning/programming/production. PREREQUISITE: Permission of instructor.

MUSE 7103 - Level II Orff-Schulwrk (1-3)
(6803). Study of all the pentatonic scales, simple and moving borduns, I-V and I-IV-V accompaniments, explanation of rhythmic training; vocal, movement and instrumental improvisation; soprano and alto recorder. Prerequisite: MUSE 6802.

MUSE 7104 - Level III Orff Schlwrk (1-3)
(6804). Advanced Orff techniques including original compositions; explanation of pedagogic sequence; applications of pedagogy through micro teaching assignments; exploration of modes; improvisation in modality and harmony; study of soprano and alto recorder playing with occasional experiences on tenor and bass recorders. PREREQUISITE: MUSE 7103.

MUSE 7202 - Music Early Childhood (3)
Research and analysis of contemporary trends in the field of early childhood education, with emphasis on developing appropriate music activities for three to six year olds.

MUSE 7203 - Choral Lit & Tech (3)
Survey of choral literature from Dunstable to the present, using scores, records, and class performance; analysis of the scores in terms of style, form, and performance problems; techniques of teaching and conducting unfamiliar styles.
MUSE 7204 - Inst Lit & Tech (3)
Specific and intensive research in each student's major instrument, covering (1) history of the instrument; (2) tests, methods and periodicals; (3) orchestral studies; (4) solo and ensemble literature; and (5) listening and performance.

MUSE 7207 - Measure Music Behavior (3)
The investigation of evaluative tools in music education, formulation, and utilization of measurement devices in music teaching and research. PREREQUISITE: MUSE 7220-8220

MUSE 7210 - Proj Elem Mus Curr (3)
Individualized in-depth study of a selected area in elementary school music education. Topics may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. PREREQUISITE: Permission of instructor.

MUSE 7211 - Proj Sced Mus Curr (3)
Individualized in-depth study of a selected area in secondary school music education, vocal or instrumental; may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. PREREQUISITE: Permission of instructor.

MUSE 7213 - Orchtrtn Orff Instrm (3)
An analysis of the elemental style of writing for Orff instruments including simple bordun, moving bordun; accompaniments including I-V, I-IV-V, I-II, I-VII, I-VI, I-III; original orchestrations in each harmony. Prerequisite: MUSE 7103 or permission of instructor.

MUSE 7214 - Master Class Orff Schul (2)
Advanced pedagogy based on Orff-Schulwerk principles, designed to train workshop clinicians; includes orchestration techniques, ontogenetic treatment of rhythm and melody, movement improvisation, and recorder playing. PREREQUISITE: MUSE 7104.

MUSE 7216 - Class Piano Pedg Proj (1-3)
Students, assigned to piano classes at the University and/or local secondary schools, will assist the principal teacher. May be repeated for a maximum of 3 credits when area of study varies. PREREQUISITES: MUSE 6511 or permission of instructor.

MUSE 7217 - Adv Collab Tech (3)
Individualized in-depth study of techniques and skills needed by professional collaborative pianists working with instrumentalists or singers.

MUSE 7219 - Concepts/Teach/Learn (3)
Active investigation and exploration of teaching and learning in music education to develop professional attitudes, work habits and responsibilities, determine personal values of effective teaching and learning, transfer historical and philosophical issues to contemporary practice, develop effective communication skills, review the professional research literature, and understand human development process from birth to adult.

MUSE 7220 - Research Music Education (3)
Active investigation and exploration of research methodologies specific to music education.

MUSE 7221 - Music Spec Populations (3)
Recognition and comprehension of various disabilities and exceptionalities; techniques for teaching music to exceptional students.

MUSE 7222 - Rsrch Appl Music Education (3)
Practical application of methodological techniques utilized in music education research; analysis and criticism of research techniques; design, implementation, and reporting of research data. PREREQUISITES: MUSE 7220, EDPR 7541.

MUSE 7402 - Hist Phil Music Ed (3)
An examination of the historical and philosophical foundations that underline the curricula and instructional programs in music.

MUSE 7403 - Survey Research Mus Ed (3)
Designed to acquaint students with theoretical and practical field research, to refine writing skills, to hypothesize, and to develop potential research problems.

MUSE 7404 - Assessment in Music Classroom (3)
Examination of aspects and types of assessment in the music classroom, with focus on assessment development and evaluation.

MUSE 7503 - Intro Suzuki Piano (3)
Suzuki philosophy as applied to the development of a child's abilities; particular emphasis on listening, parent-teacher relationship, tone production, posture, technique, and Suzuki Piano Volume I-A; includes observation of lessons and classes taught by experienced teachers in the University Suzuki Piano Program. PREREQUISITE: Audition or permission of instructor.

MUSE 7504 - Suzuki Piano Lit/Tech I (3)
Analysis of pedagogical materials and fundamental techniques introduced in Volumes I-III of Suzuki Piano School; emphasis on listening, tone production, independence, independence of hands, musical forms and styles, and musical expression; introduction of music reading, scales and cord progressions; observation of lessons and classes taught by experienced teachers in the University Suzuki Piano Program. PREREQUISITE: MUSE 7503 or
permission of instructor.

MUSE 7511 - Projects Piano Pedagogy (1-3)
Individual projects designed to explore problems of teaching under supervision. May be repeated for a maximum of 3 credits when the topic varies. PREREQUISITE: permission of instructor.

MUSE 7512 - Ped/Appl Voice Tchr (3)
Prepares singers to handle the studio lesson with an emphasis on teaching all voice types; rudimentary knowledge of the physiology of singing will be learned; study of the historical approach to singing techniques and vocal methods; analyzing the tone and corrective exercises.

MUSE 7513 - Piano Pedagogy I (3)
Training teachers for beginning through intermediate level piano instruction; establishing strong artistic, musical, and technical foundation. PREREQUISITE: Permission of instructor.

MUSE 7514 - Piano Pedagogy II (3)
Training teachers for advanced piano instruction; extensive readings from renowned artist-teachers and performers, development of ideation and memorization skills; observations and supervised practice teaching. PREREQUISITE: MUSE 7513 or permission of instructor.

MUSE 7515 - Class Piano Pedagogy (3)
Survey of group instruction techniques in the teaching of beginning, intermediate, and early advanced piano, emphasizing observation and practical application; for keyboard majors and/or prospective piano teachers.

MUSE 7516 - Adv Prob in Singing Diction (3)

MUSE 7520 - Jazz Pedagogy (3)
Issues and practical problems of running a jazz program at the post-secondary level.

MUSE 7601 - Suzuki String Pedag I (3)
Suzuki philosophy and method; educating Suzuki parents, setting up a program; teaching beginning steps in preparing students for the Twinkle variations and Suzuki Book I.

MUSE 7602 - Suzuki String Pedag II (3)
Analysis of pedagogical materials and fundamental techniques introduced in volumes I-IV of Suzuki Violin School; exploration of various reading methods, introduction of music theory concepts, two and three octave scales, two octave arpeggio series, and circle of keys.
MUSE 7603 - Suzuki String Pedag III (3)
Analysis of pedagogical materials and fundamental techniques introduced in volumes V-VI of Suzuki Violin School; two octave major and minor scales and arpeggios, all three octave major and minor arpeggios, and exploration of more advanced reading methods.

MUSE 7604 - Suzuki String Pedag IV (3)
Analysis of pedagogical materials and fundamental techniques introduced in volumes VII-VIII of Suzuki Violin School; all three octave major and minor scales in circle of keys, two octave chromatic scales, three octave arpeggio sets, all major and minor two octave doublestop scales.

MUSE 7605 - Music Dev & Learning (3)
Evaluates theories, methods of inquiry, and research designs of musical development from early childhood through adulthood; explores correlations between theories of general intellectual development and music cognition research.

MUSE 7606 - Desc/Exp Research Music (3)
Develop research concepts and models in quantitative research using experimental, quasi-experimental, and descriptive design models; determine relationships between independent and dependent variables through appropriate research procedures, analysis, and interpretation of findings. PREREQUISITE: MUSE 7220-8220

MUSE 7607 - Choral Rehearsal Tech (3)
Introduction to elements essential to development of a successful choral rehearsal; includes basic ensemble singing techniques, how to unify sound, score study, style considerations, proper diction, rehearsal planning, and audition procedures.

MUSE 7608 - Instr Ens Rehearsl Tech (3)
Includes practical skills of baton technique, score reading, basic rehearsal techniques, and theoretical areas of score analysis, repertoire, and programming, as well as classroom management and pacing of materials; instructor will provide on-the-spot critiques of student teaching and conducting.

MUSE 7609 - Choral Conduction Techn (3)
Application of conducting techniques to communicate technical, gestural, and artistic perceptions of the music; score study, rehearsal techniques, musical interpretation through study of representative scores.

MUSE 7621 - Vocal Pedagogy 1 (3)
The purpose of this course is to review the fundamentals of vocal pedagogy and deepens the student's understanding of these fundamentals through comparative research among the leading experts in the field.

MUSE 7702 - Instrum/Wind Conducting (3)
Application of techniques studied in basic conducting to rehearsing and performing selected pieces; covers score study, planning, rehearsal techniques, and musical interpretation.

**MUSE 7801 - Independent Study (1-3)**
Individual research, under faculty supervision, on a selected topic in music education. May be repeated when topic varies.

**MUSE 7995 - Master's Project Music Ed (1-3)**
Preparation of a practical research project as a culmination to the MMU in Music Education.

**MUSE 7996 - Thesis (1-3)**
Grades of S, U, or IP will be given.

**MUSE 7998 - Orff Practicum (1-3)**
Culminating project for degree in Orff-Schulwerk; consists of 3 videotaped lessons with children, based on appropriately detailed lesson plans that include singing, movement, playing instruments, and creativity. Videos will be reviewed by a committee of music education faculty. Grades of S, U, or IP will be given.

**MUSE 8202 - Music Early Childhood (3)**
Research and analysis of contemporary trends in the field of early childhood education, with emphasis on developing appropriate music activities for three to six year olds.

**MUSE 8203 - Choral Lit & Tech (3)**
Survey of choral literature from Dunstable to the present, using scores, records, and class performance; analysis of the scores in terms of style, form, and performance problems; techniques of teaching and conducting unfamiliar styles.

**MUSE 8204 - Inst Lit & Tech (3)**
Specific and intensive research in each student's major instrument, covering (1) history of the instrument; (2) tests, methods and periodicals; (3) orchestral studies; (4) solo and ensemble literature; and (5) listening and performance.

**MUSE 8207 - Measure Music Behavior (3)**
The investigation of evaluative tools in music education, formulation, and utilization of measurement devices in music teaching and research. PREREQUISITE: MUSE 7220-8220

**MUSE 8210 - Proj Elem Mus Curr (3)**
Individualized in-depth study of a selected area in elementary school music education. Topics may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. PREREQUISITE: Permission of instructor.
MUSE 8211 - Proj Sced Mus Curr (3)
Individualized in-depth study of a selected area in secondary school music education, vocal or instrumental; may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. PREREQUISITE: Permission of instructor.

MUSE 8213 - Orchtrtn Orff Instrm (3)
An analysis of the elemental style of writing for Orff instruments including simple bordun, moving bordun; accompaniments including I-V, I-IV-V, I-II, I-VII, I-VI, I-III; original orchestrations in each harmony. Prerequisite: MUSE 7103 or permission of instructor.

MUSE 8217 - Adv Collab Tech (3)
Individualized in-depth study of techniques and skills needed by professional collaborative pianists working with instrumentalists or singers.

MUSE 8219 - Concepts/Teach/Learn (3)
Active investigation and exploration of teaching and learning in music education to develop professional attitudes, work habits and responsibilities, determine personal values of effective teaching and learning, transfer historical and philosophical issues to contemporary practice, develop effective communication skills, review the professional research literature, and understand human development process from birth to adult.

MUSE 8220 - Research Music Education (3)
Active investigation and exploration of research methodologies specific to music education.

MUSE 8221 - Music Spec Populations (3)
Recognition and comprehension of various disabilities and exceptionalities; techniques for teaching music to exceptional students.

MUSE 8222 - Rsrch Appl Music Education (3)
Practical application of methodological techniques utilized in music education research; analysis and criticism of research techniques; design, implementation, and reporting of research data. PREREQUISITES: MUSE 7220, EDPR 7541.

MUSE 8402 - Hist Phil Music Ed (3)
An examination of the historical and philosophical foundations that underline the curricula and instructional programs in music.

MUSE 8403 - Survey Research Mus Ed (3)
Designed to acquaint students with theoretical and practical field research, to refine writing skills, to hypothesize, and to develop potential research problems.
MUSE 8404 - Assessment in Music Classroom (3)
Examination of aspects and types of assessment in the music classroom, with focus on assessment development and evaluation.

MUSE 8506 - Ind Study Suzuki Teach (3)
Independent study of a selected topic in relation to Suzuki philosophy and method. PREREQUISITE: MUSE 7510 or permission of the instructor.

MUSE 8512 - Ped/Appl Voice Tchr (3)
Prepares singers to handle the studio lesson with an emphasis on teaching all voice types; rudimentary knowledge of the physiology of singing will be learned; study of the historical approach to singing techniques and vocal methods; analyzing the tone and corrective exercises.

MUSE 8516 - Adv Prob in Singing Diction (3)

MUSE 8605 - Music Dev & Learning (3)
Evaluates theories, methods of inquiry, and research designs of musical development from early childhood through adulthood; explores correlations between theories of general intellectual development and music cognition research.

MUSE 8606 - Desc/Exp Research Music (3)
Develop research concepts and models in quantitative research using experimental, quasi-experimental, and descriptive design models; determine relationships between independent and dependent variables through appropriate research procedures, analysis, and interpretation of findings. PREREQUISITE: MUSE 7220-8220

MUSE 8609 - Choral Conducting Techn (3)
Application of conducting techniques to communicate technical, gestural, and artistic perceptions of the music; score study, rehearsal techniques, musical interpretation through study of representative scores.

MUSE 8702 - Instrum/Wind Conducting (3)
Application of techniques studied in basic conducting to rehearsing and performing selected pieces; covers score study, planning, rehearsal techniques, and musical interpretation.

MUSE 8801 - Independent Study (1-3)
Individual research, under faculty supervision, on a selected topic in music education. May be repeated when topic varies.
MUSE 9000 - Dissertation (1-9)
Grades of S, U, or IP will be given.

APPLIED MUSIC (MUAP)

In addition to the courses below, the department may offer the following Special Topics courses:

MUAP 6260-69. Special Topics in Applied Music. (1-3). Selected topics in Applied Music. May be repeated with change of topics.


MUAP 6004 - Orchestral Excerpts (2)
Study and performance of selected orchestral excerpts suitable for auditions. PREREQUISITE: Permission of instructor.

MUAP 6263 - Reed Making (1)
A laboratory course designed to help students become independent reed makers. May be repeated for credit.

MUAP 6301 - Acting for Opera I (3)
Essential acting techniques for singers, with special attention to application to operatic stage.

MUAP 6302 - Acting for Opera II (3)
Advanced acting techniques for singers, with special attention to application to operatic stage. PREREQUISITE: MUAP 6301

MUAP 7002 - Chamber Music (1)

MUAP 7099 - Chamber Music Recital (1)
Grades of S, U, or IP will be given.

MUAP 7101 - Wind Ensemble (1)

MUAP 7102 - Orchestra (1)
MUAP 7103 - University Singers (1)

MUAP 7104 - Opera Chorus (1)

MUAP 7106 - Symphonic Band (1)

MUAP 7107 - Jazz Ensemble (1)

MUAP 7108 - Opera Workshop (1)

MUAP 7201 - Brass Ensemble (1)

MUAP 7202 - Jazz Combo (1)

MUAP 7203 - Chamber Music/Piano (1)

MUAP 7204 - Percussion Ensemble (1)

MUAP 7205 - Contmp Chamber Players (1)

MUAP 7207 - String Ensemble (1)

MUAP 7209 - Chamber Choir (1)

MUAP 7210 - Opera Soloists (1)
MUAP 7211 - Woodwind Ensemble (1)

MUAP 7212 - Collegium Musicum (1)

MUAP 7213 - Jazz Vocal Ensemble (1)

MUAP 7620 - Ind Study Sym/Op Cond (3)
Detailed study of advanced conducting techniques including styles, mechanics, score reading and preparation, and rehearsal techniques and organization; practical experience in orchestral and operatic conducting. May be repeated for credit. PREREQUISITES: MUAP 7701 and/or permission of instructor.

MUAP 7622 - Opera Direction Project (1-3)
Stage direction of an opera workshop or opera theatre production. May be repeated for up to 12 credit hours. Grades of S, U, or IP will be given.

MUAP 7623 - Opera Coaching Project (1-3)
Supervised coaching of substantial portions of an opera workshop or opera theatre production. May be repeated for up to 12 credit hours.

MUAP 7701 - Adv Conducting (3)
Conducting the concert band, the symphony orchestra, and the chorus in the larger musical forms; emphasis on interpretation. May be repeated for credit. PREREQUISITE: Permission of instructor. $250.00 instruction and lab fee.

MUAP 7702 - Conducting Practicum (1-3)
Supervised rehearsal and preparation of a public performance with a large ensemble.

MUAP 7703 - Score Study/Aural Train (2)
Skills of score reading, ear training, and score analysis for conductors.

MUAP 7704 - Opera Stage Direction (1-3)
Private lessons in the stage direction of operatic productions. May be repeated for up to 12 credit hours.

MUAP 7705 - Opera Coaching (1-3)
Private lessons in opera coaching. May be repeated for up to 12 credit hours. PREREQUISITE: permission of instructor.
MUAP 7800 - Internship/Music Perform (1-6)
Music performances coordinated between the School of Music and Opera Memphis or the Memphis Symphony Orchestra. May be repeated. Grades of A-F, or IP will be given.

MUAP 7801 - Independent Study (1-3)
Individual Research, under faculty supervision, on a selected topic in Applied Music. May be repeated when the topic varies.

MUAP 7899 - Lecture Recital (1-3)
Student must be concurrently enrolled in an appropriate applied music course. All policies relating to dissertations are applicable to lecture recitals. Grades of S, U, or IP will be given.

MUAP 7999 - Recital (1-3)
Student must be concurrently enrolled in an appropriate applied music course. Grades of S, U, or IP will be given.

MUAP 8002 - Sem Performance Prob (3)
Study of literature and material for the performances necessary to prepare for the qualifying examination. Preparation of the dissertation recitals. PREREQUISITE: Admission to curriculum in performance. May be repeated for credit.

MUAP 8620 - Ind Study Sym/Op Cond (3)
Detailed study of advanced conducting techniques including styles, mechanics, score reading and preparation, and rehearsal techniques and organization; practical experience in orchestral and operatic conducting. May be repeated for credit. PREREQUISITES: MUAP 7701 and/or permission of instructor.

MUAP 8622 - Ind Proj Opera Direct (3)
Actual staging or musical direction of an opera workshop or opera theatre production. May be repeated for credit.

MUAP 8701 - Adv Conducting (3)
Conducting the concert band, the symphony orchestra, and the chorus in the larger musical forms; emphasis on interpretation. May be repeated for credit. PREREQUISITE: Permission of instructor. $250.00 instruction and lab fee.

MUAP 8702 - Conducting Practicum (1-3)
Supervised rehearsal and preparation of a public performance with a large ensemble.

MUAP 8703 - Score Study/Aural Train (2)
Skills of score reading, ear training, and score analysis for conductors.
MUAP 8800 - Internship/Music Perform (1-6)
Music performances coordinated between the School of Music and Opera Memphis or the Memphis Symphony Orchestra. May be repeated. Grades of A-F, or IP will be given.

MUAP 8801 - Independent Study (1-3)
Individual Research, under faculty supervision, on a selected topic in Applied Music. May be repeated when the topic varies.

MUAP 8999 - Recital (1-3)
Student must be concurrently enrolled in an appropriate applied music course. Grades of S, U, or IP will be given.

MUAP 9000 - Doctoral Research Project (1-9)
Preparation of the research document as part of the dissertation equivalent; may include a lecture recital. All policies relating to dissertations are applicable to the course. Continuous enrollment is required until degree is completed. Grades of S, U, or IP will be given.

INDIVIDUAL LESSONS

FEES: Individual lessons require an additional applied music fee of $50 per semester for each weekly one-half hour lesson. This fee is not included in the Fee Schedule. Fees are paid to the University at the office of the Business Manager.

CREDITS AND GRADES: A full-hour lesson will be given all persons enrolled in graduate applied music, regardless of credit-hours awarded. Music Education majors, applied music minors, and applied music electives will be allowed to register for two hours of credit only. Applied majors may register for two to six hours of credit, as permitted. Grades are awarded in accordance with the jury system and have the same significance as in any other subject. All graduate applied music juries shall be scheduled for fifteen minutes.

REGISTRATION: Students will register for individual lessons at the same time and the same manner that they register for other courses.

Individual Lessons may be repeated for credit in subsequent semesters, but not for the purpose of improving the grade originally earned.

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† Grades of S, U, or IP will be given.
THEATRE (THEA)

In addition to the courses below, the department may offer the following Special Topics courses:
Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours when topic varies.

Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours when topic varies.

THEA 6209 - Advanced Scenic Production (3)
Processes and techniques employed by theatre technicians and designers in the design, planning, and construction of scenery, structures and effects; survey of theatrical scenery types and traditional methodologies for problem solving. May be repeated for a maximum of 6 hours credit. PREREQUISITE: permission of instructor.

THEA 6220 - Acting/Musical Theatre (3)
Exploration of techniques that allow the performer to fuse the act of acting and singing. Two lecture hours, two laboratory hours per week. Offered alternate years. PREREQUISITE: THEA 2532, MUAP 1100, MUAP 1610, or equivalency exam/audition and permission of instructor.

THEA 6221 - Stage Dialects (3)
Transcription for International Phonetic Alphabet (IPA). Voice and dialect technique for conveying dramatic intention and character. PREREQUISITE: permission of the instructor.

THEA 6222 - Asian Theatre (3)
History and theory of traditional and contemporary theatre forms of Asia, including study in cultural and social history. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 6223 - Musical Theatre Perform Prac (3)
Study and practice in rehearsal and performance techniques in musical theatre production, including solo and group literature. Two lecture hours, two laboratory hours per week. Offered alternate years. PREREQUISITE: THEA 4220, or permission of instructor.

THEA 6224 - Principle/Music Theory/Theatre (3)
Study of basic written music theory and aural skills to aid the comprehensive theatre professional.

THEA 6455 - Directing Narrative Theatre (3)
Directing techniques for staging literary texts not originally written for the theatre. Includes script adaptation of short stories, poetry, and non-fiction prose. Directing projects required. (Offered alternate years) PREREQUISITE: THEA 4521, or permission of instructor.

THEA 6457 - Vocal Style/Performance (3)
Exploration of language based characterization as it evolves from structure and style of text. PREREQUISITE:
THEA Courses - Graduate Catalog - University of Memphis

Permission of the instructor.

THEA 6501 - Adv Movement Styles (3)
Study in advanced physical theatre styles. Varied semester topics: solo performance, performance art; fighting styles for period weapons, physical theatre techniques for theatre teachers, choreographers and directors. May be repeated for a maximum of 6 hours credit when content varies. (Offered alternate years). PREREQUISITE: permission of instructor.

THEA 6503 - Creative Dramatics (3)
Basic techniques and theories for the use of dramatization in elementary and secondary education; topics include socio-drama, dramatization of school subjects and daily concerns, and improvisation and creation of dramatic plays. (Offered alternate years).

THEA 6514 - Theatre Rendering Techniques (3)
Rendering techniques for theatre and entertainment design. Materials and techniques for rendering theatrical space and scenic, costume, lighting, and properties design elements. Emphasis on pre-visualization strategies and portfolio preparation for the entertainment field. Offered alternate years.

THEA 6515 - Scene Painting (3)
Lecture laboratory course covering the techniques of painting scenery for the stage. Offered alternate years.

THEA 6516 - Technical Direction (3)
Lecture/laboratory for theatre technicians to include production organization and safety, engineering, rigging, materials control, and supply ordering. Offered alternate years.

THEA 6531 - Acting Styles (3)
Development of acting styles as influenced by environments of historical periods. May be repeated for maximum of 6 hours credit with change of course content. PREREQUISITE: Permission of the instructor.

THEA 6532 - Mask Performance (3)
Varied semester topics: Commedia dell'arte performance; creation and performance of the character mask; mask work based in physical theatre. May be repeated for a maximum of 6 hours credit when content varies. PREREQUISITE: permission of instructor.

THEA 6548 - Musical Theatre History (3)
Survey of the shaping forces, history, art and craft of American musical. (Offered alternate years)

THEA 6549 - Theatre History (3)
Shaping forces and theatrical forms from early civilization to the present time, with an emphasis on Western culture. Offered alternate years.
THEA 6551 - Dramatic Literature I (3)
Comprehensive survey of dramatic literature from the Greeks to the 20th century, with particular emphasis on problems of production. Offered alternate years.

THEA 6552 - Dramatic Literature II (3)
Comprehensive survey of dramatic literature from the 20th century to the present, with particular emphasis on problems of production. Offered alternate years.

THEA 6554 - Visual History I (3)
Design aesthetics of selected historical periods from ancient times through the Victorian era as applied to theatrical design. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 6555 - Scenic Technology (3)
Lecture/laboratory using traditional and contemporary materials and scenic technologies including rigging, metals and welding, wood working, and plastics. Offered alternate years. May be repeated for a maximum of 6 hours credit with permission of instructor. PREREQUISITE: Permission of instructor.

THEA 6556 - Lighting Technology (3)
Technical principles that support areas of theatrical lighting design; includes instrumentation and equipment, electricity and electronics, control systems, operation and maintenance principles and procedures for stage electricians. Offered alternate years. May be repeated for a maximum of 6 hours credit with permission of instructor.

THEA 6557 - Costume Technology (3)
Topics in costume construction techniques employing both traditional and experimental methods. Emphasis on professional entertainment portfolio development. Topics include: pattern and fit for the designer, dyeing, painting, and fabric modification costume crafts. May be repeated for a maximum of 6 hours credit. PREREQUISITE: permission of instructor.

THEA 6558 - Visual History II (3)
Design aesthetics of selected historical periods from the Victorian era through the twentieth century as applied to theatrical design. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 6559 - Thea/African Diaspora (3)
Exploration of selected playwrights and theatre practitioners of West and South African, Caribbean, and African American descent. Includes performance projects. May be repeated for a maximum of 6 credit hours when content varies. Offered alternate years. PREREQUISITE: Permission of the instructor.

THEA 6571 - Playwriting (3)
Theory and principles of writing plays for the stage; practice in writing either the short or long play. May be repeated for a maximum of 9 hours. Offered alternate years.

THEA 6592 - Thtr Arch/Facilty Plan (3)
Processes and techniques employed by theatre planners in design and construction/renovation of theatrical spaces and structures; includes survey of theatre forms, historical development of theatrical structures and spaces, programming methods and procedures, specification, renovation techniques, multi-use structure concepts, and consultation procedures and practices. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 6595 - Sound Technology (3)
Technical principles that support areas of theatrical sound design; includes digital and analog equipment, audio signal theory and technologies, systems design, software, operational principles and procedures for theatrical sound engineers. Offered alternate years. May be repeated for a maximum of 6 hours credit with permission of instructor.

THEA 6631 - Acting For Film And TV (3)
Educational experience for the actor in the media of film and television. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 7440 - Sem Critial Studies (3)
Advanced studies in theatre criticism, dramatic literature, and theatre history; methods of scholarly research appropriate for the dramaturg and producing artist; semester topics alternate among studies of selected authors, periods, genres, and theatre movements. Repeatable for a maximum of 9 hours when topic varies. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 7521 - Stage Direction (3)
Processes of stage direction from script interpretation to rehearsal and performance with emphasis on the collaborative interplay between stage director and designer; traditional and non-traditional theatrical modes; directing projects required.

THEA 7526 - Directing Studio (3)
Seminar/practicum investigation of advanced techniques of the stage director; styles of production, creative interpretation of established dramatic literature and/or creation of original work for the stage. Directing project required. Repeatable for a maximum of 9 hours. PREREQUISITE: THEA 7521.

THEA 7553 - Styles Of Directing (3)
Production styles and methodologies evidenced in art of major modern directorial innovators. Directing projects required. Repeatable for a maximum of 6 hours with permission of instructor. Offered alternate years.

THEA 7554 - Seminar In Directing (3)
Conceptual and practical studies in stage direction with emphasis on the collaborative interplay between stage director and actor. Directing projects required. Repeatable for a maximum of 6 hours with permission of instructor. PREREQUISITE: Permission of instructor. Offered alternate years.

THEA 7560 - Studies Dsgn/Tech Prod (3)
Individually supervised design and technical production projects in areas of scenery, costumes, lighting, and sound. Repeatable for a maximum of 9 hours. PREREQUISITE: Permission of instructor.

THEA 7561 - Scenic Design Studio (3)
Studio explorations of creative design process and its relation to theatrical space and environment; emphasis on analysis, creative expression, and portfolio development involving two- and three-dimensional scenic design projects. Offered alternate years.

THEA 7562 - Lighting Design Studio (3)
Aesthetic principles and practical methodologies for design of lighting: expression of style in various theatrical forms and modes of production; includes research, criticism, project work. Offered alternate years. PREREQUISITES: THEA 6556 or permission of instructor.

THEA 7563 - Costume Design Studio (3)
Exploration/application of aesthetic principles and practical production concerns of costume design; special consideration to interpretation of dramatic text through design and fabrication, employing a variety of rendering processes in the studio environment. Emphasis on professional practice for the entertainment industry, and portfolio development. Offered alternate years. PREREQUISITE: permission of instructor.

THEA 7564 - Thea Collab & Style (3)
Exploration of elements of style as they pertain to concept development for theatrical production; engagement in dynamics of the collaborative process.

THEA 7566 - Sound Design Studio (3)
Seminar and practicum in the style and process of theatrical sound design. PREREQUISITE: THEA 6595 or permission of instructor. Offered alternate years.

THEA 7571 - Advanced Playwriting (3)
Continuation of theories and practice of playwriting with the objective of achieving a finished script, ready for production. May be repeated for maximum of 6 hours. Offered alternate years. PREREQUISITE: Permission of instructor.

THEA 7581 - Sem Drama Theory/Crit (3)
Major documents in dramatic theory and criticism from Aristotle to present. Offered alternate years.
THEA 7582 - Analysis Dramatic Lit (3)
The dramatic text as basis for unified and purposeful production concept; advanced techniques of director and scenographer used to solve artistic/practical problems of specific plays. Offered alternate years.

THEA 7592 - Theatre Plan & Mgmt (3)
Principles of theatre planning and management for educational and regional theatres.

THEA 7600 - Internship (1-6)
Supervised work completed in a professional setting. Repeatable for a maximum of 6 hours. PREREQUISITE: Permission of the advisory committee. Grades of S, U, or I will be given.

THEA 7993 - Special Problems (1-3)
THEA - Special Problems (1-3) Directed individual investigation of special research. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor. Grades A-F will be given.

THEA 7995 - Production Practicum (3-6)
Creative performance or production project suitable for public presentation and/or a practical application. Project to be determined in consultation with and directed by the student's supervisory committee. Grades of S, U, or I will be given.

DANCE (DANC)

In addition to the courses below, the department may offer the following Special Topics courses:

DANC 6000-6029. Special Topics in Dance. (1-3). Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours.

DANC 6101 - Dance Repertory (3)
Exploration of stylistic, technical, and expressive elements in rehearsal and performance; may include notated works, faculty, and guest artist choreography. May be repeated for maximum of 9 hours. (Offered alternate years). PREREQUISITE: Permission of instructor.

DANC 6201 - Dance Composition (3)
Investigation of movement sources and development of elements of choreographic craft; emphasis on solo and duet work. May be repeated for maximum of 6 hours with permission of instructor. (Offered alternate years).

DANC 6202 - Adv Dance Composition (3)
Continued investigation of movement sources and choreographic craft from concept development through
rehearsal and performance; emphasis on group forms and working with music. May be repeated for a maximum of 6 hours credit. (Offered alternate years). PREREQUISITE: DANC 6201 or permission of instructor.

DANC 6301 - Directed Studies Dance (1-3)
Individual study, research, or practicum. May be repeated for maximum of 12 hours. PREREQUISITE: Permission of instructor.

DANC 6402 - Dance Ed/Diverse Settng (3)
Theory, methods, and materials for teaching Modern and Creative Dance in schools, dance studios, arts programs, and community settings; includes current research in aesthetic education and curriculum development. Offered alternate years.
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COUNSELING SERVICES (COUN)

In addition to the courses below, the department may offer the following Special Topics courses:
COUN 7006-15. Special Topics in Counseling and Personnel Services. (1-3). Study of current topics in the area of counseling and personnel services. May be repeated with a change in content.

COUN 7820-29–8820-29. Special Topics in Counseling. (1-3). Study of current topics in the area of counseling. May be repeated with a change in content; see on-line class listings for topics. PREREQUISITE: Permission of instructor.

COUN 6611 - Intro To Counseling (3)
Exploration of history, principles and administration of counseling services in community agencies, schools, business, and industry. Survey of applicable counseling services, skills, and techniques.

COUN 6781 - Strat Crisis Intrvntn (3)
Process of crisis intervention; study and practice in understanding crisis-induced dysfunctional behavior, recognizing crisis situations, and crisis counseling procedures.

COUN 6783 - Alcohol/Drug Abuse Ser (3)
Survey of human services for treating alcoholics and substance abusers; overview of treatment strategies and philosophies.

COUN 6901 - Prin/Tech/Rehab Counsel (3)
Overview of the broad field of rehabilitation, including the philosophical, social, psychological, and legal basis of rehabilitation, professional practice, and the counselor's role and function in the rehabilitation process.

COUN 6913 - Med/Psyc Aspects/Rehab (3)
Orientation to medical profession and its relationship to rehabilitation counseling; basic medical terminology, bodily systems, and DSM diagnosis; theories, application, and research in psychological adjustment of individuals with disabilities; understanding impact of external/environmental conditions on lives of individuals with disabilities. PREREQUISITE: Admission to master's program in counseling.

COUN 6921 - Vocational Dev/Occ Info (3)
Collection, evaluation, and use of occupational, educational, and related information in rehabilitation; familiarity with development of job descriptions and vocational surveys; study of labor market trends and theories of occupational choice.

COUN 7411 - Foundatns of Counseling (3)
Introduction to professional roles, responsibilities, and identity of counselor; counseling ethics, credentials, and sociocultural context of counseling. PREREQUISITE: Enrollment in COUN degree program or consent of instructor.

COUN 7531 - Group Counseling Procss (3)
Organization and maintenance of effective groups; group participation, projects and readings to aid students in delineating their roles in various group settings. PREREQUISITE OR COREQUISITE: COUN 7411.

**COUN 7541 - Theories Counsel & Pers (3)**
(7581-8581). Person-centered, behavioral, cognitive-behavioral, reality, rational-emotive, Gestalt, psychoanalytic, and other appropriate theories; emphasis on theoretical concepts, principles, and dynamics as applied in practice. PRE- or COREQUISITE: COUN 7411. PREREQUISITE: Enrollment in COUN degree program or consent of instructor.

**COUN 7542 - Theories Chld Coun/Cons (3)**
(7582-8582). Course provides an introduction to counseling children and adolescents as a means of facilitating healthy development and promoting academic achievement. Through didactic and experiential learning, students in school-based helping professions will develop skills to utilize child centered communication, creative therapies, consultation, and identify and implement theoretically and developmentally informed interventions.

**COUN 7551 - Assessment Techniques (3)**
(7651-8651). The basic principles, test and non-test appraisal instruments, and skills of diagnosis; selection, use, and interpretation of such instruments appropriate for individual appraisal. PREREQUISITE: EDPR 7511 or 7521; enrollment in COUN degree program or consent of instructor.

**COUN 7561 - Career Counseling (3)**
(7661-8661). Process of career development and planning, career and lifestyle counseling, planning, and development. PREREQUISITE OR COREQUISITE: COUN 7411. PREREQUISITE: Enrollment in COUN degree program or consent of instructor.

**COUN 7571 - Clinical Techniques (3)**
(7690-8690). Implementation and practice of counseling theories; modeling, practice, and critique of counseling skills. PREREQUISITE: COUN 7411; 7541 or 7542; enrollment in COUN degree program or consent of instructor.

**COUN 7630 - Clinical Mental Health Coun (3)**
Overview of skills and knowledge unique to mental health counselors; topics include but not limited to: mental health service delivery, assessment for mental disorders, psychotropic medications, the history of mental health counseling, advocacy, social justice, and preventive mental health concepts. PREREQUISITE: COUN 7411, 7531, 7541, 7561 and enrollment in COUN degree program or consent of instructor. PRE- OR COREQUISITE: COUN 7551.

**COUN 7631 - Pract Mental Health Coun (3)**
(7892-8892). Supervised counseling experience in a community/mental health setting with varied clientele. The student will be involved in individual and group counseling activities appropriate to the setting. 150 hours.
PREREQUISITE: COUN 7411, 7531, 7541, 7551, 7561, 7571, 7750, 7630; CPSY 7700; EDPR 7117, 7521; and program approval. Grades of S, U, or IP will be given.

COUN 7632 - Intern Cmty/Mntl Hlth (4-9)
(7698-8698). Supervised counseling experience in an appropriate community/mental health setting. The student will be involved in agency services for a minimum of 300 hours (half-time, for 4 hours) or 600 hours (full-time, for 9 hours). May be repeated by half-time students for a maximum of 9 semester hours. PREREQUISITE: COUN 7631 and program approval. Grades of S, U, or IP will be given.

COUN 7640 - Principles Schl Couns (3)
Organization and administration of components of counseling services in schools, role and function of the school counselor in K-12 system. PREREQUISITE: COUN 7411; enrollment in a school counseling degree program or consent of instructor.

COUN 7641 - Prac Elem Sch Coun (3)
(7692-8692). Supervised counseling with pre K-6 elementary age children; group discussions and individual interviews provide the student opportunities to interact with elementary children in a variety of multicultural settings; practice in appropriate techniques in interaction with elementary children. 150 hours. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 7642 - Intern Elem Sch Coun (3-6)
(7697). Supervised counseling experience in working with pre K-6 elementary school-aged children in multicultural settings. The student will be involved in services for a minimum of 300 (or half-time for 4 hours) or 600 (or full-time for 6 hours). May be repeated by half-time students for a maximum of 6 semester hours. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 7643 - Prac Middle School Coun (3)
Supervised counseling with adolescents in middle multicultural settings; assistance with individuals and groups and practice in providing assistance in educational, occupational, and personal decision making. 150 hours. PREREQUISITE: completion of core school counseling courses and permission of advisor.

COUN 7644 - Intern Middle School Coun (3-6)
Supervised counseling experience in working with adolescents in middle multicultural settings. The student will be involved in services for a minimum of 300 (or half-time for 4 hours) or 600 (or full-time for 6 hours). May be repeated by half-time students for a maximum of 6 semester hours. PREREQUISITE: all core school counseling courses taken plus practicum and advisor permission.

COUN 7645 - Prac Sec School Coun (3)
(7691-8691). Supervised counseling with adolescents in middle and/or high school multicultural settings; assistance with individuals and groups and practice in providing assistance in educational, occupational, and
personal decision making. 150 hours. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 7646 - Intern Sec Sch Coun (3-6)
(7696-8696). Supervised counseling experience in working with adolescents middle and/or high school multicultural settings. The student will be involved in services for a minimum of 300 (or half-time for 4 hours) or 600 (or full-time for 6 hours). May be repeated by half-time students for a maximum of 6 semester hours. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 7700 - Spiritual Issues in Counseling (3)
Various spiritual worldviews and issues as well as counseling interventions and ethical concerns will be discussed in the context of recently developed multicultural and spiritual counseling competencies. This course focuses on the importance of spiritual and/or religious values and beliefs that impact the mental health and emotional well being of persons living in diverse communities. PREREQUISITE: COUN 7411, 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7710 - Alcohol/Drug Coun (3)
Process of counseling alcoholic and drug dependent persons; modalities of treatment, philosophy of treatment and referral. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7720 - Sys Develp Family Thrpy (3)
(7780). Systems theory applied to families as a framework for family therapy; analysis of family systems at different stages of the family life cycle; history of family therapy, research, and professional ethical issues. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7721 - Thry/Tchnqs Fam Thrpy (3)
(8781). Major approaches to family therapy: structural, Bowenian, strategic, behavioral, communications, experiential, object relations; techniques and assumptions, traditional and current practices. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program.

COUN 7722 - Couple Coun/Therapy (3)
(8782). Marital and couple counseling and problem situations; phases of therapy, ethical dilemmas, research methodology in couple/family dysfunction. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7723 - Hum Sexulty Coun/Psyc (3)
Attitudes, values, beliefs, and theoretical concerns related to human sexuality; counseling strategies for individuals and couples regarding sex-related issues. PREREQUISITE: enrollment in a COUN or CPSY degree program or consent of instructor.
COUN 7730 - Crisis Intrvntn Coun (3)
Study and practice in understanding crisis theory and crisis-induced dysfunctional behavior, recognizing crisis situations, and the application of crisis intervention methods and strategies to help people in emotional crises return to a state of cognitive, affective, and behavioral equilibrium and functional coping. PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7740 - Coun Victmzd Chld/Fam (3)
This course is designed to familiarize students with issues related to counseling sexually victimized children and their families. PREREQUISITE: COUN 7411, 7541 or 7542, and enrollment in a COUN or CPSY degree program, or consent of instructor.

COUN 7750 - Multicultural Counseling (3)
(8784). Theory and research on individual and group multicultural counseling with particular attention to ethnic and racial sectors of society in the US. PREREQUISITE: COUN 7411, 7541 and enrollment in a COUN or CPSY degree program, or consent of instructor.

COUN 7751 - Gender Issues In Coun (3)
(8783). Current issues related to counseling women and men including developmental theory, awareness of sex role socialization and biases, and appropriate approaches to counseling women and men. PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7752 - Coun Gay/Lesbian/Bisexl (3)
Gay, lesbian, and bisexual issues in counseling and psychotherapy; affirmative psychotherapy techniques and gay, lesbian, bisexual, and transgender issues, including identity formation, homophobia and heterosexism, relationships, parent and family dynamics, ethnic minorities, religion and morality, gender roles, AIDS/HIV, and suicidal ideation. PREREQUISITE: Enrollment in a COUN or CPSY degree program.

COUN 7770 - Consult Theories/Pract (3)
prerequisite: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 7771 - Clinical Hypnotherapy (3)
Explores theoretical views and pragmatic application of clinical hypnosis for therapeutic purposes; students will master basic therapeutic skills and ethical standards of clinical hypnosis while exploring pragmatic applications and limitations of various hypnotherapy techniques in counseling. PREREQUISITE: COUN 7571 and enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 7780 - Seminar In Counseling (1-3)
(7672-8672). Devoted to current concerns and methodology in counseling. May be repeated for a maximum of 9 hours credit. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.
COUN 7790 - Spc Prblms In Coun (1-3)
(7993). Individual investigation and report in the area of counseling under the direction of a faculty member. May be repeated for a maximum of 9 hours. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor. Grades of A-F, or IP will be given.

COUN 7821 - Clinical Supervision of COUN (3)
Study of current topics in the area of counseling. May be repeated with a change in content; see on-line class listings for topics. PREREQUISITE: Permission of instructor.

COUN 7824 - College Admission Counseling (3)
This online course is designed to provide systematic training in counseling for the college admission and selection process. Students will be introduced to concepts and practical skills required for competency in working with diverse college applicant populations (e.g., the first generation college student, the learning disabled, the student athlete). The course will consist of remote lectures, presentations, learning activities, video viewings, class discussions boards, and a mini field-work placement designed to enhance knowledge of the college admission and selection process. Topics will include addressing inequities in college access and college-going, organizing a college counseling office, and developing a college-going high school culture.

COUN 7825 - Strategies Career Coun in K-12 (3)
This online course emphasizes a practical application of career theory to school settings to assist all students plan for life beyond high schools. The adoption of career and college readiness standards by an increasing number of states has created a need for school counselors to lead efforts to design and implement comprehensive K-12 career planning programs. This course aims to build specialization as participants develop the skills to design and implement cohesive career guidance programs informed by developmental theory, assessment, and the career decision-making process.

COUN 7826 - Schl Coun to Close Achvmnt Gap (3)
The education system is considered the premier vehicle for social mobility, yet student achievement data, graduation and matriculation rates continue to reflect broad societal inequalities. The purpose of this course is to train school counselors to assist marginalized students overcome the societal, familial, and educational barriers that impede positive educational and career outcomes. This course focuses on developing school counselor’s leadership and advocacy skills to design strategic guidance programs grounded in evidence based practices that target the achievement gap and facilitate educational equity for all students.

COUN 7827 - Capstone College & Career Coun (3)
The purpose of this capstone course is to provide students the opportunity to synthesize their knowledge of college and career counseling and develop their expertise in a field based setting of their choice. Students will spend between 45 to 100 hours in the field depending on the nature of their assignment (research or practice). Students are required to secure a field setting and approval from the program coordinator in advance of commencing this class. Students can choose from a broad array of field placements and activities reflecting their interests and
intended specialization.

COUN 7841 - Adv Coun Thry & Tech (3)
(CPSY 7784-8784). Critical analysis of selected theories and techniques of counseling; emphasis on a variety of major theories and systems; provides a thorough theoretical base for developing a consistent approach to professional counseling. PREREQUISITE: COUN 7541 or 7542, enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 7885 - Legal/Eth Issues Coun (3)
(CPSY 7785-8785). Examination of existing and needed legislation affecting counseling and psychology, review of critical court cases; ethical standards of professional counseling and psychological organizations; survey of responsibilities and liabilities. PREREQUISITE: Enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 7905 - Case Mgmt In Counseling (3)
Introduction to case management and procedures used in counseling and other human service settings; development of a conceptual understanding of case management, and ability to apply this knowledge to different types of populations and different types of treatment settings. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.

COUN 7912 - Intro Psych Rehab Coun (3)
Psychiatric rehabilitation concepts and principles, techniques, history, treatment settings and modalities; emphasizing issues central to mental health consumers such as empowerment, the consumer movement, family intervention, cross-cultural issues, recovery and reintegration within the community. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.

COUN 7941 - Prac In Rehab Counsel (3)
Supervised counseling experiences with persons with disabilities; application of appropriate theories, principles, and practices to personal counseling. PREREQUISITE: COUN 6901, 7411, 7531, 7541, 7571, and 7750; COUN program approval. Grades of S, U, or IP will be given.

COUN 7942 - Internshp Rehab Counsel (4-9)
Supervised field experiences in cooperation with the state rehabilitation agency and other human service agencies and facilities. PREREQUISITE: COUN 6913, 6921, 7551, 7912, 7941, and EDPR 7521; COUN program approval. Grades of S, U, or IP will be given.

COUN 8000 - Spec Culmn Experience (1-6)
Thesis, internship, field study, or special project designed under the direction of student's committee; serves as capstone experience in the Education Specialist Program. Grades of S, U, or IP will be given.
COUN 8501 - Doctoral Sem Coun (1-3)
Professional seminar designed for beginning doctoral students in counseling focuses on the development of professional identity as a leader in counseling; critical philosophical issues; research; new directions in theory and techniques; issues in counselor education and practice. Can be repeated for maximum of 3 credit hours.

COUN 8502 - Coun Residency Resrch Semn (3)
Supervised construction of the residency research project. Either under individual supervision or in concert with a research team completion of a research project suitable for publication in a national referred journal or presentation at a refereed professional conference. PREREQUISITE: COUN 8501.

COUN 8510 - Counselor Supervision (3)
(CPSY 7786-8786). Critical analysis of theories of counselor supervision, techniques associated with theories, and assessment of those supervision models; survey of research on counseling supervision issues. PREREQUISITE: Doctoral standing and Program approval.

COUN 8511 - Practicum in Counseling (3)
Supervised experience in appropriate settings; the student will be involved in varied supervision activities as needed. 150 hours. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 8512 - Teaching Counselor Education (3-6)
Supervised teaching of graduate students in a counseling course. Responsibilities include curriculum and syllabus construction, clinical critique, lecture development and delivery, course assessment, and other pedagogical activities to develop graduate teaching abilities in counselor education. PREREQUISITE: COUN 8501.

COUN 8530 - Doctoral Intern Counseling (3-12)
(7699/8699). Supervised experience in counseling and personnel services; complements course study with on-site professional experience focused on programmatic, career, and individual student goals. PREREQUISITE: Program approval. Grades of S, U, or IP will be given.

COUN 8571 - Clinical Techniques (3)
(7690-8690). Implementation and practice of counseling theories; modeling, practice, and critique of counseling skills. PREREQUISITE: COUN 7411; 7541 or 7542; enrollment in COUN degree program or consent of instructor.

COUN 8630 - Clinical Mental Health Coun (3)
Overview of skills and knowledge unique to mental health counselors; topics include but not limited to: mental health service delivery, assessment for mental disorders, psychotropic medications, the history of mental health counseling, advocacy, social justice, and preventive mental health concepts. PREREQUISITE: COUN 7411, 7541, and enrollment in COUN degree program or consent of instructor. PRE- OR COREQUISITE: COUN 7551.

COUN 8640 - Principles Schl Couns (3)
Organization and administration of components of counseling services in schools, role and function of the school counselor in K-12 system. PREREQUISITE: COUN 7411; enrollment in a school counseling degree program or consent of instructor.

COUN 8700 - Spiritual Issues in Counseling (3)
Various spiritual worldviews and issues as well as counseling interventions and ethical concerns will be discussed in the context of recently developed multicultural and spiritual counseling competencies. This course focuses on the importance of spiritual and/or religious values and beliefs that impact the mental health and emotional well being of persons living in diverse communities.

COUN 8710 - Alcohol/Drug Coun (3)
Process of counseling alcoholic and drug dependent persons; modalities of treatment, philosophy of treatment and referral. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8720 - Sys Develp Family Thrpy (3)
Systems theory applied to families as a framework for family therapy; analysis of family systems at different stages of the family life cycle; history of family therapy, research, and professional ethical issues. PREREQUISITE: COUN 7541 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8721 - Thry/Tchnqs Fam Thrpy (3)
Major approaches to family therapy: structural, Bowenian, strategic, behavioral, communications, experiential, object relations; techniques and assumptions, traditional and current practices. PREREQUISITE: COUN 7720 and enrollment in a COUN or CPSY degree program.

COUN 8722 - Couple Coun/Therapy (3)
Marital and couple counseling and problem situations; phases of therapy, ethical dilemmas, research methodology in couple/family dysfunction. PREREQUISITE: COUN 7720 and enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8723 - Hum Sexulty Coun/Psyc (3)
Attitudes, values, beliefs, and theoretical concerns related to human sexuality; counseling strategies for individuals and couples regarding sex-related issues. PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8730 - Crisis Intrvntn Coun (3)
Study and practice in understanding crisis theory and crisis-induced dysfunctional behavior, recognizing crisis situations, and the application of crisis intervention methods and strategies to help people in emotional crises return to a state of cognitive, affective, and behavioral equilibrium and functional coping. PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.
COUN 8740 - Coun Victmzd Chld/Fam (3)
This course is designed to familiarize students with issues related to counseling sexually victimized children and their families. PREREQUISITE: COUN 7411, 7541 or 7542, and enrollment in a COUN or CPSY degree program, or consent of instructor.

COUN 8750 - Multicultural Counseling (3)
(8784). Theory and research on individual and group multicultural counseling with particular attention to ethnic and racial sectors of society in the US. PREREQUISITE: COUN 7411, 7541 and enrollment in a COUN or CPSY degree program, or consent of instructor.

COUN 8751 - Gender Issues In Coun (3)
(8783). Current issues related to counseling women and men including developmental theory, awareness of sex role socialization and biases, and appropriate approaches to counseling women and men. PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8752 - Coun Gay/Lesbian/Bisexl (3)
Gay, lesbian, and bisexual issues in counseling and psychotherapy; affirmative psychotherapy techniques and gay, lesbian, bisexual, and transgender issues, including identity formation, homophobia and heterosexism, relationships, parent and family dynamics, ethnic minorities, religion and morality, gender roles, AIDS/HIV, and suicidal ideation. PREREQUISITE: Enrollment in a COUN or CPSY degree program.

COUN 8770 - Consult Theories/Pract (3)
PREREQUISITE: Enrollment in a COUN or CPSY degree program or consent of instructor.

COUN 8771 - Clinical Hypnotherapy (3)
Explores theoretical views and pragmatic application of clinical hypnosis for therapeutic purposes; students will master basic therapeutic skills and ethical standards of clinical hypnosis while exploring pragmatic applications and limitations of various hypnotherapy techniques in counseling. PREREQUISITE: COUN 7571 and enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 8780 - Seminar In Counseling (1-3)
(7672-8672). Devoted to current concerns and methodology in counseling. May be repeated for a maximum of 9 hours credit. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.

COUN 8790 - Spc Prblms In Coun (1-3)
(7993). Individual investigation and report in the area of counseling under the direction of a faculty member. May be repeated for a maximum of 9 hours. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor. Grades of A-F, or IP will be given.
COUN 8824 - College Admission Counseling (3)
This online course is designed to provide systematic training in counseling for the college admission and selection process. Students will be introduced to concepts and practical skills required for competency in working with diverse college applicant populations (e.g., the first generation college student, the learning disabled, the student athlete). The course will consist of remote lectures, presentations, learning activities, video viewings, class discussions boards, and a mini field-work placement designed to enhance knowledge of the college admission and selection process. Topics will include addressing inequities in college access and college-going, organizing a college counseling office, and developing a college-going high school culture.

COUN 8825 - Strategies Career Coun in K-12 (3)
This online course emphasizes a practical application of career theory to school settings to assist all students plan for life beyond high schools. The adoption of career and college readiness standards by an increasing number of states has created a need for school counselors to lead efforts to design and implement comprehensive K-12 career planning programs. This course aims to build specialization as participants develop the skills to design and implement cohesive career guidance programs informed by developmental theory, assessment, and the career decision-making process.

COUN 8826 - Schl Coun to Close Achvmnt Gap (3)
The education system is considered the premier vehicle for social mobility, yet student achievement data, graduation and matriculation rates continue to reflect broad societal inequalities. The purpose of this course is to train school counselors to assist marginalized students overcome the societal, familial, and educational barriers that impede positive educational and career outcomes. This course focuses on developing school counselor’s leadership and advocacy skills to design strategic guidance programs grounded in evidence based practices that target the achievement gap and facilitate educational equity for all students.

COUN 8827 - Capstone College & Career Coun (3)
The purpose of this capstone course is to provide students the opportunity to synthesize their knowledge of college and career counseling and develop their expertise in a field based setting of their choice. Students will spend between 45 to 100 hours in the field depending on the nature of their assignment (research or practice). Students are required to secure a field setting and approval from the program coordinator in advance of commencing this class. Students can choose from a broad array of field placements and activities reflecting their interests and intended specialization.

COUN 8831 - Adv Group Processes (3)
(CPSY 7731-8731). Advanced study of group processes as applied to counseling and student services; activities, functions, and dynamics of groups will be studied with actual experience and group work included.
PREREQUISITE: COUN 7531 and advanced standing in Counseling program or permission of instructor.

COUN 8841 - Adv Coun Thry & Tech (3)
(CPSY 7784-8784). Critical analysis of selected theories and techniques of counseling; emphasis on a variety of
major theories and systems; provides a thorough theoretical base for developing a consistent approach to professional counseling. PREREQUISITE: COUN 7541 or 7542, enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 8885 - Legal/Eth Issues Coun (3)
(CPSY 7785-8785). Examination of existing and needed legislation affecting counseling and psychology, review of critical court cases; ethical standards of professional counseling and psychological organizations; survey of responsibilities and liabilities. PREREQUISITE: Enrollment in a COUN or CPSY degree program or permission of instructor.

COUN 8905 - Case Mgmt In Counseling (3)
Introduction to case management and procedures used in counseling and other human service settings; development of a conceptual understanding of case management, and ability to apply this knowledge to different types of populations and different types of treatment settings. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.

COUN 8912 - Intro Psych Rehab Coun (3)
Psychiatric rehabilitation concepts and principles, techniques, history, treatment settings and modalities; emphasizing issues central to mental health consumers such as empowerment, the consumer movement, family intervention, cross-cultural issues, recovery and reintegration within the community. PREREQUISITE: Enrollment in a COUN degree program or permission of instructor.

COUN 9000 - Dissertation (1-9)
Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. PREREQUISITE: Pass comprehensive exam, late doctoral status. Grades of S, U, or IP will be given.

COUNSELING PSYCHOLOGY (CPSY)

In addition to the courses below, the department may offer the following Special Topics courses:

CPSY 8570-8574. Special Topics in Counseling Psychology. (3). Current topics in counseling psychology. May be repeated with a change in content.

CPSY 7700 - Intrvntns Mntl Disordrs (3)
Covers assessment and diagnosis of mental disorders utilizing DSM-IV classification system and common counseling approaches for each of the major mental disorders; includes current understandings of the etiology, prevention, and treatment of each mental disorder; differential diagnosis using the DSM-IV manual; counseling
approaches and case management; and psychopharmacology. PREREQUISITE: COUN 7630.

CPSY 7798 - Soc Just Coun & CPSY I (3)
Covers issues of social justice in counseling and counseling psychology and provides students with the opportunity to apply their knowledge to a local social justice issue through collaborative consultation, program evaluation, or clinical intervention. PREREQUISITE: COUN 7750-8750, Enrollment in COUN or CPSY graduate programs.

CPSY 7799 - Soc Just Coun & CPSY II (3)
Covers issues of social justice in counseling and counseling psychology in international settings. Provides students with the opportunity to apply their knowledge to an international social justice issue through collaborative consultation, program evaluation, or clinical intervention. Capstone of the course is a two-week immersion experience in another country. PREREQUISITE: COUN 7750-8750, Enrollment in COUN or CPSY graduate programs.

CPSY 8008 - Directed Readings CPSY (1-3)
Individually directed reading with written report required. May be repeated for maximum of 9 hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

CPSY 8101 - Found Coun Psyc (3)
(7684-8684). Designed to orient students and initiate their identification with the profession of Counseling Psychology; including history and future of Counseling Psychology; current issues in the field; and introduction to research, legal/ethical, and professional standards. PREREQUISITE: Enrolled in CPSY program.

CPSY 8102 - Seminar In Grp Cpsy (3)
(8793). Theoretical-philosophical and research base of group counseling and psychotherapy; supervised application. PREREQUISITE: Doctoral student.

CPSY 8200 - Coun Psyc Practicum (3-6)
(8694). Critical analysis of actual counseling interviews; various methods employed for recording and observing counseling sessions such as audio and video tapes and one-way vision screens. May be repeated for maximum of 12 semester hours. PREREQUISITE: Enrolled in CPSY program. Grades of S, U, or IP will be given.

CPSY 8201 - Prfsnl Issues Cpsy (3)
Focus on professional identity, Counseling Psychology research, and legal/ethical issues; emphasizing professional issues, applications, and reading related to diversity and the urban environment. PREREQUISITE: Enrolled in CPSY program.

CPSY 8202 - Vocational Psychology (3)
(COUN 8769). Analysis of career development theory and research as applied to practice of career counseling; variables affecting career development in diverse populations. PREREQUISITE: COUN 7561 or equivalent.
CPSY 8203 - Sem Coun/Coun Psy Res (3)
(7683-8683). Designed to give the advanced graduate student in counseling or counseling psychology and research the opportunity to explore current research and research methodology and to design a research project. PREREQUISITES: Completion of 6 credit hours of statistics, and enrollment in CPSY PhD program or Counseling EdD program.

CPSY 8204 - Coun & Coun Psy Rsrch I (3)
Intensive instruction in research design and implementation specific to Counselor Education and Counseling Psychology; addresses developing a research idea, literature review, design/methodology, data collection, writing, and supplementary topics, providing skills necessary to critique and conduct research.

CPSY 8300 - Adv Prac Coun Psyc (3)
Doctoral students who have completed 400 hours of required practicum will explore targeted clinical issues and populations in depth; combines didactic, experiential, and process components. May be repeated for a maximum of 6 credit hours. PREREQUISITE: 6 hours of CPSY 8200. Grades of S, U, or IP will be given.

CPSY 8501 - Coun Psyc Research (1-3)
(7790-8790). Supervised practice in developing, designing, conducting, writing, and reporting on a variety of investigative formats in counseling research. May be repeated for a maximum of 12 semester hours. PREREQUISITE: Enrolled in CPSY program or consent of the instructor. Grades of A-F, or IP will be given.

CPSY 8573 - Resil/Wellns/Well Being (3)
Current topics in counseling psychology. May be repeated with a change in content. Grades of A-F, or IP will be given.

CPSY 8575 - Adult Pers Assessmnt (3)
Administration, scoring, and interpretation of psychodiagnostic instruments for individual personality assessment in adults. PREREQUISITE: CPSY 8700 or permission of instructor.

CPSY 8576 - Adult Cog Assessment (3)
Explores concepts of intelligence and cognition in adults, analyzes issues and controversies related to assessment of cognitive functioning, and develops competency in administration, scoring, and interpretation of assessment instruments. PREREQUISITE: Master's level assessment course or permission of instructor.

CPSY 8577 - Supervisn in Coun Psyc (3)
Implementation and critical analysis of theories of counseling psychology supervision, strategies associated with these theories, and assessment of supervision models; surveys research on issues related to supervision in counseling psychology. PREREQUISITE: CPSY 8200.
CPSY 8578 - Constructivist Psychotherapy (3)
Intensive experiential and coherence based psychotherapy course. Focus is on participation, demonstration, and clinical self awareness. Prerequisite: Counseling psychology doctoral student or consent of instructor.

CPSY 8600 - Coun Psyc Seminar (1-3)
Devoted to current concerns and methodology in Counseling Psychology. May be repeated for a maximum of 9 semester hours. PREREQUISITE: Doctoral student in Counseling, Counseling Psychology or consent of the instructor.

CPSY 8700 - Intrvntns Mntl Disordrs (3)
Covers assessment and diagnosis of mental disorders utilizing DSM-IV classification system and common counseling approaches for each of the major mental disorders; includes current understandings of the etiology, prevention, and treatment of each mental disorder; differential diagnosis using the DSM-IV manual; counseling approaches and case management; and psychopharmacology. PREREQUISITE: COUN 7630.

CPSY 8790 - Spc Prblms in Coun Psychology (1-3)
Individual investigation and report in the area of counseling psychology under the direction of a faculty member. May be repeated for a maximum of 9 hours. PREREQUISITE: Enrollment in COUN or CPSY doctor program or permission of instructor. Grades of A-F, or IP will be given.

CPSY 8798 - Soc Just Coun & CPSY I (3)
Covers issues of social justice in counseling and counseling psychology and provides students with the opportunity to apply their knowledge to a local social justice issue through collaborative consultation, program evaluation, or clinical intervention. PREREQUISITE: COUN 7750-8750, Enrollment in COUN or CPSY graduate programs.

CPSY 8799 - Soc Just Coun & CPSY II (3)
Covers issues of social justice in counseling and counseling psychology in international settings. Provides students with the opportunity to apply their knowledge to an international social justice issue through collaborative consultation, program evaluation, or clinical intervention. Capstone of the course is a two-week immersion experience in another country. PREREQUISITE: COUN 7750-8750, Enrollment in COUN or CPSY graduate programs.

CPSY 8800 - Predoctoral Intrnshp (3-6)
Supervised internship in setting accredited by American Psychological Association or listed in APPIC directory. May be repeated for maximum of 9 semester hours. PREREQUISITE: Completion of all coursework, comprehensive examinations, and approval of dissertation topic. Grades of S, U, or IP will be given.

CPSY 9000 - Dissertation (1-12)
Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. Grades of S, U, or IP will be
EDUCATIONAL PSYCHOLOGY AND RESEARCH (EDPR)

In addition to the courses below, the department may offer the following Special Topics courses:

EDPR 7001-06–8001-8006. Special Topics in Educational Psychology and Research. (1-3). (EDFD 7006-7015-8006-8015). Current topics in educational psychology and research. May be repeated with a change in content.

EDPR 7000 - Research Project (1-6)
Research project that is designed and completed under direction of student's advisor; capstone experience for Master's degree program. May be repeated for a maximum of 6 credit hours. Grades of S, U, or IP will be given.

EDPR 7006 - Interview Children for Research (3)
This seminar is designed to help graduate students become familiar with concepts, approaches, and methods of conducting interviews with children for research purposes.

EDPR 7008 - Directed Readings (1-3)
(EDFD 7008). Individually directed reading; written report required, may be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

EDPR 7009 - Practicum Ed Psych (3-6)
(EDPS 7109). Supervised experience in application of educational psychology and research principles and procedures for training activities in educational, industrial, or community settings. May be repeated for a maximum of 6 hours. PREREQUISITE: Permission of instructor and approval of major advisor. Grades of S, U, or IP will be given.

EDPR 7081 - Supervised Research (1-6)
(EDFD 7081). Collaborative research with faculty within the major to include planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 hours. PREREQUISITE: Minimum of 12 hours in major and permission of instructor Grades of A-F, or IP will be given.

EDPR 7109 - Infant Development (3)
(EDPS 7109-8109). Infancy and toddlerhood from developmental research issues perspective; empirical studies and contemporary issues relating to factors influencing infant development.

EDPR 7110 - Erly Chldhd Dvlpmnt (3)
Introduction to contemporary theories, research and issues in young children’s physical, cognitive, social, and emotional development with an emphasis on the cultural nature of development.

**EDPR 7111 - Child Psyc App To Educ (3)**  
(EDPS 7111-8111). Major theories of child psychology and their implications for educational practices with the preschool and elementary school child.

**EDPR 7112 - Adol Psyc Appld Educ (3)**  
(EDPS 7112-8112). Advanced study of theories and research on the physical, psychological, social, cognitive, and cultural aspects of adolescent development; implications for education, treatment, secondary school personnel, and others who live and work with adolescents.

**EDPR 7113 - Midlife/Adult Developmt (3)**  
(EDPS 7113-8113). Cognitive, emotional, and psychosocial theories and research on middle age and adult development.

**EDPR 7114 - Psychology Of Aging (3)**  

**EDPR 7115 - Child Dev/Begin Tchrs (3)**  
(EDPS 7115). Theories and research on the physical, psychological, social, cognitive, and cultural aspects of early childhood and child development with emphasis on implications for preschool and elementary classroom teacher. Open only to students admitted to licensure programs.

**EDPR 7117 - Life-Span Human Dev (3)**  
Theories and research on the physical, psychological/emotional, social, cognitive, and cultural aspects of human development across the life span.

**EDPR 7121 - Learning & Cognition (3)**  
(EDPS 7121-8121). Major theories of learning and cognition, intelligence theories, and their application to learning environments.

**EDPR 7125 - Giftedness/Talent Development (3)**  
Advanced seminar in gifted student learning and development. Special emphasis placed on understanding relevant theories and research as applied to intellectual, social, and emotional functioning among gifted learners.

**EDPR 7126 - Intro to Piaget's Work (3)**  
Seminar to introduce Jean Piaget's epistemological and psychological studies. May be repeated with a change in content.
EDPR 7131 - Cultural Diverse Stdsnts (3)
(EDPS 7131-8131). Cultural differences among American student populations; emphasis on family structure, socialization of children, and cultural influences on student behavior.

EDPR 7149 - Sem Cognitive Processes (3)
(EDPS 7149-8149). Classic and current learning theory research, with emphasis on recent work in cognition, constructivism, and neuropsychology applied to education. PREREQUISITE: EDPR 7/8121.

EDPR 7150 - Motivation (3)
(EDPS 7150-8150). Theoretical and research viewpoints on motivation to learn; applications to educational settings. PREREQUISITE: EDPR 7/8121 or 7/8149 or permission of instructor.

EDPR 7151 - Individual Differences (3)
(EDPS 7151-8151). Theoretical foundations of instructional models designed to optimize student learning; topics include theories of intelligence, theories of learning, learning styles, gender differences, cultural differences, tracking and ability grouping, assessment, response to intervention, and the use of technology. All of these topics are explored as they relate to individual differences in learning.

EDPR 7155 - Understanding Respect Research (3)
Seminar with an emphasis on conducting literature and empirical research to learn how to conceptualize respect and how to study various respects in school and workplace.

EDPR 7161 - Moral Dvlpmnt & Educ (3)
(EDPS 7161-8161). Current theory and research on moral and ethical reasoning and development across the life span and educational implications.

EDPR 7165 - Social Dvlpmnt/Child (3)
Current theory and research on children's social development, with an emphasis on enculturation and socialization with parents, teachers, siblings, and peers in childhood.

EDPR 7511 - Measurmt & Evaluatn (3)
(EDRS 7511). Test construction; item and test statistics; interpretations and applications of standardized test results; reliability and validity estimation methods; and classical and modern measurement theories. PREREQUISITE: EDPR 7541-8541 or permission of the instructor.

EDPR 7512 - Psychomet Thry/Ed Appl (3)
(EDRS 7512-8512). Psychometric principles and applications to tests, rating scales, questionnaires, and other standardized instruments used in educational research; problems associated with evaluation of items and instruments in terms of reliability and validity. PREREQUISITE: EDPR 7/8511 and 7/8541 or permission of
EDPR 7521 - Intro to Educ Research (3)
(EDRS 7521). Introduction to major concepts and processes underlying educational research; focus on knowledge necessary for critically appraising published research and preparing students as research consumers.

EDPR 7523 - Applied Educ Research (1-3)
(EDRS 7523-8523). Conducting and interpreting research concerned with learning and teaching; statistical and research methods, interpretation of literature, report writing, and development of proposal for research project.

EDPR 7524 - Res Meths for Schl Acctntblty (3)
The course covers the research process to comprehend methods to use variables, data, test scores and statistics to make inferences for school accountability, teacher professional development and school improvement.
PREREQUISITES: Admission to MS program in School Administration

EDPR 7531 - Computer As Res Tool (3)
(EDRS 7531-8531). Computer applications to research processes in education and the behavioral sciences; capabilities and limitations of computers in analysis of educational data; experience in the utilization of various (statistical) library programs. PREREQUISITE: EDPR 7/8541; or permission of the instructor.

EDPR 7541 - Stat Meth App Ed I (3)
(EDRS 7541-8541). Utilization and interpretation of statistical methods applied to education; topics include frequency distributions, central tendency, variability correlation, linear regression, introduction to probability, normal distribution, interval estimation, hypothesis testing via t-test and chi-square and computer utilization in statistical analysis. PREREQUISITE: EDPR 7/8541 or permission of instructor.

EDPR 7542 - Stat Meth App Ed II (3)
(EDRS 7542-8542). Includes one-way and two-way analysis of variance, a priori and post hoc tests of significance and an introduction to multiple linear regression and analysis of covariance; emphasis on student acquisition of practical intermediate univariate analytic and interpretative skills. PREREQUISITE: EDPR 7/8541 or permission of instructor.

EDPR 7543 - Res Design Analysis (3)
(EDRS 8543). Includes validity of research designs, complex analysis of variance, and analysis of covariance; emphasis is on practical advanced univariate and analytic and interpretative skills. PREREQUISITE: EDPR 7/8542 or permission of instructor.

EDPR 7544 - SEM in EDU/Behav Research (3)
Includes path models; path analysis, confirmatory factor analysis, and latent-variable structural equation modeling (SEM); applications of path analytic and SEM techniques in educational research. PREREQUISITE: EDPR 7/8542
or permission of instructor.

**EDPR 7547 - Sampling/Survey Methods (3)**
Examines sampling procedures, design/administration of sample surveys; strategies (simple-random, probability, non-probability, cluster, single and multistage), effect of strategy on sampling error, confidentiality/anonymity issues, questionnaire design, interview procedures, item development, question format, preparation of survey data for statistical analysis. PREREQUISITE: EDPR 7521 and 7-8542 or permission of instructor.

**EDPR 7551 - Intro To Eval Systems (3)**
(EDRS 7551-8551). Examines procedures and problems in utilization of evaluation and in identifying its purposes; treats the functions and methods of evaluation especially as affected by organizational behavior and political influences; evaluation methodology includes but is not limited to design considerations, data utilization, and concepts and methods of needs assessment. PREREQUISITE: EDPR 7521 and EDPR 7/8542 or permission of instructor.

**EDPR 7554 - Nonparmtrc Stats Appl Educ atn (3)**
This course will address the statistical techniques appropriate when parametric assumptions about the nature of the data are not met. PREREQUISITE: EDPR 7/8542.

**EDPR 7561 - Qualitative Mthds Educ (3)**
(EDRS 7561-8561). This introductory course provides and overview of qualitative research processes, beginning with epistemology, theoretical perspectives, methodologies, methods, analysis, and representation, as well as current qualitative research trends in education.

**EDPR 7562 - Designing Qualitative Research (3)**
In this course, graduate students who are completing a thesis, residency project, or dissertation will design a qualitative research project with extensive peer and instructor feedback. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

**EDPR 7563 - Theoretical Frameworks in Qual (3)**
In this course, graduate students who are completing a thesis, residency project, or dissertation will design a qualitative research project with extensive peer and instructor feedback. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

**EDPR 7565 - Qual Methods and Analysis (3)**
This advanced level course provides extensive qualitative fieldwork experience. Student will also become familiar with various forms of qualitative data analysis. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

**EDPR 7566 - Writing Qualitative Research (3)**
This intensive, advanced writing course provides support for graduate students who are writing qualitative research manuscripts, theses, and dissertations. Students will receive frequent feedback from the instructor and peers in a structured writing retreat setting. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

EDPR 7572 - Institutional Research (3)
(EDRS 7572-8572). Techniques of institutional analysis in designing self-studies, evaluating the teaching and learning environment and institutional planning. PREREQUISITE: EDPR 7521 and EDPR 7/8542 or permission of instructor.

EDPR 7581 - Behav Anlys/Case Dsgn (3)
Reviews essential theory, logic, concepts, principles, methods, and ethics of single-subject designs as they relate to behavior analysis. PREREQUISITE: SPED 7514-8514.

EDPR 7732 - Randomized Clinical Trials (3)
The purpose of this course is to provide students with a thorough grounding in the conduct of randomized clinical trials including design, management, evaluation, and resource acquisition.

EDPR 7996 - Thesis (1-6)
Prospectus must be approved by the faculty committee directing this research study. Application for writing thesis must be filed with the Director of Graduate Studies. Grades of S, U, or IP will be given.

EDPR 8001 - Hierarchical Linear Modeling (3)
This course provides an introduction to the use of hierarchical or multilevel models that take into account dependencies between observations. Students will learn the basic ideas and theory of hierarchical linear models, as well as have many opportunities to apply the methods to real data from studies in education, psychology and social sciences. Topics that will be covered include an introduction to multilevel analyses, random intercept and slope models, 2 and 3 level models, hypothesis testing, model assessment, and models for dichotomous response/dependent variables. PREREQUISITES: EDPR 7542 or EDPR 8542 or permission of instructor.

EDPR 8004 - Report Qualitative Data (3)
(EDFD 7006-7015-8006-8015). Current topics in educational psychology and research. May be repeated with a change in content.

EDPR 8006 - Interview Children for Research (3)
This seminar is designed to help graduate students become familiar with concepts, approaches, and methods of conducting interviews with children for research purposes.

EDPR 8008 - Directed Readings (1-3)
(EDFD 7008). Individually directed reading; written report required, may be repeated for a maximum of 9 credits.
PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

EDPR 8009 - Practicum Ed Psych (3-6)
(EDPS 7109). Supervised experience in application of educational psychology and research principles and procedures for training activities in educational, industrial, or community settings. May be repeated for a maximum of 6 hours. PREREQUISITE: Permission of instructor and approval of major advisor. Grades of S, U, or IP will be given.

EDPR 8081 - Supervised Research (1-6)
(EDFD 7081). Collaborative research with faculty within the major to include planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 hours. PREREQUISITE: Minimum of 12 hours in major and permission of instructor Grades of A-F, or IP will be given.

EDPR 8109 - Infant Development (3)
(EDPS 7109-8109). Infancy and toddlerhood from developmental research issues perspective; empirical studies and contemporary issues relating to factors influencing infant development.

EDPR 8110 - Erly Chldhd Dvlpmnt (3)
Introduction to contemporary theories, research and issues in young children’s physical, cognitive, social, and emotional development with an emphasis on the cultural nature of development.

EDPR 8111 - Child Psyc App To Ed (3)
(EDPS 7111-8111). Major theories of child psychology and their implications for educational practices with the preschool and elementary school child.

EDPR 8112 - Adol Psyc Appld Educ (3)
(EDPS 7112-8112). Advanced study of theories and research on the physical, psychological, social, cognitive, and cultural aspects of adolescent development; implications for education, treatment, secondary school personnel, and others who live and work with adolescents.

EDPR 8113 - Midlife/Adult Developmt (3)
(EDPS 7113-8113). Cognitive, emotional, and psychosocial theories and research on middle age and adult development.

EDPR 8114 - Psychology Of Aging (3)

EDPR 8117 - Life-Span Human Develop (3)
Theories and research on the physical, psychological/emotional, social, cognitive, and cultural aspects of human
development across the life span.

**EDPR 8121 - Learning & Cognition (3)**
(EDPS 7121-8121). Major theories of learning and cognition, intelligence theories, and their application to learning environments.

**EDPR 8125 - Giftedness/Talent Development (3)**
Advanced seminar in gifted student learning and development. Special emphasis placed on understanding relevant theories and research as applied to intellectual, social, and emotional functioning among gifted learners.

**EDPR 8126 - Intro to Piaget's Work (3)**
Seminar to introduce Jean Piaget's epistemological and psychological studies. May be repeated with a change in content.

**EDPR 8131 - Cultural Diverse Stdnts (3)**
(EDPS 7131-8131). Cultural differences among American student populations; emphasis on family structure, socialization of children, and cultural influences on student behavior.

**EDPR 8149 - Sem Cognitive Processes (3)**
(EDPS 7149-8149). Classic and current learning theory research, with emphasis on recent work in cognition, constructivism, and neuropsychology applied to education. PREREQUISITE: EDPR 7/8121.

**EDPR 8150 - Motivation (3)**
(EDPS 7150-8150). Theoretical and research viewpoints on motivation to learn; applications to educational settings. PREREQUISITE: EDPR 7/8121 or 7/8149 or permission of instructor.

**EDPR 8151 - Individual Differences (3)**
(EDPS 7151-8151). Theoretical foundations of instructional models designed to optimize student learning; topics include theories of intelligence, theories of learning, learning styles, gender differences, cultural differences, tracking and ability grouping, assessment, response to intervention, and the use of technology. All of these topics are explored as they relate to individual differences in learning.

**EDPR 8155 - Understanding Respect Research (3)**
Seminar with an emphasis on conducting literature and empirical research to learn how to conceptualize respect and how to study various respects in school and workplace.

**EDPR 8161 - Moral Dvlpmnt & Educ (3)**
(EDPS 7161-8161). Current theory and research on moral and ethical reasoning and development across the life span and educational implications.

EDPR 8165 - Social Devlpmnt/Child (3)
Current theory and research on children's social development, with an emphasis on enculturation and socialization with parents, teachers, siblings, and peers in childhood.

EDPR 8171 - Pro Sem in Edu Psychology (3)
(EDPS 8171). This course is designed to provide Educational Psychology doctoral students with an introduction to both the field of Educational Psychology and the program in Educational Psychology and Research. PREREQUISITE: permission of instructor

EDPR 8511 - Measurmt & Evaluatn (3)
(EDRS 7511). Test construction; item and test statistics; interpretations and applications of standardized test results; reliability and validity estimation methods; and classical and modern measurement theories. PREREQUISITE: EDPR 7541-8541 or permission of the instructor.

EDPR 8512 - Psychomet Thry/Ed Appl (3)
(EDRS 7512-8512). Psychometric principles and applications to tests, rating scales, questionnaires, and other standardized instruments used in educational research; problems associated with evaluation of items and instruments in terms of reliability and validity. PREREQUISITE: EDPR 7/8511 and 7/8541 or permission of instructor.

EDPR 8519 - Sem In Educ Measurement (3)
(EDRS 8519) Systematic investigation of current multivariate methods in the field of educational statistics. PREREQUISITE: EDPR 7/8542 or permissions of instructor.

EDPR 8531 - Computer As Res Tool (3)
(EDRS 7531-8531). Computer applications to research processes in education and the behavioral sciences; capabilities and limitations of computers in analysis of educational data; experience in the utilization of various (statistical) library programs. PREREQUISITE: EDPR 7/8541; or permission of the instructor.

EDPR 8541 - Stat Meth App Ed I (3)
(EDRS 7541-8541). Utilization and interpretation of statistical methods applied to education; topics include frequency distributions, central tendency, variability correlation, linear regression, introduction to probability, normal distribution, interval estimation, hypothesis testing via t-test and chi-square and computer utilization in statistical analysis. PREREQUISITE: EDPR 7521 or permission of instructor.

EDPR 8542 - Stat Meth App Ed II (3)
(EDRS 7542-8542). Includes one-way and two-way analysis of variance, a priori and post hoc tests of significance and an introduction to multiple linear regression and analysis of covariance; emphasis on student acquisition of practical intermediate univariate analytic and interpretative skills. PREREQUISITE: EDPR 7/8541 or permission of instructor.
EDPR 8543 - Res Design Analysis (3)  
(EDRS 8543). Includes validity of research designs, complex analysis of variance, and analysis of covariance; emphasis is on practical advanced univariate and analytic and interpretative skills. PREREQUISITE: EDPR 7/8542 or permission of instructor.

EDPR 8544 - SEM in EDU/Behav Research (3)  
Includes path models; path analysis, confirmatory factor analysis, and latent-variable structural equation modeling (SEM); applications of path analytic and SEM techniques in educational research. PREREQUISITE: EDPR 7/8542 or permission of instructor.

EDPR 8547 - Sampling/Survey Methods (3)  
Examines sampling procedures, design/administration of sample surveys; strategies (simple-random, probability, non-probability, cluster, single and multistage), effect of strategy on sampling error, confidentiality/anonymity issues, questionnaire design, interview procedures, item development, question format, preparation of survey data for statistical analysis. PREREQUISITE: EDPR 7521 and 7-8542 or permission of instructor.

EDPR 8549 - Multivariate Meth Educ (3)  
(EDRS 8549). Systematic investigation of current multivariate methods in the field of educational statistics. PREREQUISITE: EDPR 7/8542 or permission of instructor.

EDPR 8551 - Intro To Eval Systems (3)  
(EDRS 7551-8551). Examines procedures and problems in utilization of evaluation and in identifying its purposes; treats the functions and methods of evaluation especially as affected by organizational behavior and political influences; evaluation methodology includes but is not limited to design considerations, data utilization, and concepts and methods of needs assessment. PREREQUISITE: EDPR 7521 and EDPR 7/8542 or permission of instructor.

EDPR 8554 - Nonparmtrc Stats Appl Educatn (3)  
This course will address the statistical techniques appropriate when parametric assumptions about the nature of the data are not met. PREREQUISITE: EDPR 7/8542.

EDPR 8561 - Qualitative Mthds Educ (3)  
(EDRS 7561-8561). This introductory course provides and overview of qualitative research processes, beginning with epistemology, theoretical perspectives, methodologies, methods, analysis, and representation, as well as current qualitative research trends in education.

EDPR 8562 - Designing Qualitative Research (3)  
In this course, graduate students who are completing a thesis, residency project, or dissertation will design a qualitative research project with extensive peer and instructor feedback. PREREQUISITE: Students must have
completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

EDPR 8563 - Theoretical Frameworks in Qual (3)
In this course, graduate students who are completing a thesis, residency project, or dissertation will design a qualitative research project with extensive peer and instructor feedback. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

EDPR 8565 - Qual Methods and Analysis (3)
This advanced level course provides extensive qualitative fieldwork experience. Student will also become familiar with various forms of qualitative data analysis. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

EDPR 8566 - Writing Qualitative Research (3)
This intensive, advanced writing course provides support for graduate students who are writing qualitative research manuscripts, theses, and dissertations. Students will receive frequent feedback from the instructor and peers in a structured writing retreat setting. PREREQUISITE: Students must have completed EDPR 7561-8561 with a B or above within the past two years and gain permission of the instructor.

EDPR 8572 - Institutional Research (3)
(EDRS 7572-8572). Techniques of institutional analysis in designing self-studies, evaluating the teaching and learning environment and institutional planning. PREREQUISITE: EDPR 7521 and EDPR 7/8542 or permission of instructor.

EDPR 8581 - Behav Anlys/Case Dsgn (3)
Reviews essential theory, logic, concepts, principles, methods, and ethics of single-subject designs as they relate to behavior analysis. PREREQUISITE: SPED 7514-8514.

EDPR 8732 - Randomized Clinical Trials (3)
The purpose of this course is to provide students with a thorough grounding in the conduct of randomized clinical trials including design, management, evaluation, and resource acquisition.

EDPR 9000 - Dissertation (1-12)
(EDFD 9000). Independent research for Doctoral degree. Credit may be earned over a period of several semesters. Grades of S, U, or IP will be given.
Graduate School

2015-2016 Academic Calendar
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
INSTRUCTION AND CURRICULUM LEADERSHIP (ICL)

NOTE: Course numbers at the end of the title are former numbers.
If the course has been taken under this former number, it may not be repeated unless so specified.

In addition to the courses below, the department may offer the following Special Topics courses:

**ICL 6950-59. Special Topics in Curriculum and Instruction. (1-3).(CIED 6950-59).** Designed to allow for study of current topics in the areas of curriculum and instruction at all levels. May be repeated with a change in topic and content emphasis. See online class listings for exact topics.

**ICL 7150-59-8150-59. Special Topics. (1-3).** Topics are varied and announced in the online class listing. May be repeated when topics change.

**ICL 7950-69-8950-69. Advanced Topics in Instruction and Curriculum. (1-3). (CIED 7950-59-8950-59).** Current topics in areas of instruction and curriculum at advanced levels. May be repeated with change in topic and content emphasis. See online class listings for topics.

**ICL 6121 - Lbry Mtrl Yng Peop/Adlts (3)**
Evaluation and selection of books and related library materials for leisure interests and curriculum needs of young people and adults from junior high school up; intensive reading, introduction to selection criteria, bibliographic aids, authors and illustrators, and types of literature and information books.

**ICL 6761 - Aerospace Ed In Schools (3)**
Consideration of aerospace content and flight experiences; emphasizes classroom applications.

**ICL 6762 - Adv Aerospace Ed Schls (3)**
Theory, principles, and practices related to the historical development of aerospace, with emphasis on both civilian and military uses of aerospace capabilities; appropriate utilization of aerospace research, concepts, and "spinoffs" for instructional purposes at all grade levels. PREREQUISITE: ICL 6761.

**ICL 7000 - Analysis Pract Teach I (3)**
Analysis of research on instruction and teaching practices; implementation of research based on strategies of developing instruction, facilitating, and assessing student learning. Field Experience: 4 hours.

**ICL 7001 - Fund Of Curriculum (3)**
Principles of organizing and developing the curriculum and curriculum directions, trends, and patterns.

**ICL 7002 - Curriculum Leadership (3)**
Application of curriculum and leadership theory to modern educational practices; emphasis on developing leadership styles to ensure implementation.

**ICL 7003 - Curric Design/Evalatn (3)**
Considers a variety of curriculum designs and their implications for educational practice.

**ICL 7004 - Innovative Curricula (3)**
Generic issues, problems, processes, and strategies relative to changes occurring with the implementation of innovative curricula. PREREQUISITES: ICL 7002, 7050.

**ICL 7008 - Sem Curric Improvement (3)**
An introduction to curriculum decision-making; includes curriculum development as a social process, issues and trends, theories and techniques of curriculum leadership, and translations of curriculum designs into practice.

**ICL 7010 - Analysis Pract Teach II (3)**
Intensive, interdisciplinary, and integrative study of models of teaching, curriculum assessment and evaluation, reading in content area, mainstreaming, multicultural concerns, and instructional technology; emphasis on theory, research, and skills through simulations and microteaching. PREREQUISITE: ICL 7000.

**ICL 7020 - Prof Develop Semnr I (1-3)**
Interpersonal and group process skills needed for teaching.

**ICL 7021 - Prof Develop Semnr II (1-3)**
Specialty teaching area in pedagogical skills application.

**ICL 7022 - Prof Develop Semnr III (1-3)**
Teacher roles, professional relationships, and professional development.

**ICL 7030 - Assessment & Evaluation (3)**
Test construction and methods of evaluation; emphasis on teacher made tests, standardized tests, test administration, test data management, interpretation and application of test data to instructional decisions, and reporting test results to students and parents.

**ICL 7032 - Classroom Management (2)**
Managing classroom environment; emphasis on constructive management techniques. Application of knowledge of human development and teaching and learning principles to development of classroom management systems.

**ICL 7040 - Integrated Tchg Strtgy (3)**
Curriculum, methods, and materials for teaching mathematics, science, and social studies to elementary school students.

**ICL 7051 - Simulation (1-3)**
Surveying, analyzing, and designing simulation activities appropriate for classroom situations; individual and group participatory activities.
ICL 7054 - Creativity Tchg/Curric (3)
Instructional strategies relevant to development of creative potential; activities include problem-solving, metaphoring, inventing, synectics, evaluation, questioning, brainstorming, creative writing and thinking, and spontaneity.

ICL 7058 - Values Education (3)
Major movements related to values education and analysis of strategies applicable to educational settings.

ICL 7059 - Models of Instruction (3)
Theory and research for instructional planning and assessing of selected models of instruction.

ICL 7080 - Instr Multiethnic Schl (3)
Survey, analysis, and design of curriculum and instruction that considers the multiethnic nature of students in the urban school and facilitates their academic and social growth. Field experience: 10 hours.

ICL 7082 - Seminar in Urban Education (3)
This course uses various forms of seminar discussion, graduate inquiry, and creative engagement to provide a focused deliberative environment to study urban education issues and trends.

ICL 7100 - Fld Exp Intro Teaching (1)
Structured observation and participation in schools; emphasis on management and instructional issues. Field experiences: 10 hours.

ICL 7103 - Tchg Hlth Phy Act Nutr (3)
Instructional techniques, curriculum, and materials for teaching health, physical activity, and nutrition in grades K-6; field experience 10 hours. PREREQUISITES: Admission to TEP or a licensed teacher and NUTR 7209, HPRO 7703, HPRO 7704.

ICL 7104 - Accom Div Urb Lrnrs (3)
Accommodations/modifications for diverse urban preK-13 students with individual needs in urban regular education classrooms, emphasizing students at risk for failure and focusing on creation of appropriate accommodations, differentiating instruction, and role of regular education teachers and education support personnel.

ICL 7105 - Lang/Comm Inclusive Classrm (3)
Instructing students with typical and exceptional communication needs. Includes interpreting speech/language assessment reports and designing instruction. Also use of augmentative and alternative communication devices and working with non-native English speaking students. Field Experience: Required. PREREQUISITE: SPED 7000 or equivalent.

ICL 7106 - Prof/Eth Prac Inclusive Class (3)
Education policy and practice: accountability, ethics, advocacy, and social challenges. Working with families and community stakeholders is highlighted. Instructional planning includes creating individual education plans, individual family service plans and transition planning. PREREQUISITE: SPED 7000 or equivalent.

ICL 7130 - Elem School Curriculum (3)
Analysis of curriculum theories, materials, and practices as they affect the child's potential and growth.

ICL 7132 - Catalog/Classification (3)
Introduction to principles and techniques of cataloging and classification of books and other library materials.

ICL 7133 - School Library Admin (3)
Organization and administration of elementary and secondary school libraries, including standards, evaluation, facilities, equipment, support, student assistants, and relationship to instructional and guidance programs of school.

ICL 7134 - Internet in the School Library (3)
Professional applications of instructional and communications technologies in the school library environment; the focus is on enhancing prospective school library information specialists' technological knowledge and skills in using the Internet.

ICL 7138 - Sem In Elem Educ (3)
Analysis of contemporary issues and trends in elementary education.

ICL 7160 - Mdrn Meth Scndry Educ (3)
Secondary school teaching and how the secondary school can perform its role most effectively.

ICL 7161 - Methods/Middle School Science (3)
Middle level principles, techniques, and materials for teaching science to students in grades 4-8; Clinical/field experience required. PREREQUISITE: Admission to TEP.

ICL 7162 - Methods/Middle School Lang (3)
Middle level principles, techniques, and materials for teaching language arts to students in grades 4-8; Clinical/field experience required. PREREQUISITE: Admission to TEP.

ICL 7163 - Methods/Middle School Math (3)
Middle level principles, techniques, and materials for teaching math to students in grades 4-8; Clinical/field experience required. PREREQUISITE: Admission to TEP.

ICL 7164 - Methods/Middle School Soc Stdy (3)
Middle level principles, techniques, and materials for teaching social studies to students in grades 4-8; Clinical/field experience required. PREREQUISITE: Admission to TEP.

**ICL 7165 - The Middle School (3)**
Investigation of emerging concepts of the middle school and trends in classroom procedures and curriculum.

**ICL 7168 - Semnr Secondary Educ (3)**
Analysis of problems, current issues, and trends in secondary education.

**ICL 7172 - Spec Mthds Soc Stu Educ (3)**
Critical analysis and research on significant issues in the field of secondary social studies education.

**ICL 7174 - Spec Mthds For Lang Ed (3)**
(Same as LING 7174). Examines theoretical and practical issues relating to teaching of foreign languages K-12 through lectures, reading of current literature, class discussion, guest speakers, etc.; explores role of context in comprehension and learning, listening, reading, oral proficiency, writing, testing, culture, and curriculum. Field Experience: 8 hours. Prerequisite: TEP admission.

**ICL 7300 - Cont Issues Lang Arts (3)**
Analysis of current trends and issues in the teaching of language arts: theory and research related to teaching models and their application in the language arts.

**ICL 7301 - Literature in PreK-12 School (3)**
Methods of teaching children's and adolescents' literature in the PreK-12 school environment, including storytelling, dramatization, choral speech work, fiction, nonfiction, drama, and poetry.

**ICL 7302 - Tchg Lit To Adolescents (3)**
Methods of teaching adolescent literature including fiction, non-fiction, drama, and poetry.

**ICL 7303 - Eng/Lan Comp Secnd Schl (3)**
Emphasis on developing and implementing a sequential curriculum in secondary school language and composition. Field Experience: 8 hours. Prerequisite: TEP admission

**ICL 7305 - Mphs Urban Wrtng II (3)**
Prepares K-12 teachers to improve their writing practices and assume a leadership role in writing instruction in their schools.

**ICL 7308 - Seminar Engl/Lang Arts (3)**
Emphasis on oral and written language models and how these models can be used in the development of a student-centered language arts curriculum. K-12. Field Experience: 8 hours.
ICL 7309 - Dev Instructional Ldrs (3)
Application of development of instructional leaders, mentors and coaches within a school environment; emphasis on developing leadership styles to ensure implementation of multiple initiatives and support colleagues for personal growth

ICL 7310 - Supptng Cont Spec Inst (3)
Application of development of instructional leaders, mentors and coaches within a school environment; emphasis on developing instructional skills to support various coaches within a district

ICL 7500 - Adv Math Elem Sch (3)
Models of elementary school mathematics instruction; history, philosophy, and research supporting those models. PREREQUISITE: Teacher licensure.

ICL 7501 - Elem Sch Math Curr (3)
Issues and trends in elementary school mathematics curriculum. Appropriate current reports of professional groups will be considered.

ICL 7502 - Tchg Mathematics SCED (3)
Consideration of principles and techniques of teaching mathematics in secondary schools including study and evaluation of materials of instruction. Field experience: 8 hours. Prerequisite: TEP admission

ICL 7503 - Secndry Math Ed Curric (3)
Analysis of the secondary mathematics curriculum as it relates to sound educational practices.

ICL 7504 - Methods Math Elem (3)
Instructional techniques, curriculum, and materials for teaching mathematics to elementary school students. Field Experience: 10 hours. PREREQUISITE: Admission to TEP.

ICL 7508 - Sem Mathematics Educ (3)
Study and discussion of selected mathematics education topics of concern or special interest. May be repeated with a change in topics.

ICL 7600 - Adv Science Elem (3)
Models of science instruction; history, philosophy, and research supporting these models. PREREQUISITE: Teacher licensure.

ICL 7601 - Elem Science Curriculum (3)
Examination of science curriculum materials; focus on procedures for evaluation of curriculum and materials and analysis of local curricula in science; includes techniques for conducting science workshops and in-service
ICL 7602 - Tchg Sci Scndry Schl (3)
An examination and analysis of modern science teaching strategies in the secondary school; emphasis on information processing and classroom learning strategies. Field experience: 8 hours. Prerequisite: TEP admission

ICL 7603 - Scndry Schl Sci Curr (3)
Analysis of secondary science content and materials; emphasis on current concepts of the science curriculum and the selection of appropriate materials for teaching the various sciences.

ICL 7605 - Methods Elem Science (3)
Instruction techniques, curriculum, and materials for teaching science to elementary school students. Field experience: 10 hours. PREREQUISITE: Admission to TEP.

ICL 7608 - Sem Science Education (3)
A survey of selected problems and topics in science education.

ICL 7650 - Adv Elem Soc Studies (3)
Advanced strategies for social studies instruction and history, philosophy, and research supporting those strategies. PREREQUISITE: Teacher licensure.

ICL 7652 - Tchng Soc Std Mid/Sec (3)
Consideration of principles and techniques for teaching secondary social studies. Additional field hours required. PREREQUISITE: TEP admission

ICL 7653 - Mid/Sec Soc Std Curric (3)
Analysis of programs and curricular materials for secondary social studies education.

ICL 7654 - Methods Elem Soc Studies (3)
Instruction techniques, curriculum, and materials for teaching social studies to elementary school students. Field experience: 10 hours. PREREQUISITE: Admission to TEP.

ICL 7657 - Hist of Soc Stu Education (3)
Historical examination and analysis of the development of social studies in education.

ICL 7658 - Seminar Soc Stu Education (3)
Survey and evaluation of social and controversial issues and trends in the social studies education.

ICL 7701 - Adv Wksp ICL:Urban Educ (3)
This course requires investigations of Urban Education issues in schools and topic of inquiry will change if course
ICL 7702 - Adv Topics in ICL: Urban Educ (3)
Current topics in areas of instruction and curriculum at advanced levels in Urban Education. This course addresses current research and issues in Urban Education school environments.

ICL 7704 - Wksp/Nwspaper In Clasrm (3)

ICL 7705 - Adv Mng Lrnng Environ (3)
Teacher's role in integrated approach to managing classroom's physical and behavioral learning environments, school curriculum, and pupil development and learning.

ICL 7706 - Family/Comm Relations (3)
Analysis of family, cultural, and community patterns in relation to the teacher's roles and responsibilities for building educational partnerships.

ICL 7707 - Using Data to Inform Teaching (3)
This course helps teachers gain knowledge and skill in using various forms of data to improve student learning and achievement. It includes data-driven teaching and decision making, data sources and measures, differentiating instruction, and action planning to guide instruction, curriculum and assessment.

ICL 7709 - Urban Lrnng Environment (3)
Use of appropriate knowledge and skills for managing the total learning environment in both the early and middle school settings; emphasis on developing knowledge and skills that facilitate effective teaching through appropriate instructional and behavioral management techniques. Field experiences: 10 hours. Prerequisite: TEP admission

ICL 7720 - STEM Curriculum Leadership (3)
Focus on curriculum standards and trends in mathematics, science, and engineering education. Topics include: introduction to the standards; the relationship between curriculum and equity; implications of the standards for instructional practice; the integration of technology and engineering; and the alignment between standards and curriculum materials.

ICL 7721 - STEM Teacher Development (3)
Focus on theory and practice around STEM teacher learning and professional development. The course will explore research-based practices and models of STEM professional development.

ICL 7722 - Teaching and Learning in STEM (3)
Focus on student-centered instructional models with particular attention to approaches that integrate science, engineering, technology, and mathematics.
ICL 7723 - Equity in STEM Education (3)
Focus on the history of mathematics and science education as it relates to equity and opportunity to learn. Additional topics include: culturally relevant pedagogy in mathematics and science; STEM education in urban schools; strategies for teaching mathematics and science to linguistically diverse students; teaching for social justice; and technology and opportunity to learn.

ICL 7730 - Found Librarianship (3)
Introduction to librarianship as a profession and library as institution in cultural and political setting; influences of social issues, societal needs, professional organizations, and federal legislation on goals, ethics, organization, programs, and problems of libraries and librarians.

ICL 7731 - Intro To Bibliography (3)
Theory and purpose of bibliography as form of access to information; emphasis on general reference sources; introduction to principles, practices, and methods of reference service.

ICL 7800 - Adv Clinical Practicum (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993. Grades of A-F will be given.

ICL 7801 - Talented & Mently Gifted (3)
Historical and societal perceptions and definitions of the talented and mentally gifted individuals; their social, emotional and learning processes.

ICL 7802 - Spec Populations/Gifted (3)
Examination of the nature and needs of gifted and talented students whose performance is affected by some condition interfering with optimal growth. PREREQUISITE: SPED 7801 or ICL 7801.

ICL 7803 - Intern Kindergarten (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

ICL 7804 - Erly Chldhd Stu Tchg (3-9)
Includes student teaching experiences in both Pre-Kindergarten or Kindergarten, and Primary grades 1-3. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

ICL 7805 - Intern Elem Schl (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed
to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

**ICL 7806 - Elem Student Tchg (3-9)**
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

**ICL 7807 - Intern Sndry Schl (3-9)**
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

**ICL 7808 - Clinical Teaching Semester (3-9)**
Full-time clinical placement appropriate to candidate's area of licensure providing opportunities to demonstrate professional competencies associated with successful teaching and student achievement. Capstone performance assessment required for successful completion. PREREQUISITE: admission to the TEP, and passing all required licensure exams. COREQUISITE: ICL 7993

**ICL 7810 - Teacher Leader Practicum (3)**
The teacher leader practicum will focus on creating a school climate to strengthen student achievement by developing instructional supports. These supports may include the creation of instructional plans for struggling teachers, implementing professional learning communities and developing a year long professional development plan for a school

**ICL 7811 - Mthd Tchg Giftd/Ac Tltd (3)**
Teaching strategies for fostering gifted behavior at preschool, elementary, and secondary levels; procedures and criteria of evaluation, curriculum sequences and guides, alternative strategies for curriculum development, the writing and implementing of individualized educational plans. PREREQUISITE: SPED 7801-8801 or ICL 7801-8801.

**ICL 7822 - Adv Mthd Giftd/Ac Tltd (3)**
Examination of provisions of services to gifted students in other than traditional enrichment programs. PREREQUISITES: SPED 7801, 7811 or ICL 7801, 7811.

**ICL 7850 - Suprvsn Student Tchg (3)**
Principles and techniques of student teaching supervision; designed for supervising teachers, administrators, coordinators of student teaching programs, and college personnel. Grades of A-F will be given.

**ICL 7912 - Fndtns/NBPTS Candidacy (3)**
Develops thorough understanding of National Board for Professional Teaching Standards, including performance-based assessments such as student work samples and reflection papers, as well as analyses of classroom teaching, classroom discourse, and learning through videotape analysis.

**ICL 7913 - St Tchg Mid Grds (3-9)**
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

**ICL 7953 - Writing for Academic Publicatn (3)**
Learning to master the discourses necessary to succeed in academic writing; focus on genres of academic writing; emphasis on strategies for successful academic work based on publication.

**ICL 7991 - Independent Study (1-9)**
Includes special problems, field studies, and other similarly organized professional experiences under the direct supervision of a faculty member within the department; emphasis on student planning, initiating, conducting, and completing independent studies, projects, etc., designed to meet programmatic goals and individual needs. Grades of A-F will be given.

**ICL 7992 - Master's Project (3)**
Designed as a culminating experience; direct participation is required for the successful completion of a field-study, on-site project or other classroom-based experience. This course must be taken during the semester the student will graduate. ID&T students must contact advisor before registering for Master's Project. PREREQUISITE: EDPR 7523 or EDPR 7521 and, for MAT and Licensure-Only students, completion of Student Teaching requirement. Grades of S, U, or I will be given.

**ICL 7993 - Professional Seminar (3)**
An integrative capstone seminar for advanced post-baccalaureate teacher certification students; students will apply reflective, analytical, and critical thinking to selected issues regarding school curriculum, teaching methods, professional ethics, legal issues, leadership and advocacy, professional relations, communication, and problem solving.

**ICL 7994 - Developing Proposals (3)**
Procedures and techniques for development of research, project, and grant proposals; emphasis on development of proposal for research study or in response to funding request. PREREQUISITES: ICL 7079-8079 and 9 hours of research or permission of instructor. Grades of S, U, or I will be given.

**ICL 7996 - Thesis (1-6)**
Prospectus must be approved by the faculty committee directing this research study. Application for writing thesis must be filed with the Director of Graduate Studies. Grades of S, U, or IP will be given.
ICL 7999 - Experiential Learning Credit (1-15)
Experiential Learning Credit (ELC) is a highly individualized process whereby students can use the learning outcomes that they have earned through a broad range of experiences to petition for college credit.

ICL 8000 - Spec Culmn Experience (1-6)
Thesis, internship, field study, or special project designed under direction of student's committee. Serves as capstone experience in Education Specialist Program. Grades of S, U, or I will be given.

ICL 8002 - Curriculum Leadership (3)
Application of curriculum and leadership theory to modern educational practices; emphasis on developing leadership styles to ensure implementation.

ICL 8003 - Curric Design/Evalatn (3)
Considers a variety of curriculum designs and their implications for educational practice.

ICL 8004 - Innovative Curricula (3)
Generic issues, problems, processes, and strategies relative to changes occurring with the implementation of innovative curricula. PREREQUISITES: ICL 7002, 7050.

ICL 8005 - The Nature of Knowledge (3)
This course will be offered to doctoral students to provide an overview and introduction to epistemology and the philosophical perspectives concerning the nature and acquisition of knowledge and belief. It is designed to increase the research skills of graduate students and to position them to conduct research grounded in understandings of theory, knowledge, and scholarship.

ICL 8008 - Sem Curric Improvement (3)
An introduction to curriculum decision-making; includes curriculum development as a social process, issues and trends, theories and techniques of curriculum leadership, and translations of curriculum designs into practice.

ICL 8051 - Simulation (1-3)
Surveying, analyzing, and designing simulation activities appropriate for classroom situations; individual and group participatory activities.

ICL 8054 - Creativity Tchg/Curric (3)
Instructional strategies relevant to development of creative potential; activities include problem-solving, metaphoring, inventing, synectics, evaluation, questioning, brainstorming, creative writing and thinking, and spontaneity.

ICL 8058 - Values Education (3)
Major movements related to values education and analysis of strategies applicable to educational settings.

ICL 8082 - Seminar in Urban Education (3)
This course uses various forms of seminar discussion, graduate inquiry, and creative engagement to provide a focused deliberative environment to study urban education issues and trends.

ICL 8105 - Lang/Comm Inclusive Classrm (3)
Instructing students with typical and exceptional communication needs. Includes interpreting speech/language assessment reports and designing instruction. Also use of augmentative and alternative communication devices and working with non-native English speaking students. Field experience: 8 hours. PREREQUISITE: SPED 7000 or equivalent.

ICL 8106 - Prof/Eth Prac Inclusive Class (3)
Education policy and practice: accountability, ethics, advocacy, and social challenges. Working with families and community stakeholders is highlighted. Instructional planning includes creating individual education plans, individual family service plans and transition planning. PREREQUISITE: SSPED 7000 or equivalent.

ICL 8130 - Elem School Curriculum (3)
Analysis of curriculum theories, materials, and practices as they affect the child's potential and growth.

ICL 8138 - Sem In Elem Educ (3)
Analysis of contemporary issues and trends in elementary education.

ICL 8160 - Mdrn Meth Scndry Educ (3)
Secondary school teaching and how the secondary school can perform its role most effectively.

ICL 8165 - The Middle School (3)
Investigation of emerging concepts of the middle school and trends in classroom procedures and curriculum.

ICL 8172 - Spec Mthds Soc Stu Edu (3)
Critical analysis and research on significant issues in the field of secondary social studies education.

ICL 8200 - Prof Sem/Doctoral Stdnt (3)
Emphasis on how to be an effective doctoral student and college professor; three areas of focus are teaching, research, and service. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Admission to the doctoral program. Grades of S, U, or I will be given.

ICL 8300 - Cont Issues Lang Arts (3)
Analysis of current trends and issues in the teaching of language arts: theory and research related to teaching models and their application in the language arts.
ICL 8301 - Literature in PreK-12 School (3)
Methods of teaching children's literature in the elementary school, including storytelling, dramatization, and choral speech work.

ICL 8302 - Tchg Lit To Adolescents (3)
Methods of teaching adolescent literature including fiction, non-fiction, drama, and poetry.

ICL 8303 - Eng/Lan Comp Secnd Schl (3)
Emphasis on developing and implementing a sequential curriculum in secondary school language and composition. Field Experience: 8 hours.

ICL 8308 - Seminar Engl/Lang Arts (3)
Emphasis on oral and written language models and how these models can be used in the development of a student-centered language arts curriculum. K-12. Field Experience: 8 hours.

ICL 8309 - Dev Instructional Ldrs (3)
Application of development of instructional leaders, mentors and coaches within in a school environment; emphasis on developing leadership styles to ensure implementation of multiple initiatives and support colleagues for personal growth

ICL 8310 - Supptng Cont Spec Inst (3)
Application of development of instructional leaders, mentors and coaches within a school environment; emphasis on developing instructional skills to support various coaches within a district

ICL 8500 - Adv Math Elem Sch (3)
Models of elementary school mathematics instruction; history, philosophy, and research supporting those models. PREREQUISITE: Teacher licensure.

ICL 8501 - Elem Sch Math Curr (3)
Issues and trends in elementary school mathematics curriculum. Appropriate current reports of professional groups will be considered.

ICL 8502 - Tchg Mathematics SCED (3)
Consideration of principles and techniques of teaching mathematics in secondary schools including study and evaluation of materials of instruction. Field experience: 8 hours. PREREQUISITE: Permission of instructor.

ICL 8503 - Secndry Math Ed Curric (3)
Analysis of the secondary mathematics curriculum as it relates to sound educational practices.
ICL 8508 - Sem Mathematics Educ (3)
Study and discussion of selected mathematics education topics of concern or special interest. May be repeated with a change in topics.

ICL 8600 - Adv Science Elem (3)
Models of science instruction; history, philosophy, and research supporting these models. PREREQUISITE: Teacher licensure.

ICL 8601 - Elem Science Curriculum (3)
Examination of science curriculum materials; focus on procedures for evaluation of curriculum and materials and analysis of local curricula in science; includes techniques for conducting science workshops and in-service programs.

ICL 8602 - Tchg Sci Scndry Schl (3)
An examination and analysis of modern science teaching strategies in the secondary school; emphasis on information processing and classroom learning strategies. Field experience: 8 hours.

ICL 8608 - Sem Science Education (3)
A survey of selected problems and topics in science education.

ICL 8650 - Adv Elem Soc Studies (3)
Advanced strategies for social studies instruction and history, philosophy, and research supporting those strategies. PREREQUISITE: Teacher licensure.

ICL 8652 - Tchng Soc Std Mid/Sec (3)
Consideration of principles and techniques for teaching secondary social studies. Field experience: 8 hours.

ICL 8653 - Mid/Sec Soc Std Curric (3)
Analysis of programs and curricular materials for secondary social studies education.

ICL 8657 - Hist of Soc Studies Educatn (3)
Historical examination and analysis of the development of social studies in education.

ICL 8658 - Seminar Soc Stu Education (3)
Survey and evaluation of social and controversial issues and trends in the social studies education.

ICL 8701 - Adv Wksp ICL:Urban Educ (3)
This course requires investigations of Urban Education issues in schools and topic of inquiry will change if course is repeated.
ICL 8702 - Adv Topics in ICL: Urban Educ (3)
Current topics in areas of instruction and curriculum at advanced levels in Urban Education. This course addresses current research and issues in Urban Education school environments.

ICL 8704 - Wksp/Nwspaper In Clasrm (3)
(CIED 7704-8804).

ICL 8705 - Adv Mng Lrng Environ (3)
Teacher's role in integrated approach to managing classroom's physical and behavioral learning environments, school curriculum, and pupil development and learning.

ICL 8707 - Using Data to Inform Teaching (3)
This course helps teachers gain knowledge and skill in using various forms of data to improve student learning and achievement. It includes data-driven teaching and decision making, data sources and measures, differentiating instruction, and action planning to guide instruction, curriculum and assessment.

ICL 8720 - STEM Curriculum Leadership (3)
Focus on curriculum standards and trends in mathematics, science, and engineering education. Topics include: introduction to the standards; the relationship between curriculum and equity; implications of the standards for instructional practice; the integration of technology and engineering; and the alignment between standards and curriculum materials.

ICL 8721 - STEM Teacher Development (3)
Focus on theory and practice around STEM teacher learning and professional development. The course will explore research-based practices and models of STEM professional development.

ICL 8722 - Teaching and Learning in STEM (3)
Focus on student-centered instructional models with particular attention to approaches that integrate science, engineering, technology, and mathematics.

ICL 8723 - Equity in STEM Education (3)
Focus on the history of mathematics and science education as it relates to equity and opportunity to learn. Additional topics include: culturally relevant pedagogy in mathematics and science; STEM education in urban schools; strategies for teaching mathematics and science to linguistically diverse students; teaching for social justice; and technology and opportunity to learn.

ICL 8801 - Talented & Mently Gifted (3)
Historical and societal perceptions and definitions of the talented and mentally gifted individuals; their social, emotional and learning processes.
ICL 8802 - Spec Populations/Gifted (3)
Examination of the nature and needs of gifted and talented students whose performance is affected by some condition interfering with optimal growth. PREREQUISITE: SPED 7801 or ICL 7801.

ICL 8803 - Intern Kindergarten (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

ICL 8804 - Erly Chldhd Student Tchg (3-9)
Includes student teaching experiences in both Pre-Kindergarten or Kindergarten, and Primary grades 1-3. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

ICL 8805 - Intern Elem Schl (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

ICL 8806 - Elem Student Tchg (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

ICL 8807 - Intern Scndry Schl (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. Grades of S, U, or I will be given.

ICL 8808 - SCED Student Tchg (3-9)
Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to complement on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993. Grades of S, U, or I will be given.

ICL 8810 - Teacher Leader Practicum (3)
The teacher leader practicum will focus on creating a school climate to strengthen student achievement by developing instructional supports. These supports may include the creation of instructional plans for struggling teachers, implementing professional learning communities and developing a year long professional development plan for a school.

ICL 8811 - Mthd Tchg Giftd/Ac Tltd (3)
Teaching strategies for fostering gifted behavior at preschool, elementary, and secondary levels; procedures and 
criteria of evaluation, curriculum sequences and guides, alternative strategies for curriculum development, the 
writing and implementing of individualized educational plans. PREREQUISITE: SPED 7801-8801 or ICL 7801-
8801.

**ICL 8822 - Adv Mthd Giftd/Ac Tltld (3)**
Examination of provisions of services to gifted students in other than traditional enrichment programs.
PREREQUISITES: SPED 7801, 7811 or ICL 7801, 7811.

**ICL 8850 - Suprvsn Student Tchg (3)**
Principles and techniques of student teaching supervision; designed for supervising teachers, administrators, 
 coordinators of student teaching programs, and college personnel. Grades of A-F will be given.

**ICL 8912 - Fndtns/NBPTS Candidacy (3)**
Develops thorough understanding of National Board for Professional Teaching Standards, including performance-
 based assessments such as student work samples and reflection papers, as well as analyses of classroom 
teaching, classroom discourse, and learning through videotape analysis.

**ICL 8953 - Writing for Academic Publicatn (3)**
Learning to master the discourses necessary to succeed in academic writing; focus on genres of academic writing;
emphasis on strategies for successful academic work based on publication.

**ICL 8991 - Independent Study (1-9)**
Includes special problems, field studies, and other similarly organized professional experiences under the direct
supervision of a faculty member within the department; emphasis on student planning, initiating, conducting, and 
completing independent studies, projects, etc., designed to meet programmatic goals and individual needs. Grades 
of A-F will be given.

**ICL 8994 - Developing Proposals (3)**
Procedures and techniques for development of research, project, and grant proposals; emphasis on development 
of proposal for research study or in response to funding request. PREREQUISITES: ICL 7079-8079 and 9 hours of 
research or permission of instructor. Grades of S, U, or I will be given.

**ICL 8995 - Research Seminar (3-6)**
Survey and analysis of research in the varied disciplines of curriculum and instruction. To be taken during the 
doctoral residency. May be repeated for a maximum of 6 credit hours. Grades of S, U, or I will be given.

**ICL 8998 - Directed Reading (1-3)**
Individually directed readings culminating in synthesis of ideas. May be repeated with change in topic for 9 hours.
PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.
ICL 8999 - Supervised Research ICL (1-6)
Collaborative research with faculty including planning, design, management, analysis, and reporting of research. May be repeated for maximum of 12 hours. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor. Grades of S, U, or I will be given.

ICL 9000 - Dissertation (1-12)
Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. Grades of S, U, or IP will be given.

EARLY CHILDHOOD EDUCATION (ECED)

ECED 6510 - Early Child Programs/Pr (3)
Applying professional knowledge to early childhood education values and principles, programs and practices, issues, problems, and trends; exploring early childhood teacher roles and responsibilities through observations in multicultural early childhood program settings. Field experience is required. PREREQUISITE: TEP admission or permission of instructor.

ECED 6520 - Plan/Fac Sci Learning/Dev (3)
Planning, implementing, and evaluating programs to facilitate young children's social learning from birth-age 8; socialization, social science skills, knowledge, and dispositions in context of integrating content instruction and learning. Field experience is required. PREREQUISITE: TEP admission or permission of instructor.

ECED 6530 - Plan/Fac Math/Sci Learning (3)
Provides knowledge, skills, and dispositions necessary to plan for and facilitate development and learning of physical, logico-mathematical, and social knowledge of mathematics and science for children from birth through 8 years. Field experience is required. PREREQUISITE: ECED 6510 and TEP admission, or permission of instructor.

ECED 6540 - Plan/Fac Infant/Toddler Dev (3)
Models, principles, curriculum, and practices of developmentally appropriate infant/toddler caregiving; emphasis on teacher's knowledge of child development, skills, and dispositions necessary to foster infant and toddler development in group care settings. Field experience is required. PREREQUISITES: ECED 6510 and TEP admission or permission of instructor.

ECED 7100 - Foundtn/Early Child Ed (3)
Examination of historical, philosophical, psychological, and societal factors influencing development, modification,
and implementation of programs for young children and their families.

**ECED 7101 - Early Child Teach/Learn (3)**
Incorporates knowledge of child development, early childhood curriculum models, and instructional methodologies to more effectively meet educational needs of young children in diverse environments.

**ECED 7102 - Obs/Asmt Intsv Chld Stg (3)**
Advanced level course on assessing developmental perspectives on measurement and evaluation in early childhood years. Consideration is given to standardized tests, observations, checklists, rating scales, and tests designed by teachers; their advantages and disadvantages for use with young children; and professional ethical issues regarding evaluating young children. Field experience is required. PREREQUISITE: EDPR 7110.

**ECED 7103 - Ltrcy Dvlp/Erly Chldhd (3)**
Advanced level of theoretical, cognitive, and developmentally appropriate practice in language development and literacy processes from birth to age 8. Research studies on instructional strategies and assessment on literacy and language acquisition and development from sociocultural perspectives.

**ECED 7104 - Play/Erly Chldhd Dev (3)**
Analysis of role of play in young children's development and learning from birth through age 8; developmentally appropriate applications of play theory and research to young child's physical, intellectual, language, social, and emotional development and learning.

**ECED 7107 - Constructivism In ECED (3)**
Analysis of constructivist theory and research with emphasis on implications for early childhood curriculum, the ecology of the learning environment, and the role of the teacher. PREREQUISITES: Licensure and experience in early childhood education or a related area.

**ECED 7108 - Sem Erly Chldhd Ed (3)**
Analysis of contemporary issues and trends in the field of early childhood education. May be repeated for a maximum of 9 credit hours with a change in topic.

**ECED 7109 - Admin Prog Young Child (3)**
Enhances knowledge, skills, and dispositions for management, leadership, and child advocacy; applies knowledge of child development, appropriate practices, early childhood standards, and management competencies while examining programming for children involving families, personnel management, fiscal responsibilities, and accreditation processes.

**ECED 7113 - Rsrch/Erly Chd/Math/Sci (3)**
Current topics in the areas of early childhood instruction and curriculum at advanced levels, focusing on current issues and research in early learning and teaching of mathematics and science. PREREQUISITES: EDPR 7521 or

equivalent, ECED 7100-8100.

ECED 7115 - Rdng Erly Chld Ed Rsrch (3)
Survey and analysis of contemporary issues and trends in early childhood education research; translating research into practical applications in early childhood settings.

ECED 8100 - Foundtn/Early Child Ed (3)
Examination of historical, philosophical, psychological, and societal factors influencing development, modification, and implementation of programs for young children and their families.

ECED 8101 - Early Child Teach/Learn (3)
Incorporates knowledge of child development, early childhood curriculum models, and instructional methodologies to more effectively meet educational needs of young children in diverse environments.

ECED 8102 - Obs/Asmt Intsv Chld Stg (3)
Advanced level course on assessing developmental perspectives on measurement and evaluation in early childhood years. Consideration is given to standardized tests, observations, checklists, rating scales, and tests designed by teachers; their advantages and disadvantages for use with young children; and professional ethical issues regarding evaluating young children. Field experience is required. PREQUISITE: EDPR 7110.

ECED 8103 - Ltrcy Dvlp/Erly Chldhd (3)
Advanced level of theoretical, cognitive, and developmentally appropriate practice in language development and literacy processes from birth to age 8. Research studies on instructional strategies and assessment on literacy and language acquisition and development from sociocultural perspectives.

ECED 8104 - Play/Erly Chldhd Dev (3)
Analysis of role of play in young children's development and learning from birth through age 8; developmentally appropriate applications of play theory and research to young child's physical, intellectual, language, social, and emotional development and learning.

ECED 8107 - Constructivism in ECED (3)
Analysis of constructivist theory and research with emphasis on implications for early childhood curriculum, the ecology of the learning environment, and the role of the teacher. PREREQUISITES: Licensure and experience in early childhood education or a related area.

ECED 8108 - Sem Erly Chldhd Ed (3)
Analysis of contemporary issues and trends in the field of early childhood education. May be repeated for a maximum of 9 credit hours with a change in topic.

ECED 8109 - Admin Prog Young Child (3)
Enhances knowledge, skills, and dispositions for management, leadership, and child advocacy; applies knowledge of child development, appropriate practices, early childhood standards, and management competencies while examining programming for children involving families, personnel management, fiscal responsibilities, and accreditation processes.

**ECED 8110 - Readings Early Chld (1-3)**
Individually directed reading; written report required. May be repeated for a maximum of 9 credits.
PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

**ECED 8112 - Research Early Chld Ed (1-6)**
Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor. Grades of S, U, or I will be given.

**ECED 8113 - Rsrch/Erly Chd/Math/Sci (3)**
Current topics in the areas of early childhood instruction and curriculum at advanced levels, focusing on current issues and research in early learning and teaching of mathematics and science. PREREQUISITES: EDPR 7521 or equivalent, ECED 7100-8100.

**ECED 8115 - Rdng Erly Chld Ed Rsrch (3)**
Survey and analysis of contemporary issues and trends in early childhood education research; translating research into practical applications in early childhood settings.

**INSTRUCTIONAL DESIGN AND TECHNOLOGY (IDT)**

**IDT 7052 - Intro Instr Design & Technlgy (3)**
In-depth overview of field of instructional technology; history, philosophy, and critical issues of the field; foundations and applications of instructional technology, and associated areas of research.

**IDT 7060 - Technology Tools for Learning (3)**
Focuses on design and development of media, paper-based and electronic, to support learning; students will create products to solve instructional problems through a survey of various technologies.

**IDT 7061 - Technlgy Integratn in Classrm (3)**
Computers and technology in the instructional process, including problem solving using computer tools; technological applications for the classroom; uses for technology in different content areas.
IDT 7062 - Intro Computer Based Instructn (3)
Application of instructional design principles to creation of computer-based instruction; emphasis on use of authoring and scripting systems to create instructional software. PREREQUISITE: Must have passed an introductory computer literacy course or permission of instructor.

IDT 7063 - Seminar Instructnal Computing (3)
Analysis of issues and trends related to instructional computing and instructional technology in K-12 classroom.

IDT 7064 - School Change and the Internet (3)
Issues, processes, and strategies relative to changes occurring with design, implementation, and evaluation of Internet technologies in instructional environments. PREREQUISITE: IDT 7060-8060, IDT 7061-8061, or permission of instructor.

IDT 7070 - Instructional Design Process I (3)
Applies the instructional design process to conduct a needs assessment that supports the creation of self-paced instructional units addressing performance and learning problems for PK-12 education, business, health care, and related learning environments.

IDT 7071 - Principles & Appl Instr Design (3)
Application of instructional design principles to solve performance and instructional problems in educational and non-educational environments.

IDT 7072 - Seminar on Online Instruction (3)
Application of instructional design principles to development of online instruction. Beginning and intermediate students work together; covers beginning content when taken first and may be repeated for a maximum of 6 credit hours for more advanced content. PREREQUISITE: IDT 7070-8070 or permission of instructor.

IDT 7073 - Sem Computer Based Lnrrng Envrn (3)
Applying instructional design principles to develop of computer-based learning environments. Beginning and intermediate students work together. Course covers beginning content when taken first. May be repeated for a maximum of 6 credit hours for more advanced content. PREQREQUISTE: IDT 7070-8070 or permission of instructor.

IDT 7074 - Thry/Models Instructnal Design (3)
A critical examination of instructional design theories from the perspective of supporting research and application.

IDT 7075 - Instrctnl/Performnce Consultng (3)
Learning how to be an instructional and performance consultant. Applying procedural and interpersonal skills when working with clients to design, develop, and evaluate learning and performance environments. PREREQUISITE: IDT 7070-8080 or permission of instructor
IDT 7076 - Seminar in Workshop Design (3)
Technical and theoretical principles for developing effective seminars and workshops. Design, preparation, and implementation skills are developed for effective adult learning environments. PREREQUISITES: IDT 7070-8070 and research or statistics course.

IDT 7078 - Seminar Instruct Design & Technology (3)
Professional and research problems in instructional strategies, design, and technology. May be repeated once with a change in topic. PREREQUISITE: Permission of instructor.

IDT 7080 - Instructional Design Process II (3)
Prepares students to understand and apply instructional design principles to evaluate instructional materials that are designed to solve performance and learning problems. Applies the instructional design process to create a self-paced instructional unit based on documentation produced in IDT 7070-8070.

IDT 7090 - Dev Interactive Lrng Envirnmt I (3)
Students use instructional design principles and models to develop interactive learning environments. Students learn current development tools to create effective, efficient and appealing learning environments. Beginning and advanced students work together. Covers beginning content when taken first. May be repeated for a maximum of 6 credit hours for advanced content. PREREQUISITE: IDT 7060-8060 and 7070-8070, and 7080-8080 or permission of instructor.

IDT 7095 - Dev Interactive Lrng Envirnmt II (3)
Teams of students use instructional design principles to design and develop an instructional system, emphasizing advanced development skills with current technologies. Students contract with real clients, define project goals and timelines, manage instructional design projects, and document the instructional design process. PREREQUISITE: IDT 7090-8090 or permission of instructor.

IDT 7230 - Instructional Text Design (3)
Introduction to application and techniques of producing and processing instructional text and images. PREREQUISITES: IDT 7070-8070 or permission of instructor.

IDT 7810 - Practicum Instr Design/Technology (3-9)
Planned, supervised experience in an instructional setting appropriate to student's specialization area of instructional design and technology. The student will have the opportunity to synthesize knowledge and skills and demonstrate professional competencies in educational or training settings. PREREQUISITES: IDT 7070-8070 and 3 additional hours of IDT graduate coursework. Grades of S, U, or I will be given.

IDT 8052 - Intro Instr Design & Technology (3)
In-depth overview of field of instructional technology; history, philosophy, and critical issues of the field; foundations...
and applications of instructional technology, and associated areas of research.

**IDT 8060 - Technology Tools for Learning (3)**
Focuses on design and development of media, paper-based and electronic, to support learning; students will create products to solve instructional problems through a survey of various technologies.

**IDT 8061 - Technlogy Integratn in Classrm (3)**
Computers and technology in the instructional process, including problem solving using computer tools; technological applications for the classroom; uses for technology in different content areas.

**IDT 8062 - Intro Computer Based Instructn (3)**
Application of instructional design principles to creation of computer-based instruction; emphasis on use of authoring and scripting systems to create instructional software. PREREQUISITE: Must have passed an introductory computer literacy course or permission of instructor.

**IDT 8063 - Seminar Instructntal Computing (3)**
Analysis of issues and trends related to instructional computing and instructional technology in K-12 classroom. PREREQUISITE: Six hours of coursework in IDT.

**IDT 8064 - School Change and the Internet (3)**
Issues, processes, and strategies relative to changes occurring with design, implementation, and evaluation of Internet technologies in instructional environments. PREREQUISITE: IDT 7060-8060, IDT 7061, or permission of instructor.

**IDT 8070 - Instructional Design Process I (3)**
Applies the instructional design process to conduct a needs assessment that supports the creation of self-paced instructional units addressing performance and learning problems for PK-12 education, business, health care, and related learning environments.

**IDT 8071 - Principles & Appl Instr Design (3)**
Application of instructional design principles to solve performance and instructional problems in educational and non-educational environments.

**IDT 8072 - Seminar on Online Instruction (3)**
Application of instructional design principles to development of online instruction. Beginning and intermediate students work together; covers beginning content when taken first and may be repeated for a maximum of 6 credit hours for more advanced content. PREREQUISITE: IDT 7070-8070 or permission of instructor.

**IDT 8073 - Sem Computer Based Lnrng Envrn (3)**
Application of instructional design principles to development of computer-based learning environment. Beginning
and intermediate students work together; covers beginning content when taken first and may be repeated for a maximum of 6 credit hours for more advanced content. PREREQUISITE: IDT 7070-8070 or permission of instructor.

**IDT 8074 - Thry/Models Instructnal Design (3)**
A critical examination of instructional design theories from the perspective of supporting research and application.

**IDT 8075 - Instrctnl/Performnce Consultng (3)**
Learning how to be an instructional and performance consultant. Applying procedural and interpersonal skills when working with clients to design, develop, and evaluate learning and performance environments. PREREQUISITE: IDT 7070-8070 or permission of instructor.

**IDT 8076 - Seminar in Workshop Design (3)**
Technical and theoretical principles for developing effective seminars and workshops. Design, preparation, and implementation skills are developed for effective adult learning environments. PREREQUISITES: IDT 7070-8070 and research or statistics course.

**IDT 8078 - Seminr Instrct Design&Technlgy (3)**
Professional and research problems in instructional strategies, design, and technology. May be repeated once with a change in topic. PREREQUISITE: Permission of instructor.

**IDT 8080 - Instructnal Design Process II (3)**
Prepares students to understand and apply instructional design principles to evaluate instructional materials that are designed to solve performance and learning problems. Applies the instructional design process to create a self-paced instructional unit based on documentation produced in IDT 7070-8070.

**IDT 8090 - Dev Interactve Lrng Envirnmt I (3)**
Students use instructional design principles and models to develop interactive learning environments. Students learn current development tools to create effective, efficient and appealing learning environments. Beginning and advanced students work together. Covers beginning content when taken first. May be repeated for a maximum of 6 credit hours for advanced content. PREREQUISITE: IDT 7060-8060 and 7070-8070, and 7080-8080 or permission of instructor.

**IDT 8091 - Directed Readings IDT (1-3)**
Individually directed readings which culminate in the synthesis of a student's ideas. May be repeated with change in topic for 9 credits. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

**IDT 8092 - Research IDT (1-6)**
The student engages in collaborative research with faculty. Activities include planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES:
Minimum of 12 credit hours in IDT and permission of instructor.

**IDT 8095 - Dev Intractve Lrng Envirnmt II (3)**
Teams of students use instructional design principles to design and develop an instructional system, emphasizing advanced development skills with current technologies. Students contract with real clients, define project goals and timelines, manage instructional design projects, and document the instructional design process. **PREREQUISITE:** IDT 7090-8090 or permission of instructor.

**IDT 8100 - Scholarly Practice in IDT (3)**
Students will prepare to be scholars in the field, including learning to evaluate and eventually produce rigorous research, and preparing for their scholarly project and dissertation research. Students will become oriented to the scholarly nature and dimensions of IDT, particularly related to higher education and research settings.

**IDT 8230 - Instructional Text Design (3)**
Introduction to application and techniques of producing and processing instructional text and images. **PREREQUISITES:** IDT 7070-8070 or permission of instructor.

**IDT 8500 - Evaltn/Synthesis IDT Research (3)**
Students will critique academic research findings and synthesize research findings into an original, coherent and structured document. May be repeated for a maximum of 6 credit hours. **PREREQUISITES:** EDPR 7521 or equivalent.

**IDT 8600 - Seminar in IDT Research (1-3)**
Contemporary research trends and issues in the field of instructional design and technology. May be repeated for a maximum of 6 credit hours.

**IDT 8810 - Practicm Instr Design/Technlgy (3-9)**
Planned, supervised experience in an instructional setting appropriate to student's specialization area of instructional design and technology. The student will have the opportunity to synthesize knowledge and skills and demonstrate professional competencies in educational or training settings. **PREREQUISITES:** IDT 7070-8070 and 3 additional hours of IDT graduate coursework. Grades of S, U, or I will be given.

**READING (RDNG)**

**RDNG 7000 - Literacy/English Lang Learners (3)**
Research based literacy teaching and assessment strategies/methods for the English language learner, including theories.
**RDNG 7304 - Writing Theory and Practice (3)**
This online course is designed to present an advanced study of writing techniques in the primary and secondary classroom.

**RDNG 7540 - Lit Inst in the Elem Schl (3)**
Foundations, issues, processes, and strategies relative to changes occurring with teaching of literacy; focus on linking theory to practice. Restricted to MS and EdD students.

**RDNG 7541 - Lit Assess and Intervtn (3)**
Principles of assessment, evaluation, and prognosis in literacy; formal and informal procedures and instruments used in assessing literacy and related cognitive abilities; multiple causation approach to literacy difficulties. PREREQUISITES: Teaching experience and RDNG 7540, or permission of the instructor.

**RDNG 7542 - Alt Proced Reading Prob (3)**
Application of differentiated instruction within a clinical setting to meet the needs of the struggling literacy learner. PREREQUISITES: RDNG 7540 and 7541 or permission of instructor.

**RDNG 7543 - Adv Lit Instr/Sp Lrnr (3)**
Etiology of literacy disabilities unique to various types of handicapped children; planning and treatment selection related to gifted and talented, learning disabled, physically handicapped, and other categories of special learner.

**RDNG 7544 - Adolscnt Lit Instruc (3)**
Research based theories and steps necessary for academic disciplines: techniques for improving vocabulary, cognition, study skills, and reading rate.

**RDNG 7545 - Tchg Lit Subject Areas (2-3)**
Methods, materials, and organizational patterns by which literacy skills are developed and improved through integration with teaching strategies in subject areas. Additional field hours required. Prerequisite: TEP admission

**RDNG 7546 - Computr Appl/Lit Instr (3)**
Incorporating computers in the reading classroom and curriculum development of educationally relevant literacy programs. PREREQUISITE: ICL 7060-8060 or permission of instructor.

**RDNG 7547 - Literacy Clinic (3-6)**
Emphasis on practical experiences of clinical diagnosis and treatment. PREREQUISITES: ICL 7540-8540 or permission of instructor. Grades of A-F, or IP will be given.

**RDNG 7548 - Adv Sem Reading Resrch (3-6)**
Survey and analysis of reading research to create background information for study of selected topics in reading;
translating research into practical applications in classroom and school. May be repeated for up to 6 hours.

PREREQUISITE: EDPR 7521, 7523, 7541, or permission of instructor.

RDNG 7549 - Foundtns Lang/Lit Dev (2)
Instructional techniques, curriculum, and materials for teaching literacy. Additional field hours required.
PREREQUISITES: Admission to TEP. Restricted to licensure-only or MAT secondary students.

RDNG 7550 - Sem in Analyzing Lit Res (3)
This online course is designed to develop students' ability to survey, summarize, and analyze literacy research and translate research into practical applications in classrooms and schools.

RDNG 7553 - Literacy Dev K-4 (3)
Teaching and assessing literacy development in grades K-4 with focus on major theories and current research. Additional field hours required. Restricted to students seeking licensure. Prerequisite: TEP admission

RDNG 7554 - Literacy Dev 5-8 (3)
Furthering literacy development in grades 5-8 with emphasis on teaching and assessment grounded in current research and theory. Additional field hours required. Restricted to students seeking licensure. Prerequisite: TEP admission

RDNG 7560 - Literacy Leader and Coach (3)
Develops knowledge, skills and dispositions necessary for successful literacy coaching.

RDNG 7561 - Literacy Coach Practicum (3)
Application of knowledge about literacy coaching in a practical classroom setting.

RDNG 7809 - Literacy Research Practicum (3)
Participation is required in a supervised literacy research practicum; the experience includes either a clinical or field-based component. Grades of S, U, or I will be given.

RDNG 8000 - Literacy/English Lang Learners (3)
Research based literacy teaching and assessment strategies/methods for the English language learner, including theories.

RDNG 8155 - Hist Literacy Instruction (3)
This course considers the history of literacy from three perspectives: 1) as a cognitive, social and cultural activity, 2) the teaching of literacy, and 3) the study of literacy from the advent of the written work to the present. Restricted to candidates admitted to doctoral program.

RDNG 8304 - Writing Theory and Practice (3)
This online course is designed to present an advanced study of writing techniques in the primary and secondary classroom.

**RDNG 8540 - Lit Inst in the Elem Schl (3)**
Foundations, issues, processes, and strategies relative to changes occurring with teaching of literacy; focus on linking theory to practice. Restricted to MS and EdD students.

**RDNG 8541 - Lit Assess and Intervtn (3)**
Principles of assessment, evaluation, and prognosis in literacy; formal and informal procedures and instruments used in assessing literacy and related cognitive abilities; multiple causation approach to literacy difficulties. PREREQUISITES: Teaching experience and RDNG 7540, or permission of the instructor.

**RDNG 8542 - Alt Proced Reading Prob (3)**
Application of differentiated instruction within a clinical setting to meet the needs of the struggling literacy learner. PREREQUISITES: RDNG 7540 and 7541 or permission of instructor.

**RDNG 8543 - Adv Lit Instr/Sp Lrnr (3)**
Etiology of literacy disabilities unique to various types of handicapped children; planning and treatment selection related to gifted and talented, learning disabled, physically handicapped, and other categories of special learner.

**RDNG 8544 - Adolscnt Lit Instruc (3)**
Research based theories and steps necessary for academic disciplines: techniques for improving vocabulary, cognition, study skills, and reading rate.

**RDNG 8546 - Computr Appl/Lit Instr (3)**
Incorporating computers in the literacy classroom and curriculum development of educationally relevant literacy programs. PREREQUISITE: ICL 7060-8060 or permission of instructor.

**RDNG 8547 - Literacy Clinic (3-6)**
Emphasis on practical experiences of clinical diagnosis and treatment. PREREQUISITES: ICL 7540-8540 or permission of instructor. Grades of A-F, or IP will be given.

**RDNG 8548 - Adv Sem Reading Resrch (3-6)**
Survey and analysis of reading research to create background information for study of selected topics in reading; translating research into practical applications in classroom and school. May be repeated for up to 6 hours. PREREQUISITE: EDPR 7521, 7523, 7541, or permission of instructor.

**RDNG 8549 - Theoretical Models Read (3)**
Explores extant theoretical models of the reading process; appropriate for advanced graduate students interested in reading/literacy education, special education, educational psychology, early childhood, and elementary
education. PREREQUISITE: Permission of instructor.

**RDNG 8550 - Sem in Analyzing Lit Res (3)**
This online course is designed to develop students' ability to survey, summarize, and analyze literacy research and translate research into practical applications in classrooms and schools.

**RDNG 8551 - Directed Readings Lit (1-3)**
Individually directed readings culminating in synthesis of ideas. May be repeated with change in topic for 9 credits. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

**RDNG 8552 - Research In Literacy (1-6)**
Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor. Grades of S, U, or I will be given.

**RDNG 8560 - Literacy Leader and Coach (3)**
Develops knowledge, skills and dispositions necessary for successful literacy coaching.

**RDNG 8561 - Literacy Coach Practicum (3)**
Application of knowledge about literacy coaching in a practical classroom setting.

**RDNG 8580 - Comp:Theory/Practice (3)**
Provides in-depth knowledge of theory, research and pedagogy as related to the field of composition in K-12 education. Restricted to candidates admitted to doctoral program.

**RDNG 8585 - Issues in Urban Literacy (3)**
Provides in-depth knowledge of scientific research on the development of literacy skills in urban and high-poverty settings. Restricted to candidates admitted to doctoral program.

**RDNG 8590 - Thry/Prac Fam Lit Home Sch (3)**
This course will have two foci: family literacy as a descriptor of practices which occur between family members and as programs aimed at increasing children's academic success through parental involvement and education. Restricted to candidates admitted to doctoral program.

**RDNG 8809 - Literacy Research Practicum (3)**
Participation is required in a supervised literacy research practicum; the experience includes either a clinical or field-based component. Grades of S, U, or I will be given.

**RDNG 8854 - Lang Inqry Lit Res/Tchg (3)**
A review and analysis of linguistic approaches to studies of language structures and functions in literacy
In addition to the courses below, the department may offer the following Special Topics courses:

**SPED 7060-69-8060-69. Special Topics in Special Education. (1-3).** Current topics in special education. May be repeated with a change in topic. See online class listings for topics.

**SPED 6000 - Meth/Mat Modrt/Sevr Dis (3)**
Curriculum, methods, and materials applicable to special educational needs of moderately/severly disabled learners, emphasizing educational and vocational skills that facilitate normalization and independent living. 
PREREQUISITES: SPED 3501 or SPED 6601; COREQUISITES: SPED 4001 or 7042.

**SPED 6513 - Asst Tech/Trans Instruc (3)**
Transition issues, life skills, and vocational training to prepare students with significant exceptionalities for community living; focuses on legal and family concerns and effective transition programming; includes familiarity with available community resources and interagency collaboration; emphasizes assistive technology and augmentative/alternative communication as major tools for community integration.

**SPED 6601 - Student Phys/Health Dis (3)**
Emphasizes physical and educational modifications to facilitate learning and vocational skills; examines accessibility, movement patterns, prosthetic and augmentative communication devices, and supportive medical procedures. Includes practicum with students with physical/health impairments.

**SPED 6900 - Consultn Schl/Fmly/Cmty (3)**
Current professional development issues that impact on educator interaction with students, parents, and other professionals including the development of communication and consultation skills.

**SPED 7000 - Intro Exceptional Learnr (3)**
Study of the relevant research dealing with the physical, mental, emotional, and social traits of all types of individuals who are exceptional; consideration of major current problems and practices in the development of various programs. Field Experience: Required. NOTE: Not required if equivalent course taken at the undergraduate level. Substitutions must be approved by advisor.

**SPED 7001 - Test Meas Excp Chl/Adul (3)**
Overview of psychoeducational assessment practices and issues with emphasis on educational and psychological classrooms, including discourse analyses, inquiry based instructional methods, and descriptions of literary genres. Restricted to candidates admitted to doctoral program.
tests used in special education; focus on informed interpretation of test data and implications for instructional practice. Field experience: Required. PREREQUISITE: SPED 7000.

**SPED 7002 - Indep Stdy Spec Educ (1-6)**
Opportunity for self-directed, independent study in special education. PREREQUISITE: Permission of instructor. Grades of A-F will be given.

**SPED 7010 - Ethical Issues in ABA (3)**
This course will provide an overview of ethical and legal issues faced by the behavior analyst. This course covers the Behavior Analyst Certification Board's guidelines for responsible and professional conduct, ethical issues related to the application of Applied Behavior Analysis in Special Education, and other ethical and legal considerations.

**SPED 7025 - Microcomputers In Sped (3)**
Emphasis on matching software programs with the unique learning needs of students with disabilities; adaptive interfacing techniques for students who have physical and/or sensory disabilities also addressed.

**SPED 7042 - Fld Exp/Comprehen Sped (3-6)**
Supervised experience(s) with individuals with moderate to severe disabilities in cooperation with university, local, state, and/or national education personnel. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

**SPED 7050 - Teach Exceptnl Learner (2-3)**
Overview of special education including characteristics and education of students with various exceptionalities; emphasis on developing skills for effective teaching of exceptional student in regular classroom.

**SPED 7101 - Foundations E Chld Sped (3)**
Overview of early childhood special education including current issues, laws, and practices that influence programs serving children with disabilities birth through age eight; emphasis on research dealing with physical, mental, emotional, and social characteristics of young children with various exceptionalities. Clinical/Field Experience Required.

**SPED 7121 - Ed Prog Presc Ed/Disbl (3)**
Methods involved in developmental assessment and educational planning for children with disabilities in pre-school years. PREREQUISITE: SPED 7000 OR 7101-8101.

**SPED 7141 - Field Exper Early Child (3-6)**
Observation and supervised experience in early childhood special education settings. PREREQUISITES: ECED 6540 and SPED 7121-8121. Grades of S, U, or I will be given.
SPED 7201 - Char/Indvl W/Mild Disab (3)
Examination of etiological, psychological, social, and physical conditions related to the educational performance of individuals with disabilities in developmental life periods. PREREQUISITE: SPED 7000 or equivalent.

SPED 7203 - Char/Indvl Emot Disturb (3)
Characteristics of persons with emotional and behavioral disorders; emphasis on social, psychological, and biological theories of causality, assessment, and education with a variety of emotional and/or behavioral problems.

SPED 7205 - Prin/Thry Inclusive Education (3)
This course will explore the foundations of inclusive education. Research, policy, and professional standards which are the basis of inclusive practices will be discussed. In addition, the examination of social issues that support the evolution of the inclusive movement in educational environments will occur.

SPED 7206 - Special Education Law (3)
The essential elements of applicable laws will be presented. Emphasis will be placed on the influence of case law on the practice of teaching inclusive environments. Implementation of best practices in inclusive settings and evaluation as it relates to the incorporation of research in past and present special education law is the focus of this course.

SPED 7207 - Ldrshp/Facil Inclusion/Edu Set (3)
This course promotes the development of inclusion facilitators, professional development design and leaders. Presentation and design of the flexible schedules and grouping will occur. Emphasis will be placed on the identification of teaching partners and facilitating the cooperative educator process. Handling sensitive issues, setting up venues, and designing materials will be presented.

SPED 7211 - Academic Instruct Sped (3)
Academic methods, remediation, and educational planning for individuals with disabilities. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

SPED 7212 - Content Methods in Special Edu (3)
Study of best practices and methods for mathematics, social studies and science instruction presently being used in special education and inclusive settings. Also curriculum for transition and daily living skills. The use of assistive technology for education is included. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

SPED 7221 - Behavior Mgmt Spec Ed (3)
Methods of changing behaviors of individuals with mild to severe disabilities in various educational settings. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

SPED 7222 - Meth Tech Tchg Eml Dstb (3)
Procedures for educating individuals with emotional disturbance; emphasis on teaching behaviors, psycho-
educational management of behavior, and effective teaching techniques. PREREQUISITE: Permission of instructor.

**SPED 7224 - Tchng Chldrn Deaf/Hh (3)**
Overview of teaching for children who are deaf or hard of hearing; addresses philosophical and historical perspectives, methodologies, assessment, and intervention; discusses curriculum planning, hearing-aid technology, cochlear implants, and career development.

**SPED 7225 - Tchng Spch/Lang Deaf/Hh (3)**
Focuses on the acquisition of basic speech/language skills in the development of effective communication in children with hearing impairments.

**SPED 7226 - Manual Communication (3)**
Develops beginning competencies in manual communication modes, both fingerspelling and signing, emphasizing accurate, clear fingerspelling and the ability to read fingerspelling presented slowly; also introduces basic signs in American Sign Language (ASL). Practice will be provided.

**SPED 7227 - Tchng Read Chld Deaf/Hh (3)**
Modern trends, lesson planning, teaching strategies, and assessment tools in reading instruction for children with hearing impairment.

**SPED 7241 - Superv Practicm In Sped (3-9)**
Enhanced student teaching in settings with individuals who have disabilities. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

**SPED 7401 - Psyc Soc Aspct Lrn Dsab (3)**
Psychological, social, and educational characteristics of individuals with learning disabilities; theories and philosophies regarding the treatment, etiology, and management considerations stressed.

**SPED 7411 - Meth Teach Learng Disab (3)**
Remedial approaches for children with learning disabilities; emphasis on developmental sequence and educational practices.

**SPED 7511 - Mental Retardation (3)**
Emphasis on diagnostic and pedagogical techniques used with children who have mental retardation at the pre-academic level. PREREQUISITES: SPED 7000, 7501, or their equivalents.

**SPED 7513 - Scndry Schl Transition (3)**
Emphasizes transition issues, life skills, and vocational education to prepare students with exceptionalities for life after secondary school; also focuses on legal issues, family concerns, and effective transition programming.
Familiarity with available community resources and the importance of interagency collaboration stressed.

SPED 7514 - Intro/App l Behav Anlys (3)
Overview of the principles, processes, concepts, and ethics of behaviorism and behavior analysis.

SPED 7516 - Adv Prin/Conc Appl Behv (3)
In-depth examination of the philosophy, processes, concepts, and the principles of behaviorism and applied behavior analysis. PREREQUISITE: SPED 7514-8514.

SPED 7517 - Func Anlys/Treat Prob Behv (3)
Examines principles, issues, approaches, and strategies for conducting Functional Behavior Assessment and Functional analysis. PREREQUISITE: SPED 7514/8514.

SPED 7518 - Evidence-Based Prac in ABA (3)
Study of instructional strategies developed from applied behavior analysis, including Direct Instruction, Precision Teaching, Discrete Trial Training, and others. PREREQUISITE: SPED 7514-8514.

SPED 7519 - Prac/Appld Behav Anlys (3-12)
Supervised experience in the application of behavior analytic strategies in education settings; requires 20 hrs per week (10 direct hrs and 10 indirect hrs) for 1000 hrs total. Must be repeated for a minimum of 12 hours credit (4 semesters). On campus seminars addressing special topics are required and count as group supervision according to the BACB. PREREQUISITE: SPED 7/8010, SPED 7/8514, SPED 7/8517, SPED 7/8518 with a grade of 3.0 or higher and permission of instructor.

SPED 7520 - Behaviorism Seminar (3)
Provides an overview of the application of behavior analytic principles to common behavior problems exhibited by children both with and without disabilities. PREREQUISITES: SPED 7514/8514.

SPED 7521 - Facil General/Maint of Lrng (3)
An overview of the principles, strategies, and tactics that promote generalized outcomes of learning across people, time, settings, and behaviors. PREREQUISITE: SPED 7514-8514.

SPED 7522 - Tiered Interventions (3)
An advanced study of the science of implementing and assessing tiered interventions for early intervening and identifying students with learning disabilities. PREREQUISITES: SPED 7514-8514 and SPED 7211-8211 or permission of instructor.

SPED 7523 - SPED Research/Dissem (3)
This course helps students acquire and develop skills for professional writing and publication. Gives guidance in conducting literature reviews and evaluating research practices appropriate for students with disabilities and/or
special education settings. Procedures for preparing and submitting manuscripts to professional journals will be covered.

**SPED 7600 - Intro to Aut Spec Dis (3)**
This course will provide an overview of autism spectrum disorders from the diagnosis and early intervention phase to working with families, therapists, and staff in both educational and community settings. The course will be grounded in research-based theory and will assist with the learner with evidence-based decision making from a practical standpoint. Legal and ethical issues will be discussed related to diagnosis, treatment selections, and working effectively with families.

**SPED 7601 - ASD: Class Mgmt and Design (3)**
This course will introduce common behavior management strategies shown to be effective for children with autism. These strategies will focus on both individual and group contingencies. Further, this course will discuss functional behavior assessment interpretation and treatment design, as well as data collection methods. PREREQUISITE: SPED 7600 (Introduction to Autism Spectrum Disorders - concurrent enrollment allowed).

**SPED 7602 - ASD: Instruct Methods I (3)**
This course will introduce evidence based methods of instruction specific to teaching academic and social skills to children with autism. Additionally, this course will focus on distinguishing between evidence-based and unsupported but common strategies in treatment of autism. Common unsupported strategies will be discussed. PREREQUISITE: SPED 7600 (Introduction to Autism Spectrum Disorders), SPED 7601 (Classroom Design and Data Collection).

**SPED 7603 - ASD: Instruct Methods II (3)**
This course will introduce methods of instruction specific to facilitating communication for students with autism. Additionally, this course will focus on assistive technologies related to the academic instruction, communication (AAC) and behavior modification of students with autism. Course content will emphasis data driven instructional practice, manual and technology-based data acquisition practices, data presentation and using data to drive instructional practice. PREREQUISITE: SPED 7600 (Intro to Autism Spectrum Disorders), SPED 7601 (Classroom Design and Data Collection), SPED 7602 (ASD: Methods I - concurrent enrollment allowed).

**SPED 7900 - Advanced Practicum/Capstone (3)**
Designed as a culminating experience exposing students to the application of behavior analytic strategies and tactics in a variety of settings. Direct participation is required for the successful completion of a field-study, on-site project or other classroom based experience. This course must be taken during the last semester of coursework. PREREQUISITE: Permission of instructor.

**SPED 8001 - Test Meas Excp Chl/Adul (3)**
Overview of psychoeducational assessment practices and issues with emphasis on educational and psychological tests used in special education; focus on informed interpretation of test data and implications for instructional

SPED 8002 - Indep Stdy Spec Educ (1-6)
Opportunity for self-directed, independent study in special education. PREREQUISITE: Permission of instructor. Grades of A-F will be given.

SPED 8010 - Ethical Issues in ABA (3)
This course will provide an overview of ethical and legal issues faced by the behavior analyst. This course covers the Behavior Analyst Certification Board's guidelines for responsible and professional conduct, ethical issues related to the application of Applied Behavior Analysis in Special Education, and other ethical and legal considerations.

SPED 8041 - Fld Exp/Modified Sped (3-6)
Supervised experience(s) with individuals with mild disabilities in cooperation with university, local, state, and/or national educational personnel. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

SPED 8042 - Fld Exp/Comprehen Sped (3-6)
Supervised experience(s) with individuals with moderate to severe disabilities in cooperation with university, local, state, and/or national education personnel. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

SPED 8101 - Foundations E Chld Sped (3)
Overview of early childhood special education including current issues, laws, and practices that influence programs serving children with disabilities birth through age eight; emphasis on research dealing with physical, mental, emotional, and social characteristics of young children with various exceptionalities. Clinical/Field Experience Required.

SPED 8121 - Ed Prog Presc Ed/Disbl (3)
Methods involved in developmental assessment and educational planning for children with disabilities in pre-school years. PREREQUISITE: SPED 7000 OR 7101-8101.

SPED 8141 - Field Exper Early Child (3-6)
Observation and supervised experience in early childhood special education settings. PREREQUISITES: ECED 6540 and SPED 7121-8121. Grades of S, U, or I will be given.

SPED 8201 - Char/Indvl W/Mild Disab (3)
Examination of etiological, psychological, social, and physical conditions related to the educational performance of individuals with disabilities in developmental life periods. PREREQUISITE: SPED 7000 or equivalent.

SPED 8203 - Char/Indvl Emot Disturb (3)
Characteristics of persons with emotional and behavioral disorders; emphasis on social, psychological, and biological theories of causality, assessment, and education with a variety of emotional and/or behavioral problems.

**SPED 8205 - Prin/Thry Inclusive Education (3)**
This course will explore the foundations of inclusive education. Research, policy, and professional standards which are the basis of inclusive practices will be discussed. In addition, the examination of social issues that support the evolution of the inclusive movement in educational environments will occur.

**SPED 8206 - Special Education Law (3)**
The essential elements of applicable laws will be presented. Emphasis will be placed on the influence of case law on the practice of teaching inclusive environments. Implementation of best practices in inclusive settings and evaluation as it relates to the incorporation of research in past and present special education law is the focus of this course.

**SPED 8207 - Ldrshp/Facil Inclusion/Edu Set (3)**
This course promotes the development of inclusion facilitators, professional development design and leaders. Presentation and design of the flexible schedules and grouping will occur. Emphasis will be placed on the identification of teaching partners and facilitating the cooperative educator process. Handling sensitive issues, setting up venues, and designing materials will be presented.

**SPED 8211 - Academic Instruct Sped (3)**
Academic methods, remediation, and educational planning for individuals with disabilities. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

**SPED 8212 - Content Methods in Special Edu (3)**
Study of best practices and methods for mathematics, social studies and science instruction presently being used in special education and inclusive settings. Also curriculum for transition and daily living skills. The use of assistive technology for education is included. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

**SPED 8221 - Behavior Mgmt Spec Ed (3)**
Methods of changing behaviors of individuals with mild to severe disabilities in various educational settings. Field Experience Required. PREREQUISITE: SPED 7000 or equivalent.

**SPED 8222 - Meth Tech Tchg Eml Dstb (3)**
Procedures for educating individuals with emotional disturbance; emphasis on teaching behaviors, psycho-educational management of behavior, and effective teaching techniques. PREREQUISITE: Permission of instructor.

**SPED 8401 - Psyc Soc Aspct Lrn Dsab (3)**
Psychological, social, and educational characteristics of individuals with learning disabilities; theories and
philosophies regarding the treatment, etiology, and management considerations stressed.

SPED 8411 - Meth Teach Learng Disab (3)
Remedial approaches for children with learning disabilities; emphasis on developmental sequence and educational practices.

SPED 8511 - Mental Retardation (3)
Emphasis on diagnostic and pedagogical techniques used with children who have mental retardation at the pre-academic level. PREREQUISITES: SPED 7000, 7501, or their equivalents.

SPED 8513 - Scndry Schl Transition (3)
Emphasizes transition issues, life skills, and vocational education to prepare students with exceptionalities for life after secondary school; also focuses on legal issues, family concerns, and effective transition programming. Familiarity with available community resources and the importance of interagency collaboration stressed.

SPED 8514 - Intro/Appl Behav Anlys (3)
Overview of the principles, processes, concepts, and ethics of behaviorism and behavior analysis.

SPED 8516 - Adv Prin/Conc Appl Behv (3)
In-depth examination of the philosophy, processes, concepts, and the principles of behaviorism and applied behavior analysis. PREREQUISITE: SPED 7514-8514.

SPED 8517 - Func Anlys/Treat Prob Behv (3)
Examines principles, issues, approaches, and strategies for conducting Functional Behavior Assessment and Functional analysis. PREREQUISITE: SPED 7514/8514.

SPED 8518 - Evidence-Based Prac in ABA (3)
Study of instructional strategies developed from applied behavior analysis, including Direct Instruction, Precision Teaching, Discrete Trial Training, and others. PREREQUISITE: SPED 7514-8514.

SPED 8519 - Prac/Appld Behav Anlys (3-12)
Supervised experience in the application of behavior analytic strategies in education settings; requires 20 hrs per week (10 direct hrs and 10 indirect hrs) for 1000 hrs total. Must be repeated for a minimum of 12 hours credit (4 semesters). On campus seminars addressing special topics are required and count as group supervision according to the BACB. PREREQUISITE: SPED 7/8010 SPED 7/8514, SPED 7/8517, SPED 7/8518 with a grade of 3.0 or higher and permission of instructor.

SPED 8520 - Behaviorism Seminar (3)
Provides an overview of the application of behavior analytic principles to common behavior problems exhibited by children both with and without disabilities. PREREQUISITES: SPED 7514/8514.
SPED 8521 - Facil General/Maint of Lrng (3)
An overview of the principles, strategies, and tactics that promote generalized outcomes of learning across people, time, settings, and behaviors. PREREQUISITE: SPED 7514-8514.

SPED 8522 - Tiered Interventions (3)
An advanced study of the science of implementing and assessing tiered interventions for early intervening and identifying students with learning disabilities. PREREQUISITES: SPED 7514-8514 and SPED 7211-8211 or permission of instructor.

SPED 8523 - SPED Research/Dissem (3)
This course helps students acquire and develop skills for professional writing and publication. Gives guidance in conducting literature reviews and evaluating research practices appropriate for students with disabilities and/or special education settings. Procedures for preparing and submitting manuscripts to professional journals will be covered.

SPED 8524 - Adv Seminar In SPED Res (3-6)
Survey and analysis of reading research to create background information for study of selected topics in special education; translating research into practical applications in special education program settings. PREREQUISITES: EDPR 7521 or 7523, 8541, 8561, or permission of instructor. Grades of A-F will be given.

SPED 8622 - Readings In SPED (1-3)
Individually directed readings culminating in synthesis of ideas. May be repeated with change of topic for 9 hours. PREREQUISITE: Permission of instructor. Grades of S, U, or I will be given.

SPED 8623 - Supervised Research SPED (1-6)
Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor.

SPED 8900 - Advanced Practicum/Capstone (3)
Designed as a culminating experience exposing students to the application of behavior analytic strategies and tactics in a variety of settings. Direct participation is required for the successful completion of a field-study, on-site project or other classroom based experience. This course must be taken during the last semester of coursework. PREREQUISITE: Permission of instructor.

ADVANCED STUDY IN TEACHING AND LEARNING (ASTL)
These courses are restricted to students enrolled in the Regents Online Master of Education Degree Program and will not be used to fulfill requirements for other graduate degrees. Department permit is required.

**ASTL 7700 - Portfolio Development (3)**
(5700). Portfolio as authentic assessment tool documenting scholarship of teaching; use of artifacts/products/teacher work samples/ student work samples as evidence of effective teaching; instructional examples organized into planning and teaching, actual teaching, assessment and evaluation, learning environment, professional growth, and communication following National Board for Professional Teaching Standards requirements.

**ASTL 7701 - Teacher As Learner (3)**
(5701). Improves knowledge and practice through professional reading, writing, dialogue, inquiry, and reflection; uses hardware and software to create effective literacy learning experiences; learn how to find, access, and assess materials from a variety of sources and to design and develop multi and hypermedia learning environments that promote active learning.

**ASTL 7703 - Knowledge Of Learner (3)**
(5703). Human development from conception through adolescence applied to school settings; aspects of human development impacted by human interaction and nurturing and those unaffected by environmental input; includes gross and fine motor development, temperament, visual and auditory perception, family characteristics, genetic inheritance, attention, cognitive tempo, play, and language development.

**ASTL 7705 - Assessment Of Learning (3)**
(5705). Introduction to learner-centered systematic assessment at the classroom level; overview of models for planning and implementing classroom assessment projects with emphasis on implementation, data collection, analysis, and reporting of results; overview of tools, techniques, and issues considered to design and use assessments focused on learner needs.

**ASTL 7706 - Learning Instruction Strategy (3)**
(5706). Analysis of theoretical and research support for selected models of instruction; emphasis on teaching applications.

**ASTL 7709 - Action Research (3)**
Empowers classroom teachers to construct their own knowledge and to make it available to others for the benefit of all learners; helps educators and other professionals understand the relationship between their own professional development and the process of improving the quality of pupils' and/or colleagues' learning.

**ASTL 7721 - Thry/Foundtn Dev Litrcy (3)**
(5721). Explores nature of learning, of language, of the reading process, of the writing process, how children learn
language, receptive vs. productive language, relationships among learning one's "mother tongue" and learning to read and write, and implications for classroom instruction and assessment; includes applications of technology and diversity issues.

**ASTL 7723 - Teaching Begin Literacy (3)**

(5723). Exploration of theory and best practices for family literacy from birth to school age, from preschool to kindergarten, followed by explorations of best practices for teaching reading and writing in the primary grades. Candidates will work with primary grade children to understand and implement best practices.

**ASTL 7725 - Literacy Growth/Mid Grd (3)**

(5725). Engage candidates in reading and discussions of theory, understanding best practices, and implementing best practices in literacy instruction grades 4-8; instructional strategies will focus on understanding reading and writing as tools for learning in all content areas.

**ASTL 7726 - Literacy Problems/K-8 (3)**

(5726). Engages candidates in reading, discussions, and implementation of diagnostic tools and techniques in literacy for struggling students grades K-8.

**ASTL 7729 - Rem/Literacy Problm K-8 (3)**

(5726). Engages candidates in reading, discussions, and implementation of instructional strategies based on the data derived from the diagnostic tools employed with students in Literacy IV. These students will be struggling readers in grades K-8. Issues related to improving student writing will also be presented and explored.
Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
LEADERSHIP (LEAD)

In addition to the courses below, the department may offer the following Special Topics courses:
LEAD 7050-59–8050-59. Special Topics in Leadership. (1-3). (EDAS 7712-22-8712-22). In-depth study of selected topics in educational leadership. May be repeated with change in topic.

LEAD 6000 - Educ/Schl/Am Society (3)
(EDFD 7003-8003). Interdisciplinary study of educational policies and practices in American society; role and function of the school and the teacher; analysis of major problems and issues facing contemporary public education. Five hours of school visitation required. (Fulfills foundations requirement for graduate students seeking teacher licensure.)

LEAD 6044 - SPED Law For Educators (3)
Study of legal foundations of special education, dealing extensively with federal/state laws and regulations and with administrative and civil court actions in determining status of services to children with special needs. PREREQUISITE: LEAD 2010 or SPED 2000, or knowledge of the characteristics of special needs children and programs that serve them.

LEAD 7000 - Intro To Educ Ldrshp (3)
(EDAS 7100). Theory and practice of educational leadership; scope, task, areas, processes and procedures, organization structure, problems and issues, and types of personnel needed in the United States. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 7004 - Instructional Leadership (3)
This is a capstone course in which candidates have opportunities to demonstrate that they have acquired the knowledge of theories, practices, and methodology used by effective instructional leaders to create a school culture that fosters high expectations and continuous growth in the academic achievement of all students.

LEAD 7006 - Hist Am Ed Prek-12 (3)
Includes study of external historical influences, emphasizing theoretical interpretations, sources of policy, current issues of historical importance, and future expectations.

LEAD 7061 - Practicum In Ldrship (1-3)
(EDAS 7170-8170). Practical short-term work experiences in various settings appropriate to student's career needs. May be repeated for maximum of 9 credit hours. Grades of S, U, or IP will be given.

LEAD 7070 - Culminating Experience (1-6)
(EDAS 7996). Capstone course using a problem-based, case-study approach. PREREQUISITE: Must be taken in last semester or by permission of department chair. Grades of S, U, or IP will be given.

LEAD 7080 - Rdgs/Res Phil of Educ (1-3)
Grades of A-F, or IP will be given.
LEAD 7081 - Rdng/Rsrch High/Adlt Ed (1-3)  
(EDAS 7790-8790). Grades of A-F, or IP will be given.

LEAD 7082 - Rdng/Rsrch Ed Ldrship (1-3)  
(EDAS 7710-8710). Grades of A-F, or IP will be given.

LEAD 7083 - Rdgs/Rsrch Educ Plcy (1-3)  
(EDFD 7008-8008). Grades of A-F, or IP will be given.

LEAD 7084 - Rdng/Rsrch Scl/Com Rel (1-3)  
(EDAS 7700-8700). Grades of A-F, or IP will be given.

LEAD 7085 - Rdng/Rsrch Ed Supv (1-3)  
(EDAS 7750-8750). Grades of A-F, or IP will be given.

LEAD 7086 - Rdng/Rsrch Fin/Bus Mgmt (1-3)  
(EDAS 7730-8730). Grades of A-F, or IP will be given.

LEAD 7087 - Rdng/Rsrch Prslnl Negtn (1-3)  
(EDAS 7760-8760). Grades of A-F, or IP will be given.

LEAD 7088 - Rdng/Rsrch Educ Law (1-3)  
(EDAS 7780-8780). Grades of A-F, or IP will be given.

LEAD 7089 - Rdng/Rsrch Plnt/Trnsptn (1-3)  
(EDAS 7740-8740). Grades of A-F, or IP will be given.

LEAD 7090 - Rdgs/Res Hist of Educ (1-3)  
Grades of A-F, or IP will be given.

LEAD 7100 - Education & Community (3)  
(EDAS 7000). Educational processes and policies in formal and non-formal community settings; inter-relationships among such settings; field-based, students will assess particular educational policy and its implications within the community. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 7210 - Field Experiences (1-9)  
(EDAS 7171-8171). Internship work experiences under supervision of practicing K-12 professional. May be repeated for maximum of 12 credits. Prospective enrollees must meet departmental deadlines for application. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.
LEAD 7500 - Adult Lrn/Leadership (3)
(HIAD 7255-8255). Characteristics of adult learners; factors that affect learning, achievement, and motivation throughout the adult life-cycle; implications for educational leaders and human resource development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 7600 - Adult Experiential Learning (1-15)
The course focuses on experiential learning that is a process through which students develop knowledge, skills, and values from direct experiences outside a traditional academic setting.

LEAD 7996 - Thesis (1-6)
Prospectus must be approved by the faculty committee directing this research study. Application for writing thesis must be filed with the Director of Graduate Studies. Grades of S, U, or IP will be given.

LEAD 8000 - Specialist Culmn Exp (1-6)
Thesis, internship, field of study, or special project designed under direction of student's committee; capstone experience in Education Specialist program. Grades of S, U, or IP will be given.

LEAD 8001 - Educ Ldrship In Orgntns (3)
(EDAS 8800). Basic theories of organization and administration; historical and contemporary foundations of theories; implications of current theories and practices for organizational and human resource development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 8002 - Am Society & Ed Policy (3)
(EDFD 7001-8001). Historical evolution of major social issues and resulting educational policies; normative and empirical bases of educational principles and practices; sociocultural contexts of contemporary problems and issues.

LEAD 8003 - Policy-Oriented Rsrch (3)
Inquiry methods appropriate to educational policy research; empirico-inductive (grounded) and constructivist inquiry strategies emphasized. PREREQUISITES: LEAD 8001 and 8002, EDPR 8541 or equivalent, or permission of the instructor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 8004 - Instructional Leadership (3)
This is a capstone course in which candidates have opportunities to demonstrate that they have acquired the knowledge of theories, practices, and methodology used by effective instructional leaders to create a school culture which fosters high expectations and continuous growth in the academic achievement of all students.

LEAD 8006 - Hist Am Ed Prek-12 (3)
Includes study of external historical influences, emphasizing theoretical interpretations, sources of policy, current
issues of historical importance, and future expectations.

LEAD 8061 - Practicum In Ldrship (1-3)
(EDAS 7170-8170). Practical short-term work experiences in various settings appropriate to student's career needs. May be repeated for maximum of 9 credit hours. Grades of S, U, or IP will be given.

LEAD 8070 - Culminating Experience (1-6)
(EDAS 7996). Capstone course using a problem-based, case-study approach. PREREQUISITE: Must be taken in last semester or by permission of department chair. Grades of S, U, or IP will be given.

LEAD 8080 - Rdgs/Res Phil of Educ (1-3)
Grades of A-F, or IP will be given.

LEAD 8081 - Rdng/Rsrch High/Adlt Ed (1-3)
(EDAS 7790-8790). Grades of A-F, or IP will be given. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 8082 - Rdng/Rsrch Ed Ldrship (1-3)
(EDAS 7710-8710). Grades of A-F, or IP will be given.

LEAD 8083 - Rdgs/Rsrch Educ Plcy (1-3)
(EDFD 7008-8008). Grades of A-F, or IP will be given.

LEAD 8084 - Rdng/Rsrch Scl/Com Rel (1-3)
(EDAS 7700-8700). Grades of A-F, or IP will be given.

LEAD 8085 - Rdng/Rsrch Ed Supv (1-3)
(EDAS 7750-8750). Grades of A-F, or IP will be given.

LEAD 8086 - Rdng/Rsrch Fin/Bus Mgmt (1-3)
(EDAS 7730-8730). Grades of A-F, or IP will be given.

LEAD 8087 - Rdng/Rsrch Prsnl Negtn (1-3)
(EDAS 7760-8760). Grades of A-F, or IP will be given.

LEAD 8088 - Rdng/Rsrch Educ Law (1-3)
(EDAS 7780-8780). Grades of A-F, or IP will be given.

LEAD 8089 - Rdng/Rsrch Plnt/Trnsptn (1-3)
(EDAS 7740-8740). Grades of A-F, or IP will be given.
LEAD 8090 - Rdgs/Res Hist of Educ (1-3)
Grades of A-F, or IP will be given.

LEAD 8140 - Planning Ed Change (3)
Characteristics of change in a variety of educational settings, emphasizing planning theory, implementing and managing change processes; specific variables that impact change efforts; analysis of planning and analysis tools; computer simulations and case studies.

LEAD 8210 - Field Experiences (1-9)
(EDAS 7171-8171). Internship work experiences under supervision of practicing K-12 professional. May be repeated for maximum of 12 credits. Prospective enrollees must meet departmental deadlines for application. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

LEAD 8500 - Adult Lrng/Leadership (3)
(HIAD 7255-8255). Characteristics of adult learners; factors that affect learning, achievement, and motivation throughout the adult life-cycle; implications for educational leaders and human resource development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

LEAD 8600 - Adult Experiential Learning (1-15)
The course focuses on experiential learning that is a process through which students develop knowledge, skills, and values from direct experiences outside a traditional academic setting

LEAD 9000 - Dissertation (1-9)
(EDAS 9000). Grades of S, U, or IP will be given.

HIGHER AND ADULT EDUCATION (HIAD)

HIAD 7060 - Intrnshp Hi/Adult Ed (1-6)
Work experiences in higher education institution or in adult education settings under supervision of practicing professional and university supervisor. May be repeated for maximum of 6 credits. Grades of S, U, or IP will be given. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7170 - Community Educ Administration (3)
Organizational aspects of community education programs, including administration and suprevision of personnel and citizen-community participation in formulating, implementing, and evaluating community education programs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.
HIAD 7171 - Adult & Conti Educ Admin (3)
Organization and administration of adult and continuing education, including adult remedial, vocational-technical, community outreach programs; administrative methods and materials appropriate to adult habits and needs; interpreting current legislation and research relating to adult and continuing education programs; planning, implementing, and evaluating strategies. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7172 - Curri Planning in Adu Basic Ed (3)
Principles of curriculum building in application to adult basic education students.

HIAD 7200 - Post-Secondary Athletics (3)
This course is designed to provide students with an overview of the nature and of collegiate athletics and the experience of the college student-athlete on college campuses. This course will also examine a variety of sociological, psychological, academic, and cultural topics impacting collegiate student-athletes and personnel working with this population, while also addressing potential resources that target these areas.

HIAD 7403 - Rsrch Hghr/Adult Educ (3)
Current topics, research problems, new studies, and needed inquiries in higher and adult education.
PREREQUISITES: EDPR 7/8541, 7/8542, 8415, 1 additional methods course approved by advisor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7404 - Supervised Research (1-6)
Collaborative research with faculty within the major to include planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES: Minimum of 12 hours in major and permission of instructor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7410 - Overview Higher Educ (3)
(EDAS 7190-8190). Higher education in social and historical contexts; organization and administration of colleges and universities. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7411 - Community Colleges (3)
(EDAS 7191-8191). History, philosophy, and changing mission of the community college; focus on administration, faculty, staff, and students; curriculum and services; funding, public relations, and the presidency. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 7415 - It Trends & Issues (3)
Explores issues and trends in information technology for leaders of higher and adult education, involving readings,
discussion, and hands-on web research related to IT planning and budget considerations, academic and administrative systems, management of IT professionals, and IT-induced change in various segments of education. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7430 - The Professoriate (3)**
Faculties of U.S. colleges and universities, nature of their work in various types of institutions, academic reward system, and programs for continuing professional development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7440 - Stdnt Prsnl Svc High Ed (3)**
(COUN 7613-8613). Activities, functions, relationships, and philosophy of student personnel services; historical developments and current trends in student personnel services in relation to changing concepts in higher education. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7441 - College Studnt/Culture (3)**
(COUN 7672-8672). College student characteristics and differing life patterns in institutional perspective; variations in student and college cultures in types of institutions. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7442 - College Student Dev (3)**
(Same as COUN 7622-8622.) Comprehensive study of traditional and non-traditional college students; emphasis on identification of development needs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7443 - College Environments (3)**
(Same as COUN 7623-8623). Person-environment interaction theories, campus ecology, impact of college environments on diverse student populations, and higher education environmental assessment techniques. PREREQUISITE: HIAD 7442-8442.Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7444 - Multiculturalism Coll Camp (3)**
Develops knowledge and skills necessary for leadership in diverse educational backgrounds. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7445 - Group Work in Stud Per (3)**
Information and experiential opportunities about working with groups for leaders in diverse educational settings. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7450 - College/Unvsty Curric (3)**
(HIAD 7200-8200). Structure, development, implementation, and assessment of curriculum in colleges and
universities; historical and philosophical perspectives; major figures, emerging trends, and contemporary issues.
Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7452 - Developmental Educ (3)**
(HIAD 7204-8204). Developmental education programs in colleges and universities; focus on policy, administration, and instruction. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7510 - Overview Of Adult Educ (3)**
(HIAD 7250). Historical development of adult education; scope of field, including non-formal, post-secondary education, and human resource development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7511 - Admin/ Govt Comm College (3)**
Clinical examination of structure, governance, management, and institutional culture in the context of accepted administrative practice in the contemporary community college. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7512 - Dev Grant Proposals/ Ldrsp Prog (3)**
(HIAD 7256-8256). Adult leadership programs in various organizations, agencies, and groups as primary, supplementary, or complementary function; community relations and development in funding. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7530 - Continuing Prof Educ (3)**
Background and development of continuing education for professionals, including medicine, law, social work, psychology, dentistry, and education as well as other fields; examination of impetus and providers for such programs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7541 - Issues/ Trends Tchg Adults (3)**
(HIAD 7201-8201). Teaching and learning in higher education and other educational settings; analysis of who our learners are and teaching approaches designed for diverse student populations. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7542 - Global/ Compartv Issues Ldrshp (3)**
Cross-cultural and cross-national study of selected issues and problems in higher and adult education; examines role of education in promoting social, economic, and cultural change. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 7543 - External Relations/ Fundraising (3)**
Working with populations external to the organization, such as schools, organizations, community agencies,
governments, and the media. Also, principles of fundraising, alumni development, and development campaigns. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8000 - Change Theory in Higher Educ (3)**
Focus on theories and techniques for helping higher education institutions to change. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8060 - Internship Hi/Adult Ed (1-6)**
Work experiences in higher education institution or in adult education settings under supervision of practicing professional and university supervisor. May be repeated for maximum of 6 credits. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor. Grades of S, U, or IP will be given.

**HIAD 8170 - Community Educ Administration (3)**
Organizational aspects of community education programs, including administration and supervision of personnel and citizen-community participation in formulating, implementing, and evaluating community education programs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8171 - Adult & Conti Educ Admin (3)**
Organization and administration of adult and continuing education, including adult remedial, vocational-technical, community outreach programs; administrative methods and materials appropriate to adult habits and needs; interpreting current legislation and research relating to adult and continuing education programs; planning, implementing, and evaluating strategies. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8172 - Curri Planning in Adu Basic Ed (3)**
Principles of curriculum building in application to adult basic education students. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8200 - Post-Secondary Athletics (3)**
This course is designed to provide students with an overview of the nature and of collegiate athletics and the experience of the college student-athlete on college campuses. This course will also examine a variety of sociological, psychological, academic, and cultural topics impacting collegiate student-athletes and personnel working with this population, while also addressing potential resources that target these areas.

**HIAD 8400 - Writing for Publication (3)**
Learn about journals, tailoring articles to journals, writing a research article, working with editors and reviewers. PREREQUISITE: Permission of instructor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**HIAD 8401 - Higher Educ Adminstratn (3)**
(EDAS 7192-8192). Role, function, organization, and administration of colleges and universities; roles of presidents and other administrators; variations in academic and student life in higher education; relationships with various constituencies; problems of practice and power. PREREQUISITE: HIAD 7410, 8415, 8420, 8422, or equivalent. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8403 - Rsrch Hghr/Adult Educ (3)
Current topics, research problems, new studies, and needed inquiries in higher and adult education. PREREQUISITES: EDPR 7/8541, 7/8542, 8415, 1 additional methods course approved by advisor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8404 - Supervised Research (1-6)
Collaborative research with faculty within the major to include planning, design, management, analysis, and reporting of research. May be repeated for a maximum of 12 credit hours. PREREQUISITES: Minimum of 12 hours in major and permission of instructor. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8405 - Sem Higher/Adlt Educ (3)
(HIAD 7258-8258). Culminating experience for doctoral students; examination of current issues using cross-disciplinary perspectives derived from previous coursework. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8406 - Designing Research in HIAD (3)
This course focuses on the theoretical, conceptual, and procedural knowledge underpinning the designing of qualitative, quantitative, and mixed methods research in higher and adult education. PREREQUISITES: LEAD 8001, HIAD 8412, EDPR 8560 (or EDPR 8561), EDPR 8541, EDPR 8542 or equivalent, or permission of the instructor.

HIAD 8410 - Overview Higher Edu (3)
(EDAS 7190-8190). Higher education in social and historical contexts; organization and administration of colleges and universities. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8411 - Community Colleges (3)
(EDAS 7191-8191). History, philosophy, and changing mission of the community college; focus on administration, faculty, staff, and students; curriculum and services; funding, public relations, and the presidency. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8412 - Hist/Policy Persp Hied (3)
(EDFD 7002-8002). Historical development of higher education in the United States; current higher education policy issues in relation to this development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs
HIAD 8415 - IT Trends & Issues (3)
Explores issues and trends in information technology for leaders of higher and adult education, involving readings, discussion, and hands-on web research related to IT planning and budget considerations, academic and administrative systems, management of IT professionals, and IT-induced change in various segments of education. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8420 - Legal/Ethical Issues in HIAD (3)
(EDAS 8380). Legal principles and significant legal constraints relating to institutions of higher education; emphasis on application of law to organizational structure, students, personnel, programs, property, and finance; analysis of current legal issues. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8422 - Higher Educ Finance (3)
(EDAS 8320). Financing of institutions in higher education; sources and methods of securing funds; development of programs; procedures for budget development and analysis; other financial and economic aspects of higher education administration; analysis of current problems related to higher education finance. PREREQUISITES: EDPR 7/8541 and EDPR 7/8542. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8430 - The Professoriate (3)
Faculties of U.S. colleges and universities, nature of their work in various types of institutions, academic reward system, and programs for continuing professional development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8440 - Stdnt Prsnl Svc High Ed (3)
(COUN 7613-8613). Activities, functions, relationships, and philosophy of student personnel services; historical developments and current trends in student personnel services in relation to changing concepts in higher education. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8441 - College Studnt/Culture (3)
(COUN 7672-8672). College student characteristics and differing life patterns in institutional perspective; variations in student and college cultures in types of institutions. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8442 - College Student Dev (3)
(Same as COUN 7622-8622.) Comprehensive study of traditional and non-traditional college students; emphasis on identification of development needs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.
HIAD 8443 - College Environments (3)
(Same as COUN 7623-8623). Person-environment interaction theories, campus ecology, impact of college environments on diverse student populations, and higher education environmental assessment techniques. PREREQUISITE: HIAD 7442-8442. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8450 - College/Unvsty Curric (3)
(HIAD 7200-8200). Structure, development, implementation, and assessment of curriculum in colleges and universities; historical and philosophical perspectives; major figures, emerging trends, and contemporary issues. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8510 - Overview Of Adult Educ (3)
(HIAD 7250). Historical development of adult education; scope of field, including non-formal, post-secondary education, and human resource development. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

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HIAD 8512 - Dev Grant Proposals/Ldrsp Prog (3)
(HIAD 7256-8256). Adult leadership programs in various organizations, agencies, and groups as primary, supplementary, or complementary function; community relations and development in funding. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8530 - Continuing Prof Educ (3)
Background and development of continuing education for professionals, including medicine, law, social work, psychology, dentistry, and education as well as other fields; examination of impetus and providers for such programs. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8541 - Issues/Trends Tchg Adults (3)
(HIAD 7201-8201). Teaching and learning in higher education and other educational settings; analysis of who our learners are and teaching approaches designed for diverse student populations. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

HIAD 8542 - Global/Compartv Issues Ldrshp (3)
Cross-cultural and cross-national study of selected issues and problems in higher and adult education; examines role of education in promoting social, economic, and cultural change. Restricted to students enrolled in HIAD,
LDPS, and CCTL programs or by permission of instructor.

**HIAD 8543 - External Relations/Fundraising (3)**
Working with populations external to the organization, such as schools, organizations, community agencies, governments, and the medial. Also, principles of fundraising, alumni development, and development campaigns. Restricted to students enrolled in HIAD, LDPS, and CCTL programs or by permission of instructor.

**LEADERSHIP AND POLICY STUDIES (LDPS)**

**LDPS 7110 - Leadership Explr Sem (3)**
(EDAS 7400). Study of theories informing organization behavior, structure, problems, and issues occurring in organizations; discussion of processes used by organizational leaders; students will explore personal beliefs and values, comparing them to theories and best practices to develop in depth understanding of self and personal perspective as educational leader.

**LDPS 7112 - Mgmt Ed Grant/Project (3)**
Planning and management of field-based educational projects, grants, and consulting services. Emphasis on team and group efforts; computer applications in project management.

**LDPS 7120 - Supervisory Process (1-6)**
(EDAS 7050). Theory and methodology of educational supervision, with emphasis on instructional leadership; differences in roles for various supervisory personnel; project based.

**LDPS 7121 - Personnel Admin (3)**
(EDAS 7160-8160). Educational personnel administration and policy including: human resource management, staffing goals, policies, recruitment, induction, roles, and professional development.

**LDPS 7131 - School Business Mgmt (1-3)**
(EDAS 7130-8130). Business affairs of schools in accordance with laws and policies of local, state, and federal agencies; overview of legal and ethical standards; site budgeting and project management.

**LDPS 7132 - School Finance (3)**
Funding of public schools in the United States and other developed nations; analysis of various school funding models and related equity issues.

**LDPS 7140 - Ldrshp Instructionl Improvmnt (3)**
Theory, research, policy, and practice in educational restructuring and participatory governance; develops skills
required to systematically analyze and plan by making data-driven decisions to foster instructional improvement and organizational change necessary to support instruction.

**LDPS 7141 - The Principalship (3)**
(EDAS 7111-8111 & 7311-8311). Role of the principal in school site leadership focusing on instructional leadership and organization and administration of the school's resources; projects for elementary, middle, junior, and secondary principalship.

**LDPS 7150 - Educational Law (3)**
(EDAS 7180-8180). Federal and state statutes and local regulations applicable to education; legal requirements and their implications for educational operation; legal research methods and case law.

**LDPS 7180 - Pltcs & Pwr Ed Ldrshp (3)**
(EDAS 7810-8810). Field study of techniques and strategies for leaders in education to discover sources of community power influencing education policy; emphasis on superintendent, school board, and central office leaders.

**LDPS 7181 - Plcy Implmntn Ed Ldrshp (3)**
(EDAS 7811-8811). Development and implementation of administrative policy at the local, state, and national levels in relation to forces that shape thinking of policy-making bodies.

**LDPS 7305 - Issues In Educ Policy (3)**
Special issues of current interest related to American educational policies and practices.

**LDPS 7311 - Issues Phil Educ (3)**
(EDFD 7021-8021). Critical examination of issues in the philosophy of education; history of issues and their effect on modern public schools.

**LDPS 7320 - Urb Ed: Hst Cntmp Persp (3)**
Sociological and cultural dimensions of urban society and education with emphasis on contemporary issues and recent policy developments.

**LDPS 7330 - Race/Ethn/Gndr/Amer Ed (3)**
Historical and contemporary study of educational practices and policies related to various ethnic and racial groups, as well as women in the United States; various models of institutional and community forms of multicultural education.

**LDPS 7350 - Policies/Politics Educ (3)**
(EDFD 7033-8033). Conceptual and empirical analyses of political and social issues related to US education.
LDPS 8111 - Ed Admin Perform Lab (1-6)
(EDAS 7370-8370). Laboratory experiences including gaming and simulation to illustrate complex organizations, information systems, network planning and projection systems, and leadership assessment.

LDPS 8112 - Mgmt Ed Grant/Project (3)
Planning and management of field-based educational projects, grants, and consulting services. Emphasis on team and group efforts; computer applications in project management.

LDPS 8115 - Educ Ldrshp Sem (3)
(EDAS 7510-8510). Problems and issues derived from trends in contemporary culture that impact on educational leadership; emphasis on instructional leadership.

LDPS 8121 - Personnel Admin (3)
(EDAS 7160-8160). Educational personnel administration and policy including: human resource management, staffing goals, policies, recruitment, induction, roles, and professional development.

LDPS 8132 - School Finance (3)
Funding of public schools in the United States and other developed nations; analysis of various school funding models and related equity issues.

LDPS 8133 - Econ Of Education (3)
(EDAS 8220). Economic aspects of education in the United States and other developed nations.

LDPS 8140 - Ldrshp Instructionl Improvmnt (3)
Theory, research, policy, and practice in educational restructuring and participatory governance; develops skills required to systematically analyze and plan by making data-driven decisions to foster instructional improvement and organizational change necessary to support instruction.

LDPS 8155 - Seminar In Ed Law (3)
Analysis of current legislation and case law and its impact on education. PREREQUISITE: LDPS 7150 or permission of instructor.

LDPS 8180 - Pltcs & Pwr Ed Ldrshp (3)
(EDAS 7810-8810). Field study of techniques and strategies for leaders in education to discover sources of community power influencing education policy; emphasis on superintendent, school board, and central office leaders.

LDPS 8181 - Plcy Implmnty Ed Ldrshp (3)
(EDAS 7811-8811). Development and implementation of administrative policy at the local, state, and national levels in relation to forces that shape thinking of policy-making bodies.
LDPS 8305 - Issues In Educ Policy (3)
Special issues of current interest related to American educational policies and practices.

LDPS 8310 - Phil Anly & Educ Plcy (3)
(EDFD 7022-8022). Exploration and use of philosophical analytical skills for assessing educational policies and practices.

LDPS 8311 - Issues Phil Educ (3)
(EDFD 7021-8021). Critical examination of issues in the philosophy of education; history of issues and their effect on modern public schools.

LDPS 8320 - Urb Ed: Hst Cntmp Persp (3)
Sociological and cultural dimensions of urban society and education with emphasis on contemporary issues and recent policy developments.

LDPS 8330 - Race/Ethn/Gndr/Amer Ed (3)
Historical and contemporary study of educational practices and policies related to various ethnic and racial groups, as well as women in the United States; various models of institutional and community forms of multicultural education.

LDPS 8350 - Policies/Politics Educ (3)
(EDFD 7033-8033). Conceptual and empirical analyses of political and social issues related to US education.
Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
BIOMEDICAL ENGINEERING (BIOM)

NOTE: Students taking Engineering courses will be charged an additional $25 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**BIOM 6900-6919. Special Topics in Biomedical Engineering I. (1-3).** Topics are varied and are announced in the online class listings.

**BIOM 7900-7920–8900-8920. Special Topics in Biomedical Engineering. (1-3).** Topics are varied and announced in online class listings.

**BIOM 6110 - Science of Medicine (3)**
Integration of fundamental principles from physics, chemistry, biology and mathematics, and applications of these principles to solve problems in medicine. PREREQUISITE: CHEM 1120, BIOL 1120, PHYS 2120, or permission of instructor.

**BIOM 6150 - Engr Tools Design Med Devices (3)**
Major tools that engineers use to assist them in producing good medical device products, and how and where these tools are being used in industry. PREREQUISITE: BIOM 2810 or CIVIL 2131, BIOL 1120, MECH 3320, or permission of instructor.

**BIOM 6205 - Intro Biomed and Chem Sensors (3)**
Measurement techniques, recognition processes; application of chemical sensors and biosensors for analysis of real samples.

**BIOM 6210 - Research Studies (1-3)**
Consultation, reading, laboratory, and design work to investigate selected areas of biomedical engineering under supervision of faculty member, emphasizing laboratory work, design, and scientific writing. Formal paper required. PREREQUISITE: Permission of instructor.

**BIOM 6393 - Appld Finite Element Analysis (3)**
(Same as MECH 6393). Fundamental topics associated with use of finite element analysis in mechanical and biomedical engineering applications; introduction to finite element theory, model generation, CAD interfacing, post-processing of results and validation. PREREQUISITE: MECH 3322.

**BIOM 6702 - Biotechn Tools for BME Res (3)**
Biochemical and biophysical measurement techniques; light spectroscopy, gel exclusion and affinity chromatography, electrophoresis, ELISA, protein and DNA methods. 6 hours lab. PREREQUISITE: BIOL 1120, 2011 or 2021, CHEM 1120/1121, and BIOM 2720, or permission of instructor.

**BIOM 6720 - Bioelectricity (4)**
Bioelectricity, including calculations of potential fields resulting from cardiac or neural electrogeneration, treatment of how heart and nerves generate and propagate electrical signals. PREREQUISITE: Permissions of instructor.
BIOM 6750 - Biomechanics (4)
Application of mechanical principles to the human body, with focus on joint function, muscle force transmission and generation, gait, soft-tissue mechanics, injury mechanisms and risk, and experimental measurements.
PREREQUISITE: MECH 2332, 3320, or permission of instructor. COREQUISITE: BIOL 3730.

BIOM 7004 - Life Sciences Biom I (3)
This introduction and application to aspects of the entire body provides engineers and physical scientists with an understanding of aspects of the chemical, physical, and mechanical basis of cell shape, function, and motility; integrated treatment of topics in cellular biochemistry, protein synthesis, energy releasing pathways, and membrane biophysics.

BIOM 7005 - Life Sciences Biom II (3)
Continuation of 7004-8004. An introduction for engineers and physical scientists to aspects of systemic physiology with an emphasis on and connections to biomedical engineering.

BIOM 7101 - Biomed Engr Analysis I (3)
Analytical and numerical solution techniques used in analysis of biomedical engineering problems; introduction to modern computational software packages for experience with modern problem-solving methods.

BIOM 7103 - Theory Continuous Media (3)
Analysis of stress and deformation at a point; derivation of the fundamental equations in tensor notation by application of the basic laws of conservation of mass, energy, and momentum in mechanics and thermodynamics.

BIOM 7105 - Physlgcl Control Sys (3)
Modeling, representation, and analysis of physiological control systems, using control theory techniques; application will be modeling and control problems in cellular and general physiology; introduces basic concepts of control systems (transfer functions, feedback control system using root locus, frequency response methods); discusses various biological systems and their natural and driven control mechanisms. PREREQUISITES: BIOM 7004-8004 and 7005-8005 or permission of instructor.

BIOM 7110 - Biostatistics (3)
Introduction to statistical techniques used for analysis of basic and clinical biomedical engineering data; sampling theory, hypothesis testing, ANOVA, and nonparametric techniques.

BIOM 7114 - Professional Dvlpmnt (3)
Weekly presentations of biomedical engineering research by visiting faculty and invited speakers; weekly presentations by graduate students and discussions of graduate student research in journal clubs; required of all full-time graduate students. Grades of S, U, or IP will be given.

BIOM 7116 - Math Model Biol Phenomn (3)
Applications of mathematics to the understanding of biological systems in biomedical engineering and modern biology; basic concepts of mathematical modeling development and validation; realistic examples of mathematical models in biology.

**BIOM 7203 - Bioelectricity (3)**
Introduction to electrical propagation through human tissue; membrane biophysics, action potentials, subthreshold stimuli, electrophysiology of heart, and neuromuscular junction.

**BIOM 7209 - Biom Msrmnt/Instrmnt (3)**
Measurement techniques applicable in biomedical engineering; data acquisition system, mechanical instrumentation, interface systems, signal analyses; biocompatibility requirements.

**BIOM 7222 - Biosensors (3)**
Provides graduate and upper-level students deeper understanding of chemical sensors and biosensors, with special emphasis on electrochemical biosensors and their in-vivo applications. The lectures and laboratory work will provide the theoretical basis and hands-on experience with macro and micro sensors and their fabrications.

**BIOM 7301 - Functional Anatomy I (1)**
Application of engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton with focus on hip/pelvis, knee, foot and ankle anatomy and applied biomechanics.

**BIOM 7302 - Functional Anatomy II (1)**
Application of engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton with focus on spine, shoulder, elbow, wrist and hand functional anatomy and applied biomechanics.

**BIOM 7303 - Mvmnt/Jnt/Implnt Mech (3)**
The course consists of the following sections; muscle and bone anthropometry; kinetics: the link model, mechanical work, energy, and power; kinematics and dynamics of rigid bodies; and the development of mechanically equivalent models of the human musculoskeletal system.

**BIOM 7305 - Adv Image Instrmntn (3)**
Presents both a general overview of the field of digital radiographic imaging and an in-depth treatment of one particular type, the Kinestatic Charge Detector imaging systems. Topics include the parameterization image quality, physics, and electronics of detection gases. PREREQUISITES: BIOM 7501-8501 and BIOM 7501-8502.

**BIOM 7313 - Biomechanics II (3)**
Modern development of biomechanics at advanced mathematical level; dynamics of the lung, blood flow, microcirculation, and muscle mechanics.
BIOM 7331 - Advances Orthopedic Biom (3)
The course consists of a sequence of lectures devoted to special topics including: biomechanical analysis and function of upper extremity, lower extremity, and spine joint systems of the human body; and fracture healing and bone remodeling, bone regeneration, function of cartilage, and biomechanics of tendon, ligament, and meniscus.

BIOM 7408 - Biochemical Engineering (3)
Application of engineering principles to effect biochemical transformation through use of living cells, subcellular organelles or enzymes; overview of biotechnology, bioreactor design; cell energetics, enzyme kinetics, Michelis-Menton calculations, immobilized cells; biosensors and process control.

BIOM 7430 - Biomaterials (3)
Introduction to materials used in biomedical engineering; biocompatibility and uses of implantable materials such as ceramics, polyethylene, metals, composites and other materials.

BIOM 7432 - Advanced Biomaterials (3)
Materials used in biomedical applications in relationship to corrosion, crack propagation, creep, and related topics; tissue ingrowth into materials.

BIOM 7452 - Fluid Mech Biomed Engr (3)
Elements of hydrodynamics with applications to flow in biomedical systems; basic principles of continuity and Navier-Stokes equations; ideal and viscous flow, boundary layer solutions, fluid wave behavior; viscosity of plasma, blood, and viscoelastic fluids, principles of viscometry.

BIOM 7460 - Cell Adhesion (3)
Biophysical and biochemical principles governing cell adhesion; integrin and selectin cell adhesion molecules; interactions between leukocytes and tumore cells with endothelium; measurement and modeling of cell adhesion phenomena.

BIOM 7470 - Tissue Engineering (3)
Overview of the fundamental principles and current applications of tissue engineering in medicine and health care; topics include bone and cartilage analogs, synthetic skin grafts, cell encapsulation systems, and biohybrid vascular grafts. PREREQUISITE: Permission of instructor.

BIOM 7480 - Expr Tech Cell/Tis Engr (3)
Application and techniques of cell culture/tissue engineering including sterile technique and cell/biochemical measurements and instrumentation; topics include sterile technique, light spectroscopy, protein purification and analysis, PCR, chromatography and electrophoresis

BIOM 7501 - Medical Imaging (3)
Introduction to theory and physics of medical imaging, basic elements of interactions of radiation with matter;
BIOM 7502 - Medical Imaging II (3)
Continuation of 7501-8501. Advanced methods in medical imaging; theory and application of magnetic resonance, ultrasonic, nuclear medicine, and X-ray imaging techniques for biomedical engineers.

BIOM 7580 - Molecular Imaging (3)

BIOM 7721 - Clin/Indust Intern BME (3)
Independent study for biomedical engineering students; investigation in at least one area selected from a master list and approved by the student's advisor. Grades of A-F, or IP will be given.

BIOM 7730 - Supervised Research I (1-12)
Collaborative research with faculty that includes planning, design, execution, analysis, and presentation of research activities related to student's thesis or dissertation work. Unlimited repeatability. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

BIOM 7740 - Supervised Research II (3)
Collaborative research with faculty that includes planning, design, execution, analysis, and presentation of research activities related to student's Master's thesis. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

BIOM 7760 - Recent Adv & Crit Rev in BME (1-3)
Discussion of recent advances in biomedical engineering and development of critical reading and writing skills. Oral and written reports required. May be repeated for a maximum of 3 hours. PRE-REQUISITE: Permission of instructor. NOTE: This course cannot be used to fulfill degree requirements.

BIOM 7991 - Project I (1-3)
Independent study in Biomedical Engineering on topic selected in conjunction with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Grades of A-F, or IP will be given.

BIOM 7992 - Project II (1-3)
Independent investigation of problem selected in consultation with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Grades of A-F, or IP will be given.

BIOM 7996 - Masters Thesis (1-12)
Grades of S, U, or IP will be given.
BIOM 8004 - Life Sciences Biom I (3)
This introduction and application to aspects of the entire body provides engineers and physical scientists with an understanding of aspects of the chemical, physical, and mechanical basis of cell shape, function, and motility; integrated treatment of topics in cellular biochemistry, protein synthesis, energy releasing pathways, and membrane biophysics.

BIOM 8005 - Life Sciences Biom II (3)
Continuation of 7004-8004. An introduction for engineers and physical scientists to aspects of systemic physiology with an emphasis on and connections to biomedical engineering.

BIOM 8101 - Biomed Engr Analysis I (3)
Analytical and numerical solution techniques used in analysis of biomedical engineering problems; introduction to modern computational software packages for experience with modern problem-solving methods.

BIOM 8103 - Theory Continuous Media (3)
Analysis of stress and deformation at a point; derivation of the fundamental equations in tensor notation by application of the basic laws of conservation of mass, energy, and momentum in mechanics and thermodynamics.

BIOM 8105 - Physlgcl Control Sys (3)
Modeling, representation, and analysis of physiological control systems, using control theory techniques; application will be modeling and control problems in cellular and general physiology; introduces basic concepts of control systems (transfer functions, feedback control system using root locus, frequency response methods); discusses various biological systems and their natural and driven control mechanisms. PREREQUISITES: BIOM 7004-8004 and 7005-8005 or permission of instructor.

BIOM 8110 - Biostatistics (3)
Introduction to statistical techniques used for analysis of basic and clinical biomedical engineering data; sampling theory, hypothesis testing, ANOVA, and nonparametric techniques.

BIOM 8114 - Professional Dvlpmnt (3)
Weekly presentations of biomedical engineering research by visiting faculty and invited speakers; weekly presentations by graduate students and discussions of graduate student research in journal clubs; required of all full-time graduate students. Grades of S, U, or IP will be given.

BIOM 8116 - Math Model Biol Phenomn (3)
Applications of mathematics to the understanding of biological systems in biomedical engineering and modern biology; basic concepts of mathematical modeling development and validation; realistic examples of mathematical models in biology.

BIOM 8203 - Bioelectricity (3)
Introduction to electrical propagation through human tissue; membrane biophysics, action potentials, subthreshold stimuli, electrophysiology of heart, and neuromuscular junction.

BIOM 8209 - Biom Msrmnt/Instrmnt (3)
Measurement techniques applicable in biomedical engineering; data acquisition system, mechanical instrumentation, interface systems, signal analyses; biocompatibility requirements.

BIOM 8222 - Biosensors (3)
Provides graduate and upper-level students deeper understanding of chemical sensors and biosensors, with special emphasis on electrochemical biosensors and their in-vivo applications. The lectures and laboratory work will provide the theoretical basis and hands-on experience with macro and micro sensors and their fabrications.

BIOM 8301 - Functional Anatomy I (1)
Application of engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton with focus on hip/pelvis, knee, foot and ankle anatomy and applied biomechanics.

BIOM 8302 - Functional Anatomy II (1)
Application of engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton with focus on spine, shoulder, elbow, wrist and hand functional anatomy and applied biomechanics.

BIOM 8303 - Mvmnt/Jnt/Implnt Mech (3)
The course consists of the following sections; muscle and bone anthropometry; kinetics: the link model, mechanical work, energy, and power; kinematics and dynamics of rigid bodies; and the development of mechanically equivalent models of the human musculoskeletal system.

BIOM 8305 - Adv Image Instrmtn (3)
Presents both a general overview of the field of digital radiographic imaging and an in-depth treatment of one particular type, the Kinesthetic Charge Detector imaging systems. Topics include the parameterization image quality, physics, and electronics of detection gases. PREREQUISITES: BIOM 7501-8501 and BIOM 7501-8502.

BIOM 8313 - Biomechanics II (3)
Modern development of biomechanics at advanced mathematical level; dynamics of the lung, blood flow, microcirculation, and muscle mechanics.

BIOM 8331 - Advnces Orthopedic Biom (3)
The course consists of a sequence of lectures devoted to special topics including: biomechanical analysis and function of upper extremity, lower extremity, and spine joint systems of the human body; and fracture healing and bone remodeling, bone regeneration, function of cartilage, and biomechanics of tendon, ligament, and meniscus.
BIOM 8408 - Biochemical Engineering (3)
Application of engineering principles to effect biochemical transformation through use of living cells, subcellular organelles or enzymes; overview of biotechnology, bioreactor design; cell energetics, enzyme kinetics, Michelis-Menton calculations, immobilized cells; biosensors and process control.

BIOM 8430 - Biomaterials (3)
Introduction to materials used in biomedical engineering; biocompatibility and uses of implantable materials such as ceramics, polyethylene, metals, composites and other materials.

BIOM 8432 - Advanced Biomaterials (3)
Materials used in biomedical applications in relationship to corrosion, crack propagation, creep, and related topics; tissue ingrowth into materials.

BIOM 8452 - Fluid Mech Biomed Engr (3)
Elements of hydrodynamics with applications to flow in biomedical systems; basic principles of continuity and Navier-Stokes equations; ideal and viscous flow, boundary layer solutions, fluid wave behavior; viscosity of plasma, blood, and viscoelastic fluids, principles of viscometry.

BIOM 8460 - Cell Adhesion (3)
Biophysical and biochemical principles governing cell adhesion; integrin and selectin cell adhesion molecules; interactions between leukocytes and tumore cells with endothelium; measurement and modeling of cell adhesion phenomena.

BIOM 8470 - Tissue Engineering (3)
Overview of the fundamental principles and current applications of tissue engineering in medicine and health care; topics include bone and cartilage analogs, synthetic skin grafts, cell encapsulation systems, and biohybrid vascular grafts. PREREQUISITE: Permission of instructor.

BIOM 8480 - Expr Tech Cell/Tis Engr (3)
Application and techniques of cell culture/tissue engineering including sterile technique and cell/biochemical measurements and instrumentation; topics include sterile technique, light spectroscopy, protein purification and analysis, PCR, chromatography and electrophoresis

BIOM 8501 - Medical Imaging (3)
Introduction to theory and physics of medical imaging, basic elements of interactions of radiation with matter; analysis of nuclear magnetic resonance and ultrasound imaging techniques.

BIOM 8502 - Medical Imaging II (3)
Continuation of 7501-8501. Advanced methods in medical imaging; theory and application of magnetic resonance, ultrasonic, nuclear medicine, and X-ray imaging techniques for biomedical engineers.
BIOM 8580 - Molecular Imaging (3)

BIOM 8721 - Clin/Indust Intern Bme (3)
Independent study for biomedical engineering students; investigation in at least one area selected from a master list and approved by the student's advisor. Grades of A-F, or IP will be given.

BIOM 8730 - Supervised Research I (1-12)
Collaborative research with faculty that includes planning, design, execution, analysis, and presentation of research activities related to student's thesis or dissertation work. Unlimited repeatability. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

BIOM 8750 - Supervised Research III (3)
Collaborative research with faculty that includes planning, design, execution, analysis, and presentation of research activities related to student's doctoral dissertation. May be repeated for a maximum of 9 hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

BIOM 8760 - Recent Adv & Crit Rev in BME (1-3)
Discussion of recent advances in biomedical engineering and development of critical reading and writing skills. Oral and written reports required. May be repeated for a maximum of 3 hours. PRE-REQUISITE: Permission of instructor

BIOM 8921 - Integrity-Conduct of Sci Res (1)
A study of the ethical principles and related federal and state laws that govern scientific research. Lectures and case studies are used to address topics including research with human subjects, research with animals, the use of human biological materials, privacy and confidentiality of research and medical records, conflicts of interest, scientific misconduct, ownership of research, responsible reporting of research, and ethical training practices.

BIOM 8991 - Project I (1-3)
Independent study in Biomedical Engineering on topic selected in conjunction with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Grades of A-F, or IP will be given.

BIOM 8992 - Project II (1-3)
Independent investigation of problem selected in consultation with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Grades of A-F, or IP will be given.

BIOM 9000 - Dissertation (1-12)
Grades of S, U, or IP will be given.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
CIVIL ENGINEERING (CIVL)

NOTE: Students taking Engineering courses will be charged an additional $25 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**CIVL 6900-6910. Special Topics in Civil Engineering. (1-3).** Topics are varied and announced in the online class listings.

**CIVL 7900-10–8900-10. Special Topics in Civil Engineering. (1-3).** Topics are varied and announced in the online class listings.

**CIVL 6122 - Structural Analysis II (3)**
Analytical and numerical solutions for statically indeterminate structures. Three lecture hour a week. PREREQUISITES: CIVL 3121, 3322.

**CIVL 6131 - Inter Steel Design (3)**
Design of plate girders and composite beams; moment connections; building design. PREREQUISITE: CIVL 3131.

**CIVL 6136 - Inter Rein Concr Design (3)**
Design of two-way slab systems; column design including length effects; integrated building design using current code provisions. PREREQUISITES: CIVL 4122, 4135.

**CIVL 6140 - Environmentl Engr Design (3)**
Detailed design of one component of an environmental engineering system with appropriate consideration of interactions with other components; design standards, procedures, and legal constraints emphasized. Three lecture hours per week. PREREQUISITE: Consent of instructor.

**CIVL 6143 - Physical/Chem Treatment (3)**
Basic physical-chemical treatment concepts, including sedimentation, filtration, adsorption, neutralization, coagulation, air stripping, dissolved air flotation, disinfection, and ion exchange, with application of basic concepts to design of water and wastewater treatment systems components. Three lecture hours per week. PREREQUISITE: CIVL 3140.

**CIVL 6144 - Biol Wastewater Treat (3)**
Basic biological treatment concepts, including kinetics, activated sludge, fixed-film systems, lagoon systems, and sludge digestion, with application of basic concepts to design of biological wastewater treatment system components. Three lecture hours per week. PREREQUISITE: CIVL 3140.

**CIVL 6149 - Pump Station Design (3)**
Detailed design of sumps, pumps, piping, valves, and controls associated with the design of pumping systems for wastewater, process water, drinking water, and storm water. PREREQUISITES: CIVL 3180, 3182.

**CIVL 6152 - Applied Soil Mechanics (3)**
Subsurface exploration, foundation types, foundation construction, selection of foundation type and basis of
CIVL 6155  - Pavement Design and Evaluation (3)
Structural design of concrete and asphalt pavements, design of surface and subsurface pavement drainage; performance evaluation of existing pavements; pavement rehabilitation and pavement management. Three lecture hours per week. PREREQUISITE: CIVL 3137 or permission of instructor. COREQUISITE: CIVL 4151 or permission of instructor.

CIVL 6162  - Traffic Engineering (3)
Traits and behavior patterns of road users and their vehicles, including traffic signs and signals, pavement markings, hazard delineation, capacity, accidents, and parking analysis. PREREQUISITE: CIVL 3103 and 3161.

CIVL 6163  - Airport Planning & Design (3)
Aeronautical demand and air traffic control; airport and runway configuration; capacity and delay analysis; geometric design of runways and taxiways; airport access and parking; ground movements and baggage movements. PREREQUISITE: CIVL 3103 and 3161.

CIVL 6164  - Route Location & Design (3)
Elements of route location and design; emphasis on horizontal and vertical alignment, curvature, gradient, and sight distance. Two lecture, three laboratory hours per week. PREREQUISITES: CIVL 1101, 3161.

CIVL 6180  - Adv Hydrology/Hydraulics (3)
Current methods and techniques used in hydrologic and hydraulic analysis for the design of water resources projects; watershed hydrology, groundwater hydrology, flood frequency analysis, flood plain management, hydraulic structures, hydraulic machinery, and project feasibility. Three lecture hours per week. PREREQUISITE: CIVL 3181.

CIVL 6190  - Water Resrc Plan/Dsgn (3)
Application of engineering principles to planning and design of multipurpose water resources projects; various physical components and appurtenances of water resources projects; and economic, financial, and social feasibility of various purposes. Three lecture hours per week. PREREQUISITE: CIVL 3181, 4111 or permission of instructor.

CIVL 6902  - Structural System Design (3)
Practical design of structures and steps involved in a typical structural project. PREREQUISITE: CIVL 3121.

CIVL 6906  - Transportation Planning (3)
Overview of transportation planning process; relationship to transportation facilities development; techniques of analysis and evaluation for transportation planning; means of achieving project and societal objectives. PREREQUISITE: CIVL 3161
CIVL 7001 - Engineering Analysis (3)
Numerical integration of linear and non-linear differential equations; finite difference methods; systems of linear algebraic equations; applications to engineering problems. PREREQUISITE: Permission of instructor.

CIVL 7012 - Prob Meth In Engr (3)
Concepts and methods of probability and statistics that are essential for modeling engineering problems under conditions of uncertainty; application to practical problems. PREREQUISITE: CIVL 3103.

CIVL 7111 - Computatnl Mechncs (3)
Advanced mathematical modeling techniques using finite difference, finite element, and boundary element formulations to solve civil engineering problems. PREREQUISITE: Permission of instructor.

CIVL 7112 - Plstc Dsgn Steel Strctr (3)
(7122). Plastic analysis and design of steel structures; application to multistory buildings. PREREQUISITE: Permission of instructor.

CIVL 7113 - Prestressed Cncrte Dsgn (3)
(7121). Theory of prestressing; design of prestressed concrete beams, slabs, and box girders; statically determinate and indeterminate structures. PREREQUISITE: Permission of instructor.

CIVL 7114 - Elastic Stability (3)
Classical theory of buckling of rods, plates, and shells. PREREQUISITE: Permission of instructor.

CIVL 7115 - Plate Shell Struc (3)
(Same as MECH 7115). Analysis of rectangular and circular flat plates; large deflections of plates; variational methods; analysis of shells as surfaces of revolution under symmetric and unsymmetric loading. PREREQUISITE: Permission of instructor.

CIVL 7116 - Structural Dynamics (3)
Dynamic analysis of single-degree-of-freedom structures; response to general dynamic loading; modal analysis of multistory shear buildings; introduction to nonlinear and random vibration. PREREQUISITE: Permission of instructor.

CIVL 7117 - Finite Elem Struc Mech (3)
Structural idealization, stiffness properties of elements, structural analysis of element assemblage; plane stress and strain problems; applications to problems of plates and shells; computer solution of large systems. PREREQUISITE: Permission of instructor.

CIVL 7119 - Earthquake Resist Design (3)
Earthquake strong motion; response spectrum analysis; seismic design of buildings. PREREQUISITE: Permission of instructor.

**CIVL 7123 - Seismic Risk Assess (3)**
Evaluation of seismic hazard and site-specific ground motion for critical facilities; analysis of structural reliability and seismic risk. PREREQUISITE: Permission of instructor.

**CIVL 7125 - Earthquake Ground Motion Simul (3)**
(same as CERI 7124-8124). Contemporary methods in earthquake ground motion simulation, applications in seismic hazard analysis and engineering, state-of-the-art simulation software. Three lecture hours per week. PREREQUISITE: permission of the instructor.

**CIVL 7132 - Advanced Soil Mech (3)**
Stresses in soil masses; pore-water stresses; consolidation and settlement; shear strength; applications to problem solution.

**CIVL 7133 - Slopes and Embankments (3)**
Analysis, design, and construction of earth dams, levees, embankments and slopes; soil stabilization; seepage, drainage, and flow nets. PREREQUISITE: CIVL 6152 or permission of instructor.

**CIVL 7135 - Soil Dynamics (3)**
Theory and measurements of dynamic properties of soils and their applications in seismic hazards assessments, earthquake engineering design, and geophysics studies. PREREQUISITE: Permission of instructor.

**CIVL 7136 - Prob & Earthquake Haz Anly (3)**
(same as ESCI 7204, CERI 7204) Fundamentals of basic probability, seismicity analysis, ground motion attenuation and site effects, seismic hazard analysis, and uncertainty analysis; students will perform a probabilistic seismic hazard analysis for a region of their interest. PREREQUISITE: Permission of instructor.

**CIVL 7137 - Geotechnical Earthquake (3)**
Earthquake magnitude and intensity, seismic hazard evaluation using deterministic and probabilistic approaches, site response analyses and ground motion amplification, liquefaction, and response to earth structures.

**CIVL 7138 - Shallow and Deep Foundations (3)**
Analysis and design of footing, mat, pile, and drilled-shaft foundations. Three lecture hours a week. PREREQUISITE: CIVL 6152 or permission of instructor.

**CIVL 7139 - Earth Retaining Structures (3)**
Types of earth retaining structures. Retaining wall selection. Lateral earth pressure theories. Design of conventional, MSE, soil-nailed, and tied-back walls. Three lecture hours a week. PREREQUISITE: CIVL 6152 or
CIVL 7141 - Water Trt Plant Dsgn (3)
Design of a water treatment plant; application of fundamental water treatment theory; evaluation of alternatives; selection and design of optimum alternative. PREREQUISITE: CIVL 6143 or permission of instructor.

CIVL 7142 - Wastewater Trt Plnt Dsgn (3)
Design of a wastewater treatment plant; application of fundamental wastewater treatment theory; evaluation of alternative; selection and design of optimum alternative. PREREQUISITE: CIVL 6144 or permission of instructor.

CIVL 7143 - Solid Waste Mgmt (3)
Systems approach to solid waste generation, characterization, collection, transportation, and disposal; emphasizes both domestic and industrial wastes. PREREQUISITE: Permission of instructor.

CIVL 7144 - Residuals Mgmt (3)
Systems approach to unique solid wastes (inflammable industrial, sewage sludge, etc.), as well as resource recovery and energy conversion as disposal practices. PREREQUISITE: Permission of instructor.

CIVL 7145 - Adv Biological Treatmnt (3)
In-depth study of biokinetics applicable to waste management; model evaluations; hazardous and non-hazardous wastes. PREREQUISITE: CIVL 6144.

CIVL 7146 - Adv Phys/Chem Treatmnt (3)
An in-depth analysis of theory and practice of advanced water and wastewater treatment processes; emphasis on adsorption processes, ion exchange, membrane processes, chemical oxidation, land treatment, nutrient removal, and sludge treatment and disposal. PREREQUISITE: CIVL 6143 or permission of instructor.

CIVL 7147 - Hazardous Waste Mgmt (3)
Design of hazardous waste management systems; application of current design theories; review of regulatory requirements. PREREQUISITE: Permission of instructor.

CIVL 7154 - Indust Wastewater Treat (3)
In-plant control measures and end-of-pipe treatment technologies for reducing conventional and toxic industrial pollutant discharges; emphasis on water conservation, wastewater recycle/reuse, and optimum treatment strategies for waste streams from major industries. PREREQUISITE: Permission of instructor.

CIVL 7162 - Transportation Sys Eval (3)
Transportation problems, goals, and objectives; evaluation and decision-making techniques; measurement of variables and intangibles in transportation decisions, cost allocation and benefit transfer, risk and uncertainty; financing and implementation; differential impacts of transportation improvements. PREREQUISITE: Permission of
CIVL 7164 - Urban Transport Engr (3)
A review of the transportation problem as it relates to development patterns in American cities. The theory and application to engineering and socioeconomic factors directed toward the formulation of models for conducting transportation studies. PREREQUISITE: Permission of the instructor.

CIVL 7165 - Geom Dsgn Trnsprt Syst (3)
Design of streets and highways with emphasis on the factors and features controlling safe and efficient vehicle operation; applications of design concepts to urban and rural systems, intersections, interchanges, safety appurtenances, and parking facilities. PREREQUISITE: CIVL 6164 or permission of instructor.

CIVL 7166 - Design Hgwy Airpt Pvmt (3)
Design practices, materials, and testing of flexible and rigid pavements. PREREQUISITE: Permission of instructor.

CIVL 7168 - Traffic Engr Operations (3)
Theory of traffic control: traffic laws and ordinances; application of traffic control devices; analysis and design of traffic signal systems, parking control and design pedestrian control; one-way and unbalanced lane operation, roadway illumination; selected operational problems. PREREQUISITES: CIVL 6162 or permission of instructor.

CIVL 7169 - Mass Transit Systems (3)
Operational analysis of equipment and facility design and service characteristics of urban mass transit systems; analysis of capacity, speed, accessibility, terminal operations; study of financing, decision-making, administration and marketing policies and practices, trends in future transit technology. PREREQUISITE: Permission of instructor.

CIVL 7170 - GW Cont Fate/Transport (3)
Elements of ground water contamination and migration; study of various contaminant transport modeling techniques; analysis of numerical dispersion and stability criteria; chemical reactions; discussion of analytical solutions. PREREQUISITE: Permission of instructor.

CIVL 7173 - Environmental Geochem (3)
(Same as GEOL 7140). Inorganic and organic geochemical concepts applied to transport and fate of contaminants in surface water, ground water, and sediment. Three lecture hours per week. PREREQUISITES: GEOL 6341 and permission of instructor.

CIVL 7177 - Quantitative Hydrogeol (3)
Analysis of ground water parameters; geostatistics of aquifer properties used in ground water modeling via various techniques; salt water intrusion. PREREQUISITE: CIVL 7195-8195 or permission of instructor.
CIVL 7181 - Statistical Hydrol Modl (3)
Current statistical techniques used in stochastic, deterministic, and parametric hydrologic models; emphasis on probability and frequency analysis; optimization methods; time series analysis and synthesis; sensitivity analysis; computer applications. PREREQUISITE: Permission of instructor.

CIVL 7182 - Engr Sedimen & Erosion (3)
Soil erosion and sedimentation process within a watershed; emphasis on means of controlling erosion and sediment from land-disturbing activities. PREREQUISITE: Permission of instructor.

CIVL 7185 - Hydraul Open Channels (3)
(7148). Phenomena accompanying flow of water in open channels, uniform and varied flow, critical conditions, backwater curves or water surface profiles, hydraulic jumps, hydraulic drops, and various design applications. PREREQUISITE: Permission of instructor.

CIVL 7191 - Computer Appl Water Res (3)
Application of current computer programs used in hydrology, hydraulics, sediment transport, groundwater flow, water quality, and water resources engineering and planning. PREREQUISITE: Permission of instructor.

CIVL 7192 - River Engineering (3)
River mechanics and principles governing river regulation and improvement, with emphasis on navigation and flood control structures. PREREQUISITE: CIVL 7185-8185 or permission of instructor.

CIVL 7193 - Hydraul Sediment Transp (3)
River mechanics and stream morphology governing hydraulics of bed loads and sediment transport in alluvial river system; current methods for conducting sediment investigation; engineering analysis procedures for design of stable channel system. PREREQUISITE: Permission of instructor.

CIVL 7194 - Comp River Hydraulics (3)
(7149). Advanced studies in computational open channel hydraulics; major emphasis on unsteady flow simulation in natural rivers, dynamic flood routing, sediment transport and transport of pollutants. PREREQUISITES: CIVL 7001-8001 and CIVL 7185-8185, or permission of instructor.

CIVL 7195 - Groundwater Hydraulics (3)
(Same as ESCI 7195). Geological contributions to ground water flow; ground water contribution to water demand and conjunctive use; well hydraulics, design and construction, pump selection; determine aquifer properties via field well tests. PREREQUISITE: Permission of instructor.

CIVL 7196 - Urban Drainage (3)
Flooding and pollution problems associated with urban areas; application of planning, analysis, and hydraulic design techniques for storm water and erosion control measures. PREREQUISITE: CIVL 7185-8185 or permission
of instructor.

**CIVL 7197 - Ground Water Qual Cntrl (3)**
Analysis of ground water quality and contamination problems; study of multispecies chemical reactions and radioactive microbiological decay; techniques for monitoring, and site remediation of ground water problems. PREREQUISITE: CIVL 7170-8170 or permission of instructor.

**CIVL 7261 - Traffic Flow Theory (3)**
This course will introduce to student the theories that seek to describe in a precise mathematical way the interactions between the vehicles, their operators, and the infrastructure. Different models and theories that characterize the flow of highway traffic, signalized or unsignalized intersections will be presented. A number of softwares will be introduced that are currently used in practice and in research to perform traffic impact studies using macroscopic, mesoscopic and microscopic traffic simulation. PREREQUISITES: CIVL 3161 or equivalent.

**CIVL 7262 - Freight Demand Modeling (3)**
Introduce the concepts, modeling and solution methods of freight demand modeling. PREREQUISITE: permission of instructor

**CIVL 7264 - Simulation Modeling (3)**
Simulation modeling of complex, dynamic and stochastic transportation systems, model building, input and output statistical data analysis, use of simulation for design, evaluation, and improvement of these systems, introduction to simulation software, review of case studies. Three lecture hours a week. PREREQUISITE: permission by instructor.

**CIVL 7265 - Intro to Intermodal Freight (3)**
An introduction to the real-world environment in which freight transportation systems are planned and operated. Emphasis is placed on the policies, methods and practices utilized in managing freight movements and intermodal transfers. Topics include the overall impact of freight transportation on the economy, individual modal operations, intermodal opportunities. PREREQUISITE: consent of instructor.

**CIVL 7266 - Freight Terms and Distr Facils (3)**
Introduce state of the art and state of the practice in modeling of operations and management of intermodal freight and distribution facilities. Overview of the advanced in freight terminal and distribution facilities modeling, design, and operation. Special reference to network modeling of facility location, allocation, and routing. Planning, design, and operations or rail/road intermodal terminals, trans-modal facilities, marine container terminals, intermodal logistics centers, and warehouses.

**CIVL 7901 - Bicycle/Ped Fac Plan/Design (3)**
Planning, analysis, and design of bicycle and pedestrian facilities in both urban and rural areas using context sensitive solutions.
CIVL 7905 - Soil and Site Improvement (3)
Topics are varied and announced in the online class listings.

CIVL 7991 - Projects (3)
Independent investigation of problem selected in consultation with instructor; report required. Nine laboratory hours per week. Grades of A-F, or IP will be given.

CIVL 7993 - Project & Report (3)
Independent study for students in non-thesis option program. Students demonstrate ability to pursue, complete, and report on project related to Civil Engineering practice. Written and oral report prepared for acceptance by faculty committee. Nine laboratory hours per week. Grades of S/U, or IP will be given.

CIVL 7996 - Thesis (1-6)
Grades of S, U, or IP will be given.

CIVL 8001 - Engineering Analysis (3)
Numerical integration of linear and non-linear differential equations; finite difference methods; systems of linear algebraic equations; applications to engineering problems. PREREQUISITE: Permission of instructor.

CIVL 8012 - Prob Meth In Engr (3)
Concepts and methods of probability and statistics that are essential for modeling engineering problems under conditions of uncertainty; application to practical problems. PREREQUISITE: CIVL 3103.

CIVL 8111 - Computatnl Mechncs (3)
Advanced mathematical modeling techniques using finite difference, finite element, and boundary element formulations to solve civil engineering problems. PREREQUISITE: Permission of instructor.

CIVL 8112 - Plstc Dsgn Steel Strctr (3)
(7122). Plastic analysis and design of steel structures; application to multistory buildings. PREREQUISITE: Permission of instructor.

CIVL 8113 - Prestressed Cncrte Dsgn (3)
(7121). Theory of prestressing; design of prestressed concrete beams, slabs, and box girders; statically determinate and indeterminate structures. PREREQUISITE: Permission of instructor.

CIVL 8114 - Elastic Stability (3)
Classical theory of buckling of rods, plates, and shells. PREREQUISITE: Permission of instructor.

CIVL 8115 - Plate Shell Struc (3)
(Same as MECH 7115). Analysis of rectangular and circular flat plates; large deflections of plates; variational methods; analysis of shells as surfaces of revolution under symmetric and unsymmetric loading. PREREQUISITE: Permission of instructor.

**CIVL 8116 - Structural Dynamics (3)**
Dynamic analysis of single-degree-of-freedom structures; response to general dynamic loading; modal analysis of multistory shear buildings; introduction to nonlinear and random vibration. PREREQUISITE: Permission of instructor.

**CIVL 8117 - Finite Elem Struc Mech (3)**
Structural idealization, stiffness properties of elements, structural analysis of element assemblage; plane stress and strain problems; applications to problems of plates and shells; computer solution of large systems. PREREQUISITE: Permission of instructor.

**CIVL 8119 - Earthquake Resist Design (3)**
Earthquake strong motion; response spectrum analysis; seismic design of buildings. PREREQUISITE: Permission of instructor.

**CIVL 8124 - Software Develop (3)**
(Same as MECH 7382-8382). Systematic investigation of application of good software engineering principles applied to development of computationally intensive software; best practices and methodologies developed in last two decades (primarily in information processing field) applied within context of a numerical problem; language of discourse will be FORTRAN 90/95.

**CIVL 8125 - Earthquake Ground Motion Simul (3)**
(same as CERI 7124-8124). Contemporary methods in earthquake ground motion simulation, applications in seismic hazard analysis and engineering, state-of-the-art simulation software. Three lecture hours per week. PREREQUISITE: permission of the instructor.

**CIVL 8132 - Advanced Soil Mech (3)**
Stresses in soil masses; pore-water stresses; consolidation and settlement; shear strength; applications to problem solution.

**CIVL 8133 - Slopes and Embankments (3)**
Analysis, design, and construction of earth dams, levees, embankments and slopes; soil stabilization; seepage, drainage, and flow nets. PREREQUISITE: CIVL 6152 or permission of instructor.

**CIVL 8135 - Soil Dynamics (3)**
Theory and measurements of dynamic properties of soils and their applications in seismic hazards assessments, earthquake engineering design, and geophysics studies. PREREQUISITE: Permission of instructor.
CIVL 8137 - Geotechnical Earthquake (3)
Earthquake magnitude and intensity, seismic hazard evaluation using deterministic and probabilistic approaches, site response analyses and ground motion amplification, liquefaction, and response to earth structures.

CIVL 8138 - Shallow and Deep Foundations (3)
Analysis and design of footing, mat, pile, and drilled-shaft foundations. Three lecture hours a week.
PREREQUISITE: CIVL 6152 or permission of instructor

CIVL 8139 - Earth Retaining Structures (3)
Types of earth retaining structures. Retaining wall selection. Lateral earth pressure theories. Design of conventional, MSE, soil-nailed, and tied-back walls. Three lecture hours a week. PREREQUISITE: CIVL 6152 or permission of instructor.

CIVL 8141 - Water Trt Plant Dsgn (3)
Design of a water treatment plant; application of fundamental water treatment theory; evaluation of alternatives; selection and design of optimum alternative. PREREQUISITE: CIVL 6143 or permission of instructor.

CIVL 8142 - Wastewater Trt Plnt Dsgn (3)
Design of a wastewater treatment plant; application of fundamental wastewater treatment theory; evaluation of alternative; selection and design of optimum alternative. PREREQUISITE: CIVL 6144 or permission of instructor.

CIVL 8143 - Solid Waste Mgmt (3)
Systems approach to solid waste generation, characterization, collection, transportation, and disposal; emphasizes both domestic and industrial wastes. PREREQUISITE: Permission of instructor.

CIVL 8144 - Residuals Mgmt (3)
Systems approach to unique solid wastes (inflammable industrial, sewage sludge, etc.), as well as resource recovery and energy conversion as disposal practices. PREREQUISITE: Permission of instructor.

CIVL 8145 - Adv Biological Treatmnt (3)
In-depth study of biokinetics applicable to waste management; model evaluations; hazardous and non-hazardous wastes. PREREQUISITE: CIVL 6144.

CIVL 8146 - Adv Phys/Chem Treatmnt (3)
An in-depth analysis of theory and practice of advanced water and wastewater treatment processes; emphasis on adsorption processes, ion exchange, membrane processes, chemical oxidation, land treatment, nutrient removal, and sludge treatment and disposal. PREREQUISITE: CIVL 6143 or permission of instructor.

CIVL 8147 - Hazardous Waste Mgmt (3)
Design of hazardous waste management systems; application of current design theories; review of regulatory requirements. PREREQUISITE: Permission of instructor.

**CIVL 8154 - Indust Wastewater Treat (3)**
In-plant control measures and end-of-pipe treatment technologies for reducing conventional and toxic industrial pollutant discharges; emphasis on water conservation, wastewater recycle/reuse, and optimum treatment strategies for waste streams from major industries. PREREQUISITE: Permission of instructor.

**CIVL 8162 - Transportation Sys Eval (3)**
Transportation problems, goals, and objectives; evaluation and decision-making techniques; measurement of variables and intangibles in transportation decisions, cost allocation and benefit transfer, risk and uncertainty; financing and implementation; differential impacts of transportation improvements. PREREQUISITE: Permission of instructor.

**CIVL 8164 - Urban Transport Engr (3)**
A review of the transportation problem as it relates to development patterns in American cities. The theory and application to engineering and socioeconomic factors directed toward the formulation of models for conducting transportation studies. PREREQUISITE: Permission of the instructor.

**CIVL 8165 - Geom Dsgn Trnsprtn Syst (3)**
Design of streets and highways with emphasis on the factors and features controlling safe and efficient vehicle operation; applications of design concepts to urban and rural systems, intersections, interchanges, safety appurtenances, and parking facilities. PREREQUISITE: CIVL 6164 or permission of instructor.

**CIVL 8166 - Design Hgwy Airpt Pvmtn (3)**
Design practices, materials, and testing of flexible and rigid pavements. PREREQUISITE: Permission of instructor.

**CIVL 8168 - Traffic Engr Operations (3)**
Theory of traffic control: traffic laws and ordinances; application of traffic control devices; analysis and design of traffic signal systems, parking control and design pedestrian control; one-way and unbalanced lane operation, roadway illumination; selected operational problems. PREREQUISITES: CIVL 6162 or permission of instructor.

**CIVL 8169 - Mass Transit Systems (3)**
Operational analysis of equipment and facility design and service characteristics of urban mass transit systems; analysis of capacity, speed, accessibility, terminal operations; study of financing, decision-making, administration and marketing policies and practices, trends in future transit technology. PREREQUISITE: Permission of instructor.

**CIVL 8170 - GW Cont Fate/Transport (3)**
Elements of ground water contamination and migration; study of various contaminant transport modeling
techniques; analysis of numerical dispersion and stability criteria; chemical reactions; discussion of analytical solutions. PREREQUISITE: Permission of instructor.

CIVL 8177 - Quantitative Hydrogeol (3)
Analysis of ground water parameters; geostatistics of aquifer properties used in ground water modeling via various techniques; salt water intrusion. PREREQUISITE: CIVL 7195-8195 or permission of instructor.

CIVL 8181 - Statistical Hydrol Modl (3)
Current statistical techniques used in stochastic, deterministic, and parametric hydrologic models; emphasis on probability and frequency analysis; optimization methods; time series analysis and synthesis; sensitivity analysis; computer applications. PREREQUISITE: Permission of instructor.

CIVL 8182 - Engr Sedimen & Erosion (3)
Soil erosion and sedimentation process within a watershed; emphasis on means of controlling erosion and sediment from land-disturbing activities. PREREQUISITE: Permission of instructor.

CIVL 8185 - Hydraul Open Channels (3)
(7148). Phenomena accompanying flow of water in open channels, uniform and varied flow, critical conditions, backwater curves or water surface profiles, hydraulic jumps, hydraulic drops, and various design applications. PREREQUISITE: Permission of instructor.

CIVL 8191 - Computer Appl Water Res (3)
Application of current computer programs used in hydrology, hydraulics, sediment transport, groundwater flow, water quality, and water resources engineering and planning. PREREQUISITE: Permission of instructor.

CIVL 8192 - River Engineering (3)
River mechanics and principles governing river regulation and improvement, with emphasis on navigation and flood control structures. PREREQUISITE: CIVL 7185-8185 or permission of instructor.

CIVL 8193 - Hydraul Sediment Transp (3)
River mechanics and stream morphology governing hydraulics of bed loads and sediment transport in alluvial river system; current methods for conducting sediment investigation; engineering analysis procedures for design of stable channel system. PREREQUISITE: Permission of instructor.

CIVL 8194 - Comp River Hydraulics (3)
(7149). Advanced studies in computational open channel hydraulics; major emphasis on unsteady flow simulation in natural rivers, dynamic flood routing, sediment transport and transport of pollutants. PREREQUISITES: CIVL 7001-8001 and CIVL 7185-8185, or permission of instructor.

CIVL 8195 - Groundwater Hydraulics (3)
(Same as ESCI 7195). Geological contributions to ground water flow; ground water contribution to water demand and conjunctive use; well hydraulics, design and construction, pump selection; determine aquifer properties via field well tests. PREREQUISITE: Permission of instructor.

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**CIVL 8262 - Freight Demand Modeling (3)**
Introduce the concepts, modeling and solution methods of freight demand modeling. PREREQUISITE: permission of instructor

**CIVL 8264 - Simulation Modeling (3)**
Simulation modeling of complex, dynamic and stochastic transportation systems, model building, input and output statistical data analysis, use of simulation for design, evaluation, and improvement of these systems, introduction to simulation software, review of case studies. Three lecture hours a week. PREREQUISITE: permission by instructor.

**CIVL 8265 - Intro to Intermodal Freight (3)**
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**CIVL 8266 - Freight Terms and Distr Facils (3)**
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and operation. Special reference to network modeling of facility location, allocation, and routing. Planning, design, and operations or rail/road intermodal terminals, trans-modal facilities, marine container terminals, intermodal logistics centers, and warehouses.

**CIVL 8901 - Bicycle/Ped Fac Plan/Design (3)**
Planning, analysis, and design of bicycle and pedestrian facilities in both urban and rural areas using context sensitive solutions.

**CIVL 8991 - Projects (3)**
Independent investigation of problem selected in consultation with instructor; report required. Nine laboratory hours per week. Grades of A-F, or IP will be given.

**CIVL 8993 - Project & Report (3)**
Independent study for students in non-thesis option program. Students demonstrate ability to pursue, complete, and report on project related to Civil Engineering practice. Written and oral report prepared for acceptance by faculty committee. Nine laboratory hours per week. Grades of A-F, or IP will be given.

**CIVL 8996 - Dissertation Proposal Prep (1-12)**
Exhaustive literature search and preparation of a dissertation research proposal and an oral defense of the proposal. Maximum of 12 hours may be counted toward graduation. Grades of S, U, or IP will be given.
PREREQUISITE: Permission of instructor.

**CIVL 9000 - Dissertation (1-12)**
Grades of S, U, or IP will be given.
Full sitemap
NOTE: Students taking Engineering courses will be charged an additional $25 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

EECE 6900-09. Special Topics in Electrical and Computer Engineering. (1-3). Topics are varied and announced in online class listings.

EECE 7900-10–8900-10. Special Topics in Electrical Engineering. (1-3). Topics are varied and announced in online class listings.

EECE 6202 - Electricl Power Systems (3)
Investigation of problems associated with the transmission of electrical energy; load-flow studies, and fault analysis by use of symmetrical components.

EECE 6204 - Power Distribution Sys (3)
Distribution of power from transmission systems to users: primary and secondary feeders; voltage regulation; underground, overhead and network design; lightning and protective device coordination.

EECE 6213 - Antenna Theory/Design (3)
Theory of operation and design of antennas; determination of antenna radiation characteristics; introduction to antenna array theory. PREREQUISITE: Permission of instructor.

EECE 6214 - Em Fields Laboratory (1)
Laboratory techniques associated with frequencies above 100 MHz. COREQUISITE: EECE 6215 or permission of instructor.

EECE 6215 - Applied Em Fields (3)
Steady state and transient solutions of transmission line equations; plane waves; antennas in telecommunications. PREREQUISITE: Permission of instructor.

EECE 6221 - Electronics III (4)
Applications of analog and digital electronic circuits; special purpose circuits and devices. Three lecture, three laboratory hours per week.

EECE 6222 - Digital Logic/Comp Dsgn (3)
Applications of digital system design using MSI, LSI, and VLSI circuits; design of arithmetic logic units, multiple input controllers, and practical interfacing techniques.

EECE 6230 - Data Communicatn System (3)
Data communications in information and computing systems; analog and digital means of transmitting and controlling information; organization and requirements of data communication systems, including modulation and demodulation, multiplexing, switching, error detection and correction.
EECE 6231 - Communication Theory (3)
Frequency and time domain; modulation, random signal theory; autocorrelation; noise, communication systems.

EECE 6232 - Discrete Signal Process (3)
Introduction to discrete-time signal analysis; discrete system concepts, discrete-time Fourier analysis, sampling of continuous-time signals, z-transform, and transform analysis of discrete systems; structures for discrete-time systems and discrete filter design techniques.

EECE 6235 - Probabilistic Sys Anlys (3)
Probability and statistics applied to electrical and computer engineering problems; probability and random variables; statistics and techniques for estimating them; techniques for characterization of signals using autocorrelation, cross-correlation and power spectra; determination of effects of discrete and analog filters on random signals, Bayesian detection and estimation; Markov random processes.

EECE 6241 - Solid State Physcl Elct (3)
Quantum concepts; statistics; crystal structure; conduction processes in solids; p-n junctions and devices; field effect devices; charge transfer devices.

EECE 6242 - Electro-Optics (3)
Classical optics including Gaussian optics, Newtonian optics, and vergence theory; optical design with aberration concepts, F-numbers, pupils and stops; radiometry with respect to flux transfer calculations; light sources and detectors.

EECE 6243 - Linear Optical Systems (3)
Review of Fourier techniques for analysis and design of linear systems, extension to 2-d methods; 2-d transforms applied to linear optical systems and data processing.

EECE 6251 - Control System Engr (3)
General equations of physical linear systems and their transfer functions; transient analysis and stability of control systems; Bode plots, Nichols plot, Routh-Hurwitz criterion, root locus method, introduction to compensation techniques and systems in state space.

EECE 6252 - Digital Control Systems (3)
Problems involved with and analysis techniques applicable to digital control systems. Requires a prior knowledge of Laplace transforms. Basic knowledge of feedback control theory desirable.

EECE 6253 - Control Systems Lab (1)
Investigation of fundamental properties associated with analysis of control systems, compensating networks, analog and digital computer simulations. COREQUISITE: EECE 6251 or 6252.
EECE 6254 - Digital Control Sys Lab (1)
Fundamental properties associated with digital control systems engineering; laboratory procedures in analysis of digital control systems, compensating networks, digital computer simulations and PLCs. CORREQUISITES: EECE 6252.

EECE 6272 - Engineering Software (3)
Procedural and object-oriented programming techniques using C and C++. Introduction to Unix. PREREQUISITE: Permission of instructor.

EECE 6273 - Database Engineering (3)
Logical database design emphasizing entity-relationship, relational, object-oriented, and logic data models; design theory for relational databases, relational query languages, and introduction to integration of database and knowledge-base systems for engineering applications; emerging trends in database machine design and implementation.

EECE 6275 - Network Programming (3)
Introduction to engineering of computer networks, network hardware, and network software; design of software systems for network applications.

EECE 6276 - Adv Network Programming (3)
Advanced methods for engineering software systems for network applications; topics include implementations of distributed object models, remote database connectivity, and reusable software components. PREREQUISITES: EECE 6275 or permission of instructor.

EECE 6277 - Dsp Microprocessors (4)
Architecture and instruction set of fixed-point and floating-point devices; hardware interfacing, host communications, real-time signal generation, filtering, and code development using assembly language and C.

EECE 6278 - Computer Organization (3)
Organization and structure of CPU, memory, operating system, I/O system organization and implementation issues; hardware and software integration and co-design.

EECE 6710 - Computer Architecture (3)
Architecture and design of computers, performance measure, instruction sets, datapaths, I/O systems, and memory hierarchies. PREREQUISITE: EECE 6278.

EECE 6711 - Fault Tolerant Comp Des (3)
Evaluation of computer system design and reliability using reliability block diagrams, fault trees, reliability graphics, queuing networks, error detecting and correcting codes, and Markov models; principles of fault-tolerant hardware and software design. PREREQUISITES: MATH 6635 and EECE 6278.
EECE 6712 - Embedded Systems (3)
Introduction to hardware and software design of computing systems embedded in electronic devices; programmable processor design; peripherals, memories, interfacing, and hardware/software tradeoffs. Laboratory involves of use of synthesis tools, programmable logic, microcontrollers, and development of working embedded systems.

EECE 6720 - Intro Artificial Intelg (3)
(Same as COMP 6720.) Fundamentals of programming in LISP; central ideas of artificial intelligence, including heuristic search, problem solving, slot-and-filler structures, and knowledge representation.

EECE 6730 - Expert Systems (3)
(Same as COMP 6730.). Fundamentals of programming in PROLOG, central ideas of expert system development, including knowledge representation, control structures, tools, knowledge acquisition, and knowledge engineering.

EECE 6731 - Data Visualization (3)
(Same as COMP 6731). Terminology, methodology, and applications of data visualization; methods for visualizing data from a variety of engineering and scientific fields including both static and time varying data and methods for generating both surface and volume visualizations. PREREQUISITES: Permission of instructor.

EECE 6905 - Electrical Power Quality (3)
Power quality phenomenon, voltage sags and interruptions, transient overvoltages, long-duration voltage variations, fundamental of harmonics. distributed generation and power quality, power quality benchmarking and monitoring.

EECE 7001 - Professional Development (3)
Electrical and computer engineering research methods, development issues and ethics in academia and engineering practice. Students learn how to conduct literature search, write progress reports, publications and prepare and give presentations.

EECE 7012 - Fndtns/Software Engr (3)
(Same as COMP 7012-8012). Project management; Unified Process; software disciplines (requirements, analysis, design, implementation, testing); Unified Modeling Language; design patterns; mapping designs to code. Students work in teams to develop a significant software system.

EECE 7100 - Linear Sys Analysis (3)
Systems concepts and mathematical tools including Z-transforms; analysis of systems, both continuous and discrete, in the time domain and frequency domain.

EECE 7211 - Adv Elctrmgntc Field (3)
Advanced studies in electromagnetic fields, radiation, and propagation of energy.

EECE 7214 - Image Processing (3)
Theory and applications of digital image processing, sampling, quantization, enhancement and restoration of images; use of segmentation, descriptors, and pattern recognition; architectures for image processing.

EECE 7215 - Digital Signal Proc (3)
Application of discrete transform theory to spectral analysis, digital filters, random signal analysis.
PREREQUISITE: Permission of instructor.

EECE 7216 - Computer Vision (3)
Principles and applications of computer vision, advanced image processing techniques as applied to computer vision, shape analysis, and object recognition.

EECE 7217 - Multimedia Info Process (3)
Multimedia information retrieval models, advanced processing techniques, multimedia content analysis, pattern mining for information retrieval, query formation, intelligent query processing, and high dimensional data visualization. PREREQUISITE: Permission of instructor.

EECE 7230 - Solid State Devices (3)
Internal function, limitations, and applications of unique components found in modern telecommunication designs; electro-optic devices, detectors, resonators, antenna, and negative resistance components. PREREQUISITE: EECE 7231.

EECE 7231 - Communication Electronics (3)
Analysis and design of small and large signal amplifiers; multistage amplifiers; analysis and design of oscillators; feedback and stability in amplifier design.

EECE 7232 - Analog Comm Circ Dsgn (3)
Design and applications of analog communication systems; transmitter and receiver technologies. PREREQUISITE: EECE 7231 or permission.

EECE 7233 - Power Electronics (3)
Power semiconductor switches, rectifiers, phase-controlled rectifiers, and other power control devices; power control applications.

EECE 7234 - VLSI Design (3)
This course teaches electronic IC design techniques for VLSI systems. Topics include fabrication process, design considerations and methodologies, fundamental structure, design flow, tools and techniques, design analysis and optimization, and stick diagram. Topics also include design rule checking (DRL), layout versus schematic (LVS),
design synthesis and chip planning, clock tree and power routing, advanced high-speed and low-power CMOS design, asynchronous and adiabatic logic.

EECE 7243 - Fourier Optics (3)
Analysis of two-dimensional linear systems, scalar diffraction theory, Fresnel and Fraunhofer diffraction; Fourier transforming properties of lenses, spatial frequency analysis of optical systems, optical information processing and holography.

EECE 7245 - Statistical Optics (3)
Techniques for describing random processes applied to generation, propagation, imaging, and detection of light; statistical properties of light, coherence, imaging with inhomogeneous media, statistics of photoelectric detection of light.

EECE 7251 - Random Signals & Noise (3)
Statistical methods for describing and analyzing random signals and noise; auto-correlation, cross-correlation, and spectral density functions; optimal linear filter theory. PREREQUISITE: EECE 6235 or permission of instructor.

EECE 7252 - Information Theory (3)
Introduction to entropy and channel capacity, group codes, block codes, cyclic codes; application of coding techniques to improve system reliability; error correcting codes. PREREQUISITE: EECE 7251 or permission of instructor.

EECE 7253 - Wireless Telecommunication (3)
Principles of wireless telecommunication systems with emphasis on cellular telephony and on wireless data communication; requirements and standards along with physical layer properties and multiple access techniques including spread spectrum techniques (CDMA).

EECE 7254 - Modern Telecom (3)
Implementation and standards for communications systems; cellular telephony standards and/or wireless data standards utilizing CDMA techniques.

EECE 7255 - Digital Communications (3)
Source coding, signal representations, optimum receivers for A WGN channels, channel capacity issues, block codes, and convolution codes.

EECE 7261 - Arch & Design Dig Comp (3)
Advanced logical design of hardware and organization structure of digital computers; architectural properties and control strategies; processor and memory organizations, addressing and interrupt structures, and I/O controllers; hardware and software trade-offs, and speed considerations.
EECE 7262 - Logicl Fndtns Artf Intl (3)
(Same as COMP 7750-8750) Logical foundations of artificial intelligence, predicate calculus, declarative knowledge, inference, resolution strategies, non-monotonic reasoning, induction, probabilistic logic, belief, state and change, and intelligent-agent architecture. PREREQUISITE: Permission of instructor.

EECE 7266 - Prolog Proc/Intel Syst (3)
The engineering of intelligent systems using the PROLOG language for implementation; advanced PROLOG processing, hardware, and software architecture for PROLOG-based machines. PREREQUISITE: EECE 6720 or 6730 or permission of instructor.

EECE 7267 - Artfcl Intel In Lisp (3)
Fundamentals of LISP programming, symbolic processing, searching, goal reduction, matching, problems and problem spaces, problem solving methods, and AI applications.

EECE 7268 - Obj Oriented Data Engr (3)
Design of hardware and software from a perspective of interacting objects that combine data and behavior; engineering data models, analysis and design processes, implementation, large engineering system issues, and reverse engineering; object-oriented database design for CASE, CAD/CAM, and related engineering database environments.

EECE 7269 - Machine Learning & Applicatns (3)
Data representation; similarity measures, linear and non-linear data projection; discriminate analysis; classifier design; supervised and unsupervised learning; evolutionary computing; and machine learning and applications. PREREQUISITE: Permission of instructor.

EECE 7273 - Modern Microprocessors (3)
Introduction to capabilities of state-of-the-art microprocessors and their supporting components.

EECE 7521 - Adv Control Syst Engr (3)
Cascade and feedback compensation; analysis and control of nonlinear systems; introduction to optimal techniques. PREREQUISITE: EECE 6251 or permission.

EECE 7522 - Stoch/Adapt Cntrl Thry (3)
Principles and applications of deterministic and statistical design; random processes in automatic control.

EECE 7523 - Thry Optical Cntrol Sys (3)
State variable description of systems, maximum principle of Pontryagin, optimization of linear systems with quadratic performance measures, time and field optimal systems.

EECE 7524 - Parameter Est & Cntrls (3)
Principles of parameter estimation and application to systems engineering.

EECE 7720 - Artificial Intelligence (3)
( Same as COMP 7720-8720). Central issues of artificial intelligence, including game playing, planning, machine learning, common-sense reasoning, perception and action; implementations in LISP. PREREQUISITE: EECE 6720.

EECE 7740 - Neural Networks (3)
( Same as COMP 7740-8740). Learning algorithms for multilayer perceptrons, least-mean squares, back-propagation and its variants, cascade-correlation, other supervised learning algorithms; unsupervised methods, including Hebbian, competitive and reinforcement learning; applications to associative memories, combinatorial optimization, component analysis, function approximation, pattern classification; theory of neurodynamics, including equilibrium, stability, and computational power.

EECE 7902 - Power System Stability/Control (3)
Introduction to power system stability problem, synchronous machine representation in stability issues, excitation and prime mover systems, control of active and reactive powers, small-signal and transient stability, voltage stability, methods of improving stability. PREREQUISITES: EECE 4201

EECE 7903 - Physically Based Animation (3)
Physically based models are useful for generating animations and user interactive models whose dynamics obey physical laws. Such models are useful for research investigations in various fields, e.g. surgical simulation, motion picture and game development. In this course, foundations of non-physically based geometric models, various physically based models and deformable models along with brief introduction to graphics and OpenGL are covered. Specifically, the models for particle interactions, hair, smoke, fire, and clothes along with their implementation details will be developed in class. PREREQUISITES: either CSE 0, graduate standing or consent of instructor.

EECE 7909 - Approximate Dynamic Programmin (3)
Basic concepts and mathematical foundations of neural networks, learning, nonlinear optimization and control. Exact and approximate optimization of the utility function. Bellman equation, approximate Bellman equation for solving multivariate optimization problems in real time. Partially observable variables, with random noise and tactical objectives varying in time. PREREQUISITE: Background in calculus and functional analysis, linear algebra, MATH 4242-6242, or permission of instructor.

EECE 7991 - Projects I (1-3)
Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by permission. Grades of A-F, or IP will be given.

EECE 7992 - Projects II (1-3)
Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by
permission. Grades of A-F, or IP will be given.

**EECE 7993 - Project & Report (3)**
Independent study for students who select the non-thesis option in the Masters program. Students demonstrate ability to pursue, complete, and report on a research project related to Electrical and Computer Engineering. Written and oral report prepared for acceptance by faculty committee, Grades of A-F, or IP will be given.

**EECE 7996 - Thesis (1-12)**
Master’s thesis. Only six hours are applicable to the degree. Grades of S, U, or IP will be given.

**EECE 8001 - Professional Development (3)**
Electrical and computer engineering research methods, development issues and ethics in academia and engineering practice. Students learn how to conduct literature search, write progress reports, publications and prepare and give presentations.

**EECE 8012 - Foundations/Software Engr (3)**
(Same as COMP 7012-8012). Project management; Unified Process; software disciplines (requirements, analysis, design, implementation, testing); Unified Modeling Language; design patterns; mapping designs to code. Students work in teams to develop a significant software system.

**EECE 8100 - Linear Sys Analysis (3)**
Systems concepts and mathematical tools including Z-transforms; analysis of systems, both continuous and discrete, in the time domain and frequency domain.

**EECE 8211 - Advanced Electromagnetic Field (3)**
Advanced studies in electromagnetic fields, radiation, and propagation of energy.

**EECE 8214 - Image Processing (3)**
Theory and applications of digital image processing, sampling, quantization, enhancement and restoration of images; use of segmentation, descriptors, and pattern recognition; architectures for image processing.

**EECE 8215 - Digital Signal Proc (3)**
Application of discrete transform theory to spectral analysis, digital filters, random signal analysis. PREREQUISITE: Permission of instructor.

**EECE 8216 - Computer Vision (3)**
Principles and applications of computer vision, advanced image processing techniques as applied to computer vision, shape analysis, and object recognition.

**EECE 8217 - Multimedia Info Process (3)**
Multimedia information retrieval models, advanced processing techniques, multimedia content analysis, pattern mining for information retrieval, query formation, intelligent query processing, and high dimensional data visualization. PREREQUISITE: Permission of instructor.

EECE 8230 - Solid State Devices (3)
Internal function, limitations, and applications of unique components found in modern telecommunication designs; electro-optic devices, detectors, resonators, antenna, and negative resistance components. PREREQUISITE: EECE 7231.

EECE 8231 - Communicatn Electronics (3)
Analysis and design of small and large signal amplifiers; multistage amplifiers; analysis and design of oscillators; feedback and stability in amplifier design.

EECE 8232 - Analog Comm Circ Dsgn (3)
Design and applications of analog communication systems; transmitter and receiver technologies. PREREQUISITE: EECE 7231 or permission.

EECE 8233 - Power Electronics (3)
Power semiconductor switches, rectifiers, phase-controlled rectifiers, and other power control devices; power control applications.

EECE 8234 - VLSI Design (3)
This course teaches electronic IC design techniques for VLSI systems. Topics include fabrication process, design considerations and methodologies, fundamental structure, design flow, tools and techniques, design analysis and optimization, and stick diagram. Topics also include design rule checking (DRL), layout versus schematic (LVS), design synthesis and chip planning, clock tree and power routing, advanced high-speed and low-power CMOS design, asynchronous and adiabatic logic.

EECE 8243 - Fourier Optics (3)
Analysis of two-dimensional linear systems, scalar diffraction theory, Fresnel and Fraunhofer diffraction; Fourier transforming properties of lenses, spatial frequency analysis of optical systems, optical information processing and holography.

EECE 8245 - Statistical Optics (3)
Techniques for describing random processes applied to generation, propagation, imaging, and detection of light; statistical properties of light, coherence, imaging with inhomogeneous media, statistics of photoelectric detection of light.

EECE 8251 - Random Signals & Noise (3)
Statistical methods for describing and analyzing random signals and noise; auto-correlation, cross-correlation, and
spectral density functions; optimal linear filter theory. PREREQUISITE: EECE 6235 or permission of instructor.

EECE 8252 - Information Theory (3)
Introduction to entropy and channel capacity, group codes, block codes, cyclic codes; application of coding techniques to improve system reliability; error correcting codes. PREREQUISITE: EECE 7251 or permission of instructor.

EECE 8253 - Wireless Telecommunication (3)
Principles of wireless telecommunication systems with emphasis on cellular telephony and on wireless data communication; requirements and standards along with physical layer properties and multiple access techniques including spread spectrum techniques (CDMA).

EECE 8254 - Modern Telecom (3)
Implementation and standards for communications systems; cellular telephony standards and/or wireless data standards utilizing CDMA techniques.

EECE 8255 - Digital Communications (3)
Source coding, signal representations, optimum receivers for A WGN channels, channel capacity issues, block codes, and convolution codes.

EECE 8261 - Arch & Design Dig Comp (3)
Advanced logical design of hardware and organization structure of digital computers; architectural properties and control strategies; processor and memory organizations, addressing and interrupt structures, and I/O controllers; hardware and software trade-offs, and speed considerations.

EECE 8262 - Logicl Fndtns Artf Int (3)
(Logical foundations of artificial intelligence, predicate calculus, declarative knowledge, inference, resolution strategies, non-monotonic reasoning, induction, probabilistic logic, belief, state and change, and intelligent-agent architecture. PREREQUISITE: Permission of instructor.

EECE 8266 - Prolog Proc/Intel Syst (3)
The engineering of intelligent systems using the PROLOG language for implementation; advanced PROLOG processing, hardware, and software architecture for PROLOG-based machines. PREREQUISITE: EECE 6720 or 6730 or permission of instructor.

EECE 8267 - Artfcl Intel In Lisp (3)
Fundamentals of LISP programming, symbolic processing, searching, goal reduction, matching, problems and problem spaces, problem solving methods, and AI applications.

EECE 8268 - Obj Oriented Data Engr (3)
Design of hardware and software from a perspective of interacting objects that combine data and behavior; engineering data models, analysis and design processes, implementation, large engineering system issues, and reverse engineering; object-oriented database design for CASE, CAD/CAM, and related engineering database environments.

EECE 8269 - Machine Learning & Applications (3)
Data representation; similarity measures, linear and non-linear data projection; discriminant analysis; classifier design; supervised and unsupervised learning; evolutionary computing; and machine learning and applications. PREREQUISITE: Permission of instructor.

EECE 8273 - Modern Microprocessors (3)
Introduction to capabilities of state-of-the-art microprocessors and their supporting components.

EECE 8521 - Adv Control Syst Engr (3)
Cascade and feedback compensation; analysis and control of nonlinear systems; introduction to optimal techniques. PREREQUISITE: EECE 6251 or permission.

EECE 8522 - Stoch/Adapt Cntrl Thry (3)
Principles and applications of deterministic and statistical design; random processes in automatic control.

EECE 8523 - Thry Optical Cntrol Sys (3)
State variable description of systems, maximum principle of Pontryagin, optimization of linear systems with quadratic performance measures, time and field optimal systems.

EECE 8524 - Parameter Est & Cntrls (3)
Principles of parameter estimation and application to systems engineering.

EECE 8720 - Artificial Intelligence (3)
(Same as COMP 7720-8720). Central issues of artificial intelligence, including game playing, planning, machine learning, common-sense reasoning, perception and action; implementations in LISP. PREREQUISITE: EECE 6720.

EECE 8740 - Neural Networks (3)
(Same as COMP 7740-8740). Learning algorithms for multilayer perceptrons, least-mean squares, back-propagation and its variants, cascade-correlation, other supervised learning algorithms; unsupervised methods, including Hebbian, competitive and reinforcement learning; applications to associative memories, combinatorial optimization, component analysis, function approximation, pattern classification; theory of neurodynamics, including equilibrium, stability, and computational power.

EECE 8902 - Power System Stability/Control (3)
Introduction to power system stability problem, synchronous machine representation in stability issues, excitation and prime mover systems, control of active and reactive powers, small-signal and transient stability, voltage stability, methods of improving stability. PREREQUISITES: EECE 4201

EECE 8903 - Physically Based Animation (3)
Physically based models are useful for generating animations and user interactive models whose dynamics obey physical laws. Such models are useful for research investigations in various fields, e.g. surgical simulation, motion picture and game development. In this course, foundations of non-physically based geometric models, various physically based models and deformable models along with brief introduction to graphics and openGL are covered. Specifically, the models for particle interactions, hair, smoke, fire, and clothes along with their implementation details will be developed in class. PREREQUISITES: either CSE 0, graduate standing or consent of instructor

EECE 8909 - Approximate Dynamic PROGRAMMIN (3)
Basic concepts and mathematical foundations of neural networks, learning, nonlinear optimization and control. Exact and approximate optimization of the utility function. Bellman equation, approximate Bellman equation for solving multivariate optimization problems in real time. Partially observable variables, with random noise and tactical objectives varying in time. PREREQUISITE: Background in calculus and functional analysis, linear algebra, MATH 4242-6242, or permission of instructor.

EECE 8991 - Projects I (1-3)
Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by permission. Grades of A-F, or IP will be given.

EECE 8992 - Projects II (1-3)
Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by permission. Grades of A-F, or IP will be given.

EECE 9000 - Dissertation (1-12)
Grades of S, U, or IP will be given.
ENGINEERING TECHNOLOGY (TECH)

NOTE: Students taking Engineering courses will be charged an additional $25 per credit hour.
TECH 6234 - Microproc Interface Technology (4)
Analysis and design of microprocessor based systems utilizing serial and parallel input/output as well as analog to digital and digital to analog converters. Programs are developed to verify operation of the interfacing hardware. Team projects and written reports. Three lectures, three laboratory hours per week. PREREQUISITE: TECH 2831, 3233 and 3440.

TECH 6242 - Client Application Technology (3)
(CETH). Hypertext Markup Language (HTML), XML, and script languages. Three lecture hours per week. PREREQUISITE: TECH 4241, or permission of instructor.

TECH 6262 - Modern Programming (3)
(CETH). Application of Java and Java Script programming languages to problems from selected area of engineering technology; data collecting, modeling techniques, constraints, program development and validation. Three lecture hours per week. PREREQUISITE: TECH 2251 or equivalent.

TECH 6263 - Server Application Technology (4)
(CETH). Java exception handling, multithreading, files and streams; JDBC, Servlets, JSP, and JavaBeans server side software. Team projects include written reports. Three lecture hours, three laboratory hours per week. PREREQUISITE: TECH 3440, 4262, or permission of instructor.

TECH 6272 - Operating Systems (4)
Operating system structure, memory management (physical, virtual memory), process management (processes, threads, scheduling, synchronization, deadlocks), device management (driver, buffers, queues), file management (implementation, abstraction), installation and configuration of services within UNIX/LINUX operating system, and performance. Three lecture hours, three laboratory hours per week. PREREQUISITE: TECH 3232 or equivalent.

TECH 6281 - Computer Network Technology (4)
(CETH). Local area networks; covering the bottom four layers of the OSI mode; physical, datalink, network and transportation and application. Extensive laboratory coverage of the installation, configuration and administration of routers, switches and other networking devices. Three lecture hours, three laboratory hours per week. PREREQUISITE: TECH 2822, 3232 and 3241 or equivalent.

TECH 6381 - Principles of Supervision (3)
(METH). Practical approach to supervisory management including functions of planning, organization, staffing, employee motivation; coverage of contemporary issues including legal aspect of supervision as well as other regulatory concerns, such as occupational safety, health and labor relations.

TECH 6460 - Work Design/Improvement (3)
(METH). Analytical techniques and concepts for work methods improvement, lean operation for production and
distribution; performance measurement and evaluation; continuous improvement; fundamentals of human factors and ergonomics; work measurement using time study, predetermined time study systems, work sampling and development of standard data.

TECH 6462 - Statistical Quality Control (3)
(METH). Statistical methods for quality analysis and improvement; control charts for variables and attributes, industrial sampling; defect prevention using the Poka-Yoke System; reliability; acceptance sampling; Quality standards, continuous improvement; use of computer software for data analysis and presentation. PREREQUISITE: TECH 3044. [C]

TECH 6464 - Production Control Systems (3)
(METH). Functions of planning and controlling production and distribution operations; concepts of JIT, MRP, MRPII, ERP, and Japanese manufacturing techniques; analytical techniques and concepts for line balancing, production and process control, demand management and project management. COREQUISITE: TECH 4460, or permission of instructor.

TECH 6466 - Facility Design (3)
(METH). Integrated approach to design and layout for production and distribution facilities with respect to workstation design, material handling, project and resource planning, production control; use of Computer Aided Design, scheduling and analytical software. Team projects, written reports and oral presentations. PREREQUISITE: TECH 3440, 4460 and 4464, or permission of instructor.

TECH 6472 - Computer Aided Drafting (3)
(meth). Overview of CAD technology, hardware and software options; parametric solid modeling principles; applications to produce computer generated models, assemblies, photo-realistic renderings and working drawings. Two lecture hours, three laboratory hours per week. PREREQUISITE: TECH 1521, 1711, 3401.

TECH 6474 - Automation and Robotics (3)
(METH). Concepts of automation applied to production, distribution, and industrial robotics. Team project including written report. Two lecture hours, three laboratory hours per week. PREREQUISITE: TECH 1811, 3440 and PHYS 2010.

TECH 6476 - Computer Aided Manufacturing (3)
(METH). Computer numerical control programming by manual data input and distributed numerical control by computer assistance; system assessment of CNC machines; components, controls, and tooling for integrated manufacturing environment. Two lecture hours, three laboratory hours per week. PREREQUISITE: MATH 1730, TECH 1711, 3421, and 4472.

TECH 6571 - Tool Design (3)
(METH). Design of tooling and work holding systems for the integrated manufacturing environment; geometric
dimensioning and tolerancing, fast change-over techniques, hydraulic and pneumatic circuits, achieving world class quality through design. Two lecture hours, three laboratory hours per week. PREREQUISITE: TECH 3401, 3421, 4472.

**TECH 6821 - Microwave Technology (4)**
(EETH). Transition line principles for coax, waveguide and fiber; use of Smith Charts for impedance matching; principles of microwave generation and propagation; measurements such as impedance, antenna gain and VSWR; antenna types, characteristics; radiation patterns. Three lecture hours, three laboratory hours per week. PREREQUISITE: TECH 3811, PHYS 2020.

**TECH 6823 - Adv Programmable Logic Control (3)**
(EETH). Advanced applications of programmable logic controllers, including analog I/O techniques and computer interfacing. Team project including written report. Two lecture hours, three laboratory hours per week. PREREQUISITE: TECH 3440, 3822, or permission of instructor.

**TECH 7015 - App Stat Meth Industry (3)**
Application of statistical concepts to production processes and data gathering in industry including frequency, distribution, location and dispersion, probability dispersions, confidence limits, significance tests, and industrial sampling.

**TECH 7020 - Techn Research Writing (3)**
Investigations into the development and writing of technical research, emphasizing literature review in technology, review of technical specification format, proposal writing, and preparation of technical paper for international conferences. Written and oral presentations will be stressed in the course. PREREQUISITE: Permission of instructor.

**TECH 7105 - Project Plan & Scheduling (3)**
Contemporary methods used in project planning and scheduling; emphasis on critical path method (CPM) with computer application; solution of actual problems stressed.

**TECH 7233 - Adv Software Appl (3)**
Use of compilers, assemblers, program translators, application generators, program generators; application software for computer-aided design and data communications. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7263 - Adv Dgitl Circuit/Appl (3)**
Pragmatic treatment of analysis, synthesis, and applications of digital integrated circuits and systems. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7273 - Adv Microproc Arch (3)**
Structure of the microprocessor, Bit-slice and monolithic systems; ALU design, data transfer and storage registers, and control unit logic; microprogramming techniques. Three lecture hours per week. PREREQUISITE: Permission of instructor.

TECH 7283 - Adv Data Acquisition (3)
Use of digital and analog circuits to accomplish the computer analysis of empirical data; transducers, digital and analog conversions, linear and operational amplifiers, interfacing techniques; data scaling and manipulation. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

TECH 7401 - Lean Fundamentals (3)
Basic concepts and terminology of Lean, including review of published seminal works and case studies. Concepts covered include: kanban, visual factory & 5S, kaizen, standard work, takt time, flow, poke-yoke, PDCA, SMED and other tools & techniques of Lean. PREREQUISITE: TECH 4/6460 or equivalent, or permission of instructor.

TECH 7402 - Adv Quality Control (3)
Methods for improved process and product design; cost of quality, measurement systems analysis, process capability, design of experiments and analysis, continuous improvement and review of quality standards. PREREQUISITE: TECH 4/6462 or equivalent, or permission of instructor.

TECH 7404 - Wrld/Clas Manfct Concp (3)
World-class manufacturing and Lean concepts including Value Stream Mapping, Training Within Industry (TWI), Standard Work, 5S tools, Ergonomics, Human factors and Cellular Manufacturing. COREQUISITE: TECH 7401

TECH 7406 - Material Handling/Auto (3)
Analysis, design, and evaluation of traditional and contemporary approaches to materials handling; analytical and computer procedures for designing handling systems. PREREQUISITE: Permission of instructor.

TECH 7408 - Production Processes (3)
A coordinated study of manufacturing processes and equipment, operation sequence planning, economic aspects of equipment selection, tooling and processing a product from product design to final assembly for quantity production.

TECH 7414 - Manuf Strat/Syst Design (3)
Manufacturing strategy and systems design, including concepts of value stream mapping, theory of contraints, lean and six sigma (TLS) combined use, implementing and sustaining change and overcoming resistance, executive alignment and strategy. COREEREQUISITE: TECH 7401.

TECH 7801 - Advanced Instrumentation (3)
Review of basic analog and digital instruments, applications of advanced communication equipment, such as digital spectrum analyzer, TDR, computer aided measurement, and industrial instruments. Course concludes with
virtual instrumentation. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7811 - Tech Elect Comm System (3)**
Technical and economic aspects in the implementation and operation of publicly and privately owned analog and digital communication systems, wired and wireless communications, and comparison of different methods of signal transmission. Three lecture hours per week. PREREQUISITE: Permission of instructor.

**TECH 7821 - Adv Microwave Tech (3)**
Microwave theory and instrument applications, including techniques for measuring power, frequency, impedance, VSWR, reflection coefficient, use of Smith chart, steady state and transient response of transmission lines, high frequency generators, and computer aided design and analysis of array antennas. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7822 - Ind Press Control Syst (3)**
Simulation and pragmatic analysis of closed loop industrial control systems using programmable logic controllers; practical considerations of control loop quality and stability; applications of digital computer for direct and supervisory control and on-line analysis. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7831 - Adv Int Circuits Tech (3)**
Theory and applications of integrated circuits and systems, emphasizing linear integrated circuits; characteristics, power requirements, and applications to amplifiers, oscillators, demodulators, wave shaping circuits, active filters, converters, and troubleshooting techniques. Two lecture, three laboratory hours per week. PREREQUISITE: Permission of instructor.

**TECH 7841 - Fiber Optics in Comm (3)**
Implementation and analysis of fiber optics; comparison of coax and fiber, bandwidth and rate of data transmission using fiber; emphasis on single and multimode fiber. PREREQUISITE: Permission of instructor.

**TECH 7991 - Projects I (1-3)**
Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITE: Written proposal and permission of instructor. Grades of A-F, or IP will be given.

**TECH 7992 - Projects II (1-3)**
Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITE: Written proposal and permission of instructor. Grades of A-F, or IP will be given.

**TECH 7993 - Internship In Engr Tech (1-3)**
Practical experience in engineering technology; students are placed with governmental or private organizations; project must be approved and supervised by department faculty; academic credit granted on certification of
cooperating agency and acceptance by the supervising faculty of written report. NOTE: May be repeated for total of 6 semester hours credit, but no more than 3 credit hours may be applied as an elective. Number of credit hours to enroll depends on number of hours worked per week: 10-15 hours=1 credit hour; 16-30 hours=2 credit hours; 31-40 hours=3 credit hours. Work done as an intern can not be used to fulfill project requirements in TECH 7991 or TECH 7992. PREREQUISITE: Written proposal, offer letter from the internship organization, and permission of instructor. Grades of S, U, or IP will be given.

TECH 7994 - Seminar (1)
Presentations by faculty, members of local industry, and graduate students. May be repeated for up to 6 hours credit. Must be taken at least 3 times to count as an elective in the master's program. Not more than 3 credit hours may be applied as an elective. PREREQUISITE: Written proposal and permission of instructor. Grades of S, U, or IP will be given.

TECH 7996 - Thesis (1-6)
Writing of the thesis with emphasis on adequate setup of the problem, collection of data, their use, and conclusions. Students must present in writing a proposal acceptable to the graduate committee under whose direction the thesis is to be written. PREREQUISITE: Written proposal and permission of instructor.
Minimum Requirements for Master's Degrees

A master's degree program shall generally include 30-36 semester hours of course work, although some programs
require substantially more. Refer to the appropriate program description for specific requirements. The student's program must be approved by the major academic unit. A student may be required to take courses beyond the minimum to ensure balance and depth in the discipline.

A minimum of 70% of the total required hours must be provided by 7000 level courses. No more than 12 hours of workshop courses and independent study courses may be applied to a master's degree. Individual academic departments may allow fewer workshop or independent study hours in their programs.

The maximum amount of combined hours of transfer credit, credit by examination, course validation and experiential learning that can be used to fulfill degree requirements is two-thirds of the number of hours required for the degree. The Graduate School sets minimum standards to which all the diverse graduate programs across the university must adhere. Individual colleges, schools, and graduate programs are encouraged to set more stringent requirements as necessary to meet their accreditation and student needs.

**ADDITIONAL PROGRAM REQUIREMENTS**

Each graduate program listed in this catalog has minimum degree requirements. In consultation with the faculty, the graduate coordinator of each program may specify any additional requirements, such as prerequisites, a reading knowledge of a foreign language, a working knowledge of statistics, or specific courses related to graduate or teaching assistantships.

**FOREIGN LANGUAGE PROFICIENCY**

A reading knowledge of at least one foreign language is required in several graduate programs. This requirement may be met in one of the following ways:

- achieving a grade of B ("3.0") or better in a fourth-semester language course (e.g. FREN/GERM/ITAL/SPAN 2020),
- achieving a grade of B ("3.0") or better in a graduate reading course (FREN 7000 and GERM 7000 are the only two courses available for this option. They are usually offered in the summer)
- achieving a grade of B ("3.0") or better in upper-division courses at the 3000- or 4000-levels (e.g. FREN 3302/GERM 3790/ITAL 3311/PORT 3301/SPAN 3303),
- achieving a grade of B ("3.0") or better in graduate courses taught in the target language at the 6000- or 7000 levels (e.g. FREN 6302/PORT 6024/SPAN 6307),
- students who provide evidence of knowledge of a foreign language other than that of the concentration equivalent to a fourth-semester language course or superior may arrange with the section head of the specific language for a written test to prove competency.

**TIME LIMITATION**

All requirements for the degree must be completed in eight years. Courses older than these limits will not be allowed as credit toward the master's degree, although the grades will be calculated in the cumulative GPA. Grades earned in courses that are older than program time limits will be shown on the transcript and will be calculated in the cumulative GPA, but will not be accepted for graduation purposes.

There are no exceptions to program time limits. However, students may request the option of validating old courses as described in the Academic Regulations section of this Bulletin.

**COMPREHENSIVE EXAMINATION**

Before being recommended for graduation, every candidate for the master's degree who does not write a thesis is required to pass a final comprehensive examination. Many programs also require a comprehensive examination for those students writing a thesis. Some professional programs require a culminating experience instead of a comprehensive examination. Please see specific program requirements.

Some programs give the comprehensive examination within a short time period during or near the last semester of coursework or after all coursework is completed. In some professional programs the comprehensive examination is given during the calendar year in which the student expects to graduate. Other programs give a series of exams over several semesters. In all cases, comprehensive exams should be completed late enough in the student's program to ensure full coverage of content areas represented by required coursework.

In programs that do not require comprehensive examination for thesis writers, the thesis defense will include broad questions covering the breadth of coursework as well as the thesis content and will be used to satisfy the comprehensive examination requirement.

Comprehensive examinations are administered only to students in good standing and may be oral, written, or both. The result of the exam (positive or negative) must be communicated to the Graduate School on the Comprehensive Results Form within the same semester the exam was taken or by the specified deadline in this catalog.

Protocols and procedures for administration of comprehensive examinations can be obtained at the departmental level. It is the student's responsibility to confer with the appropriate academic department regarding the time and place of the examination.

A student who does not perform satisfactorily on the first comprehensive examination will be given an opportunity to take a second examination at the next regularly scheduled examination period. For serial examinations, given over several semesters, see the specific program repeat policies. The academic department may recommend appropriate coursework, which the student will take in preparation for retaking the exam.

Results of comprehensive examinations are not graded in the way that courses are and so cannot be appealed, nor can they be changed after the form has been filed with the Graduate School. A second failure results in
termination, which can be appealed. The retention appeals process is formalized and must be followed in all cases. See the section on "Retention Appeals."

**ADMISSION TO CANDIDACY**

Before an applicant will be officially admitted to candidacy for a master's degree, the student must have satisfied the following requirements:

1. The "Master's Degree Candidacy Form" for the Master's Degree and a graduation application (Apply to Graduate - available in MyMemphis) must be filed by the deadline published in the Graduate Catalog, posted on academic department bulletin boards on campus, and available on the Graduate School web site. No exceptions will be made if both the graduation application and degree candidacy forms are not submitted by the stated deadlines.
2. If a student is writing a thesis, an approved Thesis/Dissertation Proposal Form must be filed with all necessary human or animal subjects approvals before any research is undertaken. See the section on "Regulatory Issues."
3. The student must have a cumulative GPA of 3.0 on all graduate work undertaken at The University of Memphis whether or not the courses are listed on the candidacy form. Grades of "D" or "F" are not accepted for any graduate degree credit, but these grades will be computed in the GPA. No more than seven (7) hours of "C+", "C," or "C-" will be counted toward degree requirements.
4. The student must have at least a 3.0 average in all graduate work at the time the graduation application in My Memphis is filed.
5. The program must include a minimum of 70% of the total required hours as 7000 level courses.
6. All requirements of the Graduate School, the student's college, and the academic department must be met.
7. If a student wishes to substitute a course for a required course, the substitution must be approved by the student's advisor or the program coordinator on the Course Substitution Form. The form must accompany the candidacy form.
8. The student's graduate work up to this point must be acceptable in quality and quantity to the major advisor, department chair and/or director of graduate studies in the student's college, and the Dean of the Graduate School.

**ENROLLMENT REQUIREMENTS**

Students must be enrolled during the semester in which they defend the thesis. Colleges and departments may require enrollment during the semester in which comprehensive exams are taken; check with your program for details.

**THESIS REQUIREMENTS**

Most academic departments provide students both a thesis and a non-thesis option (see department descriptions).
A thesis of 3 to 6 semester hours may be presented as partial completion of degree requirements. Students must enroll for thesis credit each academic semester until the thesis is completed, regardless of how many hours the program will accept.

Students electing to write a thesis should familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write. An approved Thesis/Dissertation Proposal Form must be filed with any necessary human or animal subjects approvals before any research is undertaken. See the section on "Regulatory Issues" for more information.

**THESIS COMMITTEE**

The student will select a thesis committee (minimum of three members) made up of graduate faculty approved by the head of the academic unit and/or the college director. The chair of the thesis committee must hold full or associate graduate faculty status. Only one affiliate or adjunct graduate faculty member may serve as a voting member of a thesis committee. If the thesis committee differs from the advisory committee, a new committee form must be filed with the Graduate School.

**CONTINUOUS ENROLLMENT POLICY**

The continuous enrollment policy applies to thesis, capstone projects, and all other culminating experiences. Most programs require at least one culminating experience course; see specific program requirements for details. A student must be enrolled for at least 1 hour each Fall and Spring semester until the thesis or project is complete. A student must be enrolled in the Summer semester if the thesis will be completed then. Failure to so register will result in the student being charged tuition for each semester he or she did not enroll.

The only exception to this policy is if the student's major professor is on leave or otherwise unavailable. In such cases the approval of the appropriate college director and the Dean of the Graduate School is required. In case of serious medical circumstances, students may request a leave of absence, subject to the approval of the program graduate coordinator, the college director of graduate studies, and the Vice Provost for Graduate Programs. Retroactive approval will not be granted. A leave of absence does not extend time limit to degree.

**DEFENSE OF THE THESIS**

Students must be enrolled in the semester during which they defend the thesis. Upon completion of the thesis, the student must successfully complete an oral defense administered by the student's advisory committee and the results reported to the Graduate School. All committee members must be present at the examination and the results are determined by a unanimous vote of the committee. Only one adjunct or affiliate graduate faculty member may serve as a voting member on a master's committee.
If the oral exam encompasses both the comprehensive and the defense, the results should be reported separately on the forms provided. In this case, the thesis defense will include broad questions covering the extent of coursework as well as the thesis content.

The final draft of the thesis must be approved by all members of the student's committee. After the successful defense, a copy of the defended and corrected thesis must be submitted to the Graduate School along with the committee approval form. This copy must contain all corrections which may have been given to the student during the final defense.

After the Graduate School has reviewed the final draft, the student must make all additional corrections. At such time, the student will convert the final corrected document into a PDF version and upload to the Electronic Thesis/Dissertation (ETD) archival system. See the Graduate School Thesis/Dissertation Preparation Guide for instructions on how to upload to the ETD system.

Students who unsuccessfully defend their thesis will be assigned a "U" (unsatisfactory). The Graduate School will then send a letter of termination from the program.

**THESIS CREDIT**

Credit will be posted upon completion and acceptance of the thesis. No more than six (6) hours will be allowed for a master's thesis, even though the student may have been required to register for additional hours in order to maintain continuous enrollment. If a student elects not to complete the thesis, a retroactive drop (or withdrawal) must be processed for the last term of enrollment in thesis credit to reflect the change of program on the student's transcript.

**SECOND MASTER'S DEGREE**

Students who hold or are enrolled in a master's degree from The University of Memphis may pursue a second master's degree with a different major or degree if the academic unit accepts them. Up to 20% of the total combined credit hours for the two degree programs or fifteen credit hours (whichever is greater) may be shared. Shared credit hours must be approved by the advisor and graduate coordinator for each degree program. Two degrees may be pursued simultaneously or sequentially. Each degree must be completed within the eight year time limit.

Students may initiate a dual degree program to meet their educational and career goals. Student initiated programs require admission to both master's/professional programs and a plan of study approved by both graduate coordinators and the Graduate Coordinators and the Graduate School. The plan of study will show all the credit hours that will be earned in the two degrees.
EDUCATION SPECIALIST

The Education Specialist degree is designed for the educator-practitioner who desires post-master's training but who does not wish to earn a doctorate. For additional information, please refer to the College of Education.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
MECHANICAL ENGINEERING (MECH)

NOTE: Students taking Engineering courses will be charged an additional $25 per credit hour.
In addition to the courses below, the department may offer the following Special Topics courses:

**MECH 6990-6998. Special Topics in Mechanical Engineering. (1-3).** Topics are varied and announced in the online class listings.

**MECH 7901-7909–8901-8909. Special Topics in Mechanical Engineering. (1-3).** Topics are varied and announced in the online class listings.

**MECH 6305 - Fluid Mechanics II (3)**
Continuation of MECH 3331. Introduction to various topics in advanced fluid mechanics, including flow over immersed bodies; compressible fluid flow; turbomachinery; measurements in fluid mechanics; and inviscid flow. PREREQUISITE: MECH 3331.

**MECH 6309 - Gas Dynamics (3)**
Concepts in compressible flow, including topics such as isentropic flow, varying area flow, normal and oblique shockwaves, Fanno flow, and Rayleigh flow. PREREQUISITE: MECH 3312, 3331.

**MECH 6313 - Heat Transfer II (3)**
Principles of boiling, condensation, and radiation heat transfer; fundamentals of heat exchanger design. PREREQUISITE: MECH 3351.

**MECH 6315 - Principles of HVAC Systems (3)**
Psychometric analysis, heating and cooling loads of buildings and analysis of air conditioning systems. PREREQUISITE: MECH 3351.

**MECH 6320 - Mechanics of Materials II (3)**
Stress-strain analyses of thin-walled cylinders and spheres, springs, laterally loaded struts, struts with initial curvature, rotating disks and cylinders; plastic yielding of beams and shafts; introduction to energy methods. PREREQUISITE: MECH 3320, 3322.

**MECH 6324 - Computer Meth/Design (3)**
Application of computer-aided analysis software to the design of mechanical components and systems; introduction to fundamental concepts and principles of finite element methods; design problems and project assignments using finite element analysis package.

**MECH 6325 - Adv Mech Materials (3)**
Biaxial stresses, torsion, unsymmetrical bending of beams, shear centers, contact stresses, failure theory, and other selected topics. PREREQUISITE: MECH 3322.

**MECH 6326 - Biomedical Sy Anly-Mech (3)**
Introduction to concepts used in analyzing living systems; simulation of body functions with mechanical and
computer models; familiarization with the design of mechanical bioengineering devices such as heart valves, heart-lung machines, renal analysis machines. PREREQUISITES: MECH 2332, 3322.

**MECH 6330 - Intro To Composite Mat (3)**
Introduction to fiber reinforced composite materials; mechanical behavior, strength, design methodology, and implementation of computer aided design. PREREQUISITES: MECH 3320, 3322.

**MECH 6331 - Turbomachinery (3)**
Basic principles of fluid mechanics and thermodynamics as applied to rotating machinery; ideal and actual operating characteristics of pumps, fans, turbines and compressors; design of real systems. PREREQUISITE: MECH 3331.

**MECH 6333 - Aerospace Propulsn Syst (3)**
Fundamentals of air-breathing and rocket propulsion devices; principles of combustion thermodynamics, gas turbine operation, solid and liquid propellants, performance evaluation, and atmospheric and space mission propulsion requirements. PREREQUISITE: MECH 4331.

**MECH 6337 - Internal Combustion Engines (3)**
Principles of Otto, Diesel, and Brayton cycle engines; effects of various fuels and fuel delivery systems, air induction systems, ignition systems, and pollution control techniques on engine performance. PREREQUISITES: MECH 3312, 3331.

**MECH 6339 - Appld Computational Fluid Dyna (3)**
Introduction to fundamental mathematical models and computational methods for simulating the physics of fluid flow and heat transfer; identify limitation of simulation approach, recognize sources of error, evaluation of solution quality. PREREQUISITE: MECH 3341, 3351.

**MECH 6340 - Manufacturing Processes (3)**
Fundamentals of mechanical behavior of materials, manufacturing properties of materials; casting, bulk deformation, sheet metal forming; material removal processes; processing of polymers, ceramics, and glasses composite materials; powder metallurgy; fastening and joining processes; nontraditional manufacturing processes; economics of integrated design and manufacturing processes. PREREQUISITES: MECH 3320, 3322.

**MECH 6342 - Intro/Packaging Engineering (3)**
Fundamental study of functions of packaging, packaging material, container type, processes, technology and equipment employed to protect goods during handling, shipping and storage.

**MECH 6344 - Mechanical Controls (3)**
Fundamental classical control concepts; modeling of linear mechanical control systems; transient, accuracy and performance analyses and design of control systems using root locus sketch, Nyquist diagrams and Bode plots.
MECH 6345 - Design Of Mechanisms (3)
Graphical and analytical mechanism synthesis techniques for path generation, function generation, rigid body guidance, and optimization of force transmission characteristics. PREREQUISITES: MECH 3321, 3323.

MECH 6346 - Adv Mechanical Controls (3)
Advanced modeling of mechanical control systems; review of digital and optimal control systems, and simulation of control systems. PREREQUISITE: MECH 4344.

MECH 6350 - Prin Of Biomechanics (4)
(7308). Biomechanics of tissues and structures of the musculoskeletal system (bone, cartilage, tendons, ligaments, peripheral nerves, and muscle), biomechanics of all joints; applications of statics, mechanics of materials, and linear viscoelasticity. PREREQUISITES: MECH 3320, 3322.

MECH 6360 - Selection of Engr Materials (3)
Detailed study of main classes of materials and their properties and uses; design criteria for various failure modes and selected environment case studies, technical tutorials and design exercises. PREREQUISITE: MECH 3320, 3322.

MECH 6369 - Process Engineering (3)
Application of fundamental principles of fluid mechanics, heat transfer, and thermodynamics to the analysis and design, fabrication and construction of process equipment and facilities which include physical and/or chemical transformations. PREREQUISITE: MECH 3351.

MECH 6371 - Mechanical Vibrations (3)
Kinematics of harmonic and non-harmonic vibrations; systems of one and several degrees of freedom, free and forced vibrations; self-excited vibration.

MECH 6383 - Nondestructive Test I (3)
Introduction and overview; visual and optical methods; radiographic methods; ultrasonic testing; acoustic emission; magnetic methods; eddy current method; penetrant testing; standards, training, and certification issues; case studies, projects. PREREQUISITES: MECH 3320, 3323, 3341.

MECH 6384 - Nondestructive Test II (3)
Nuclear radiographic methods; acoustic and dynamic techniques; magnetic resonance testing; volatile liquid testing; thin-layer chromatography; thermoelastic stress analysis; research techniques, case studies, projects. PREREQUISITE: MECH 6381.

MECH 6393 - Appld Finite Element Analysis (3)
Fundamental topics associated with use of finite element analysis in mechanical and biomedical engineering applications; introduction to finite element theory, model generation, CAD interfacing, post-processing of results and validation. PREREQUISITE: BIOM 2810 or MECH 3322.

**MECH 6990 - Intro Additive Manufacturing (3)**

Additive Manufacturing (AM) is a process of joining materials to make objects from 3D model data, usually layer upon layer, as opposed to subtractive manufacturing methodologies. This course offers a thorough introduction to the basics, principles, and applications of commercially available additive manufacturing techniques.

**MECH 7302 - Theory Continuous Media (3)**

(Same as BIOM 7-8103). Analysis of stress and deformation at a point; derivation of the fundamental equations in Cartesian tensor notation by application of the basic laws of conservation of mass, energy, and momentum in mechanics and thermodynamics. PREREQUISITES: MECH 3322, 7341-8341.

**MECH 7303 - Advanced Dynamics (3)**

Formulation of three-dimensional nonlinear dynamical equations of motion for particles and rigid bodies; modeling of dynamic systems; numerical integration. PREREQUISITES; MECH 3321, 7341-8341.

**MECH 7305 - Inviscid Flow Theory (3)**

General equations of fluid mechanics; equations of two-dimensional inviscid flow; stream function and velocity potential definitions; irrotational flow; Laplace's equation in various flow fields and geometries; combined flows and superposition. PREREQUISITES: MECH 3312, 3331, 7341-8341.

**MECH 7306 - Viscous Flow (3)**

Advanced introduction to physical principles governing viscous fluid flow; fundamental equations developed from first principles and topic include: flow kinematics, derivation of Navier-Stokes equations, exact solutions of N-S equations for internal and external flows, dimensional analysis, creeping flows, Vorticity dynamics, flow control.

**MECH 7307 - Adv Viscous Flow (3)**

Advanced topics in viscous flow including incompressible and compressible boundary layer theory, free shear flows, stability analysis, turbulent flow modeling, approximate N-S solutions, non-Newtonian flows.

**MECH 7323 - Conduction Heat Transf (3)**

Fundamentals of steady-state and transient heat conduction; applications of Fourier series, Laplace transforms, finite differences, and finite elements to conduction problems. PREREQUISITES: MECH 4311, 7341-8341.

**MECH 7324 - Radiation Heat Transf (3)**

Fundamentals of radiation properties of surfaces and radiation exchange between surfaces; black, gray, and non-gray surfaces; integral and numerical techniques employed in radiation problems. PREREQUISITES: MECH 4311, 7341-8341.
MECH 7325 - Convective Heat Transfer (3)
Fundamentals of free and forced convection heat transfer using differential and integral formulation of laminar and turbulent boundary layers for flow over internal and external surfaces; influence of temperature-dependent properties; convective heat transfer at high velocities. PREREQUISITES: MECH 4311, 7341-8341.

MECH 7332 - Principles of Propulsion (3)
Introduction to principles of rocket propulsion and space mechanics; topics include liquid, solid, and ion rocket motors, and orbital maneuvers employed in typical space missions.

MECH 7341 - Engineering Analysis I (3)
Analysis of engineering systems using closed form solutions; application of Fourier series and transforms, Laplace transforms, power series methods, vector calculus, ordinary and partial differential equations. PREREQUISITE: MATH 3391.

MECH 7342 - Engineering Analysis II (3)
Continuation of MECH 7341. Theoretical and numerical analysis of engineering systems, and other advanced topics as applied to mechanical engineering problems. Engineering applications of probability and statistics, and hypothesis tests.

MECH 7355 - Engineering Optimization (3)
Practical aspects of optimization methodology with emphasis on techniques and procedures relevant to engineering applications in design, operations, and analysis; engineering case studies. PREREQUISITES: MECH 4322, 7342-8342.

MECH 7361 - Mechanical Behavior of Materials (3)
Performance of materials at elevated temperatures; statistical aspect of brittle fracture; advanced treatment of fatigue failure; linear elastic fracture mechanics; friction and wear; ductile failure; strengthening mechanisms; embrittlement modes; case studies in materials selection. PREREQUISITE: MECH 3320.

MECH 7363 - Fracture Mechanics (3)
Linear elastic analysis; elastic-plastic analysis, dynamic and time-dependent fracture; microstructural aspects of fracture; environment-assisted cracking; fatigue crack growth and propagation; analysis of engineering failures; case studies. PREREQUISITES: MECH 3320, 3322, 3323.

MECH 7365 - Corrosion (3)
Fundamental causes and mechanisms; corrosion control; study of specific corrosion problems. PREREQUISITE: MECH 3320.

MECH 7371 - Advanced Mechanical Vibrations (3)
Modeling of linear and nonlinear vibrational systems; control, measurement, and stability of vibrational systems. PREREQUISITES: MECH 6371, 7342-8342.

**MECH 7378 - Intro Comptnl Fluid Dyn (3)**
Introduction to computational fluid mechanics and heat transfer, finite difference and finite volume methods, stability consideration, basics of numerical computation and analysis of model equations and fluid dynamics equation.

**MECH 7379 - Adv Comptnl Fluid Dyn (3)**
Advanced introduction to state-of-the-art computational fluid dynamics; advanced grid generation, numerical schemes, and numerical boundary conditions; numerical computation of compressible inviscid and viscous flows, turbulence modeling, skill of post data process.

**MECH 7381 - Finite Element Methods (3)**
General principles and modeling of engineering systems using the finite element method; applications in fracture mechanics, hydrodynamics, and thermal conduction. PREREQUISITES: MECH 3341, 7341-8341.

**MECH 7382 - Software Develop (3)**
(Same as CIVL 7124-8124). Systematic investigation of application of good software engineering principles applied to development of computationally intensive software; best practices and methodologies developed in last two decades applied with context of a numerical problem.

**MECH 7391 - Packaging Dyn/Distr Pack (3)**

**MECH 7900 - Seminar (1)**
Graduate students must attend seminars regularly organized by the department. Grades of S, U, or IP will be given.

**MECH 7979 - Contemp Issues In Mech (1-3)**
Detailed critical reviews of the literature or supervised work on one or more contemporary issues in the field; formal report(s) required. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given. This course does not count toward a degree program.

**MECH 7990 - Engineering Practicum (1-3)**
Studies of related practical mechanical engineering problems as an integral part of the established curriculum under the instruction and supervision of a faculty member. Written and oral reports are mandatory. Grades of S, U, or I will be given. PREREQUISITE: Permission of instructor.
MECH 7991 - Research Proposal (1-3)
Exhaustive literature search and presentation of both written and oral proposals on engineering topics under supervision of instructor. Grades of S, U, or IP will be given. PREREQUISITE: Permission of instructor.

MECH 7992 - Research Project (1-6)
Independent research investigation of engineering problem under supervision of instructor for students in non-thesis option; both written and oral reports required. Grades of S, U, or IP will be given. PREREQUISITE: Permission of instructor.

MECH 7994 - Independent Study (1-3)
Independent study in Mechanical Engineering on topic selected in conjunction with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Only 3 credit hours can be applied to a degree program. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

MECH 7996 - Thesis (1-6)
Grades of S, U, or IP will be given.

MECH 8302 - Theory Continuous Media (3)
(Same as BIOM 7-8103). Analysis of stress and deformation at a point; derivation of the fundamental equations in Cartesian tensor notation by application of the basic laws of conservation of mass, energy, and momentum in mechanics and thermodynamics. PREREQUISITES: MECH 3322, 7341-8341.

MECH 8303 - Advanced Dynamics (3)
Formulation of three-dimensional nonlinear dynamical equations of motion for particles and rigid bodies; modeling of dynamic systems; numerical integration. PREREQUISITES: MECH 3321, 7341-8341.

MECH 8305 - Inviscid Flow Theory (3)
General equations of fluid mechanics; equations of two-dimensional inviscid flow; stream function and velocity potential definitions; irrotational flow; Laplace s equation in various flow fields and geometries; combined flows and superposition. PREREQUISITES: MECH 3312, 3331, 7341-8341.

MECH 8306 - Viscous Flow (3)
Advanced introduction to physical principles governing viscous fluid flow; fundamental equations developed from first principles and topic include: flow kinematics, derivation of Navier-Stokes equations, exact solutions of N-S equations for internal and external flows, dimensional analysis, creeping flows, Vorticity dynamics, flow control.

MECH 8307 - Adv Viscous Flow (3)
Advanced topics in viscous flow including incompressible and compressible boundary layer theory, free shear flows, stability analysis, turbulent flow modeling, approximate N-S solutions, non-Newtonian flows.
MECH 8323 - Conduction Heat Transf (3)
Fundamentals of steady-state and transient heat conduction; applications of Fourier series, Laplace transforms, finite differences, and finite elements to conduction problems. PREREQUISITES: MECH 4311, 7341-8341.

MECH 8324 - Radiation Heat Transf (3)
Fundamentals of radiation properties of surfaces and radiation exchange between surfaces; black, gray, and non-gray surfaces; integral and numerical techniques employed in radiation problems. PREREQUISITES: MECH 4311, 7341-8341.

MECH 8325 - Convective Heat Trnsfr (3)
Fundamentals of free and forced convection heat transfer using differential and integral formulation of laminar and turbulent boundary layers for flow over internal and external surfaces; influence of temperature-dependent properties; convective heat transfer at high velocities. PREREQUISITES: MECH 4311, 7341-8341.

MECH 8332 - Prin Of Propulsion (3)
Introduction to principles of rocket propulsion and space mechanics; topics include liquid, solid, and ion rocket motors, and orbital maneuvers employed in typical space missions.

MECH 8341 - Engineering Analys I (3)
Analysis of engineering systems using closed form solutions; application of Fourier series and transforms, Laplace transforms, power series methods, vector calculus, ordinary and partial differential equations. PREREQUISITE: MATH 3391.

MECH 8342 - Engineering Analys II (3)
Continuation of MECH 7341. Theoretical and numerical analysis of engineering systems, and other advanced topics as applied to mechanical engineering problems. Engineering applications of probability and statistics, and hypothesis tests.

MECH 8355 - Engineering Optimizatn (3)
Practical aspects of optimization methodology with emphasis on techniques and procedures relevant to engineering applications in design, operations, and analysis; engineering case studies. PREREQUISITES: MECH 4322, 7342-8342.

MECH 8361 - Mech Behvr Of Materials (3)
Performance of materials at elevated temperatures; statistical aspect of brittle fracture; advanced treatment of fatigue failure; linear elastic fracture mechanics; friction and wear; ductile failure; strengthening mechanisms; embrittlement modes; case studies in materials selection. PREREQUISITE: MECH 3320.

MECH 8363 - Fracture Mechanics (3)
Linear elastic analysis; elastic-plastic analysis, dynamic and time-dependent fracture; microstructural aspects of
fracture; environment-assisted cracking; fatigue crack growth and propagation; analysis of engineering failures; case studies. PREREQUISITES: MECH 3320, 3322, 3323.

MECH 8365 - Corrosion (3)
Fundamental causes and mechanisms; corrosion control; study of specific corrosion problems. PREREQUISITE: MECH 3320.

MECH 8371 - Adv Mech Vibrations (3)
Modeling of linear and nonlinear vibrational systems; control, measurement, and stability of vibrational systems. PREREQUISITES: MECH 6371, 7342-8342.

MECH 8378 - Intro Comptnl Fluid Dyn (3)
Introduction to computational fluid mechanics and heat transfer, finite difference and finite volume methods, stability consideration, basics of numerical computation and analysis of model equations and fluid dynamics equation.

MECH 8379 - Adv Comptnl Fluid Dyn (3)
Advanced introduction to state-of-the-art computational fluid dynamics; advanced grid generation, numerical schemes, and numerical boundary conditions; numerical computation of compressible inviscid and viscous flows, turbulence modeling, skill of post data process.

MECH 8381 - Finite Element Methods (3)
General principles and modeling of engineering systems using the finite element method; applications in fracture mechanics, hydrodynamics, and thermal conduction. PREREQUISITES: MECH 3341, 7341-8341.

MECH 8382 - Software Develop (3)
(Same as CIVL 7124-8124). Systematic investigation of application of good software engineering principles applied to development of computationally intensive software; best practices and methodologies developed in last two decades applied with context of a numerical problem.

MECH 8391 - Packaging Dyn/Distr Pack (3)
Introduction to package development process, packaging test and evaluation methods, stands, and equipments. Review of governmental regulations affecting packaging. PREREQUISITE: MECH 6341.

MECH 8979 - Contemp Issues in Mech (1-3)
Detailed critical reviews of the literature or supervised work on one or more contemporary issues in the field; formal report(s) required. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given. This course does not count toward a degree program.

MECH 8990 - Engineering Practicum (1-3)
Studies of related practical mechanical engineering problems as an integral part of the established curriculum under the instruction and supervision of a faculty member. Written and oral reports are mandatory. Grades of S, U, or I will be given. PREREQUISITE: Permission of instructor.

**MECH 8991 - Research Proposal (1-3)**
Exhaustive literature search and presentation of both written and oral proposals on engineering topics under supervision of instructor. Grades of S, U, or IP will be given. PREREQUISITE: Permission of instructor.

**MECH 8994 - Independent Study (1-3)**
Independent study in Mechanical Engineering on topic selected in conjunction with instructor. Oral and written reports required. May be used for curricular training as a part of an internship program. Only 3 credit hours can be applied to a degree program. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

**MECH 9000 - Dissertation (1-12)**
Grades of S, U, or IP will be given.
In addition to the courses below, the department may offer the following Special Topics courses:
NURS 7810-7820. Special Topics in Nursing. (3). Topics are varied and announced in online course listings.

NURS 6110 - Rsrch/Evd Based Prctice (3)
Overview of nursing research: components of research, critiques of existing studies, emphasis on interpretation and applications of research findings. PREREQUISITE: Admission to MSN program.

NURS 6120 - Contempry Issues/Trends (3)
Factors that influence nursing and health care; promotes integration and synthesis of knowledge from previous nursing and general education courses to explore societal and political components that affect delivery of health care. PREREQUISITE: Admission to MSN program.

NURS 6317 - Population Focused Nursing/RNs (3)
Overview of community based health care delivery system at local, state, and national levels; theories and principles of nursing care of communities and aggregates in public health and home health care settings; expands role of RN student to coordinator of care. May be repeated once. PREREQUISITE: NURS 3108, 3201, 3410, 3420, and unencumbered current RN license.

NURS 6326 - Global Perspectives on Nursing (3)
This study abroad program is designed for undergraduate and graduate students interested in increasing their understanding of international health care issues as they relate to nursing.

NURS 7000 - Theoretical Foundations (3)
Exploration of theory development in nursing; analysis of selected nursing and related theories; relevance of theory to practice, education, research, and administration; includes process of theory development. PREREQUISITE: Permission of instructor.

NURS 7001 - Health Care Policy (3)
Primary focus on analysis of health-care systems; examines public and private health-care delivery systems; explores future challenges and processes to improve systems. PREREQUISITE: Admission to MSN program or permission of instructor.

NURS 7002 - Adv Nursing Research (3)
(7016). Systematic examination and application of the research process; critically examines concept of evidenced-based practice and its application to nursing. PREREQUISITE: Admission to MSN program or permission of instructor.

NURS 7003 - Adv Role Development (3)
(7050). Provides an in-depth understanding of the legal, historical, political, social, and ethical aspects of advanced nursing; examines traditional and emerging roles for advanced nursing. PREREQUISITE: Admission to MSN...
NURS 7007 - Adv Role Dev for Nurse Execs (3)
Provides an in-depth understanding of the legal, historical, political, social, and ethical aspects of advanced nursing; examines traditional and emerging roles for advanced nursing; and critically review theories and conceptual models from nursing for use in nurse executive roles. PREREQUISITE: Admission to Executive Leadership MSN program or permission of instructor.

NURS 7008 - Global Persp Nurs/Hlth Policy (3)
This study abroad program is designed for graduate nursing students interested in increasing their understanding of international health care issues as they relate to nursing practice and global health policy. The course intent is to broaden the student's worldview and global perspective of health care and nursing. PREREQUISITE: Admission to an approved graduate school of nursing or permission of the faculty.

NURS 7101 - Adv Health Assessment (3)
Focuses on development of diagnostic reasoning skills, emphasizing application of these skills in the presence of abnormal findings uncovered during physical examination of individuals across the lifespan. PREREQUISITE: Undergraduate course in health assessment; admission to MSN Advanced Practice program COREQUISITE: NURS 7102.

NURS 7102 - Adv Health Assmt/Clinic (1)
This clinical course emphasizes application of techniques to perform targeted and comprehensive advanced health assessment of the adult client; develops synthesis, critical analysis, interpretation of physical assessment data, diagnostic reasoning, and clinical judgment. COREQUISITE NURS 7101

NURS 7103 - Adv Pathophysiology (3)
(7013). Exploration of theoretical foundations of phenomena that alter health status across the life span; provides foundation for practitioner courses related to diagnosis and treatment of disease processes. PREREQUISITE: Undergraduate course in pathophysiology. PREREQUISITE: Admission to MSN program or permission of instructor.

NURS 7104 - Adv Pharmacology (3)
Focus on pharmacological actions of drugs commonly prescribed in primary care settings; emphasizes pharmacokinetic and pharmacodynamic principles of drugs, side effects, therapeutic dosages, and drug interactions; integrates legal, ethical, and economic factors of prescriptive authority. PREREQUISITE: Undergraduate pharmacology course; admission to MSN Advanced Practice. PREREQUISITE NURS 7103 or permission of instructor.

NURS 7110 - Independent Study (1-3)
Independent study of research problems or directed readings and activities in selected area of nursing
administration, nursing education, nursing informatics, advanced practice nursing. PREREQUISITE: Permission of Associate Dean, Graduate Nursing Programs

**NURS 7204 - Curriculum Design & Ed Theory (3)**
The course introduces the student to traditional and contemporary considerations for curriculum planning and design as applied to nursing education. An emphasis is placed on curriculum designs and explores major research based theories of adult and nursing education. These concepts will be applied to a variety of settings and/or levels of education. PREREQUISITE: Admission to MSN Nursing Education or permission of instructor.

**NURS 7205 - Evaluation Mthds in Nursing Edu (3)**
Pre-requisite: NURS 7204

**NURS 7207 - Clinical Focus Practicum (2)**
Use of theory, clinical concepts, and nursing research in delivery of care to specific patient populations from a social, cultural, psychological, physical, spiritual, and economic perspective for the advanced practice nurse. PREREQUISITE: NURS 7003

**NURS 7209 - Nursing Education Practicum (4)**
Integrates theory in a reality context; provides opportunities to participate in all phases of teaching and to experiment with different teaching methods. PREREQUISITE: NURS 7003

**NURS 7301 - Nursing Admin I (3)**
(7330). Comprehensive analysis of concepts required for effective performance of the nurse executive’s role in organizations with varied environments; management as a sub-function of the total organization; systems interacting with objectives, planning, and control; organizational designs and interpersonal relationships. PREREQUISITES: Admission to MSN Administration program or permission of instructor.

**NURS 7302 - Nursing Admin II (3)**
(7331). Synthesis of concepts used for effective performance of nurse executive’s role; analyzes use of human and financial resources and organizational development with application to nursing executive positions; includes theories and concepts related to intra- and entrepreneurial principles and skills for advanced nursing role; examines role of nurse executive as consultant to health-care organizations. PREREQUISITE: NURS 7301.

**NURS 7303 - Health Care Finance (3)**
Introduction to accounting and financial management, focusing on health-care industry; includes understanding financial reports, cost behavior and profit analysis, cost allocation, pricing and servicing decisions, managerial accounting, planning and budgeting, time value analysis, and financial risk. PREREQUISITE: Admission to Executive Leadership MSN program or permission of instructor.

**NURS 7304 - Human Resources Mgmt (3)**
Personnel and human resource issues, including labor management in nursing and health care settings.

**NURS 7305 - Quality Management (3)**
(7334). Analysis of quality management system models in nursing and health care, including problem and documentation, development of strategies for improvement, intervention and evaluation; focus on quality improvement process in relation to organizational outcomes. PREREQUISITE: NURS 7301 or permission of instructor.

**NURS 7307 - Nursing Management Practicum (2)**
This practicum experience integrates theory into a reality context of the nurse manager's role. Students will participate in various functions and phases of the nurse manager role. Students, faculty, and preceptors will evaluate the student's strengths and weaknesses related to the skills and competencies of nursing management. Students will be required to complete a minimum of 120 clinical hours during the course. PREREQUISITES: NURS 7000, NURS 7001, NURS 7002, NURS 7003, NURS 7301, NURS 7302, NURS 7303, NURS 7304. Co-requisite or pre-requisite: NURS 7305

**NURS 7309 - Nursing Admin Pract (4)**
Integrates theory into reality context of the administrator's role; provides opportunities to participate in all phases of the executive role in different administrative settings. PREREQUISITE: NURS 7003

**NURS 7332 - Rsrce Alloc Nsg/Hlth Care (3)**
Assesses fiscal environment of health-care organizations: critiques financial management processes; analyzes costing and budgeting; compares financial statement analysis, cost analysis, resource planning, and resource control; evaluates management of health-care organizations' financial resources. PREREQUISITES: All core courses; NURS 7331, 7334; ACCT 7000, 7110.

**NURS 7401 - Intro Healthcare Informatics (3)**
Overview of nursing informatics and theoretical foundation for information management within health-care setting; explores impact of automated data management through advances in information technology, health-care information systems, and tele-health.

**NURS 7402 - Health Care Info Sys & Tech (3)**
Introduces concepts upon which health-care information systems are developed, implemented, and maintained; addresses operating systems, networking concepts, security issues, workstation design, and evaluation related to the health-care environment.

**NURS 7403 - Proj Mgt Dec-Anlys HC Info Sys (3)**
Provides knowledge and skills to analyze and design health-care information systems; discusses informatic models, conceptual frameworks, and practice activities. PREREQUISITE: NURS 7407
NURS 7404 - Proj Mgt Imp & Eval HC Inf Sys (3)  
Provides advanced knowledge and skills for implementing and evaluating health-care information systems in practice; emphasizes emerging technologies. PREREQUISITE: NURS 7409

NURS 7405 - Hlth Care Data Analysis (2)  
Presents concepts related to complex data analysis in health-care environment; covers principles of data collection, organization, and statistical analysis and interpretation; provides opportunity to review complex applications for data mining and reporting within the health-care environment.

NURS 7407 - Informatics Applications I (2)  
Practicum builds upon concepts and technology introduced in related informatics course work to provide experiences in informatics applications in health-care settings.

NURS 7409 - Informatics Applications II (2)  
Provides additional experiences in informatics applications in health-care settings; students will explore a variety of informatics applications and identify specific informatics applications based on their practice interests.

NURS 7410 - Informatics Practicum (4)  
PREREQUISITE: NURS 7003

NURS 7505 - Advanced Adult Health Nursing (3)  
Pre- or Co-Requisites: NURS 7101, 7102, 7103, 7104

NURS 7515 - Adv Psych/Mentl Health Nursing (3)  
Pre-Requisites: NURS 7101, 7102, 7103, 7104

NURS 7545 - Adv Womens Hlth/Perinatal Nurs (3)  
Pre- or Co-Requisites: NURS 7101, 7102, 7103, 7104

NURS 7601 - Family Nurse Practnr I (3)  
(7020). Focuses on advanced practice nursing and health-care management of women in diverse populations; includes biopsychosocial interactions affecting women throughout the lifespan. PREREQUISITE: Admission to Family Nurse Practitioner program; NURS 7101, 7102, 7103; COREQUISITE: NURS 7602.

NURS 7602 - Family Nurs Prac I/Clin (2)  
(7029). Focuses on delivery of advanced nursing care to women; employs various clinical settings with diverse populations for clinical practice. COREQUISITE: NURS 7601. PREREQUISITE: NURS 7003

NURS 7603 - Family Nurs Practnr II (3)  
(7030). Focuses on advanced practice nursing and health-care management of adults and older adults in diverse
populations; includes developmental, physiological, pathological, and psychosocial changes relative to health maintenance, acute and chronic illnesses, and life transitions. PREREQUISITE: Admission to Family Nurse Practitioner program; NURS 7101, 7102, 7103; PREREQUISITE/COREQUISITE: NURS 7104.

NURS 7604 - Family Nurs Pract II/CLN (4)
Provides opportunities to deliver advanced nursing care to adults and older adults; student completes health assessments of adults and older adults and develops comprehensive plans of care. COREQUISITE: NURS 7603. PREREQUISITE: NURS 7003

NURS 7605 - Family Nurs Pract III (3)
(7039). Focuses on advanced practice nursing and health-care management of children and adolescents; includes developmental, physiological, pathological, and psychosocial changes relative to health maintenance, acute and chronic illnesses, and developmental transitions within the family context. PREREQUISITE: Admission to Family Nurse Practitioner program; NURS 7101, 7102, 7103; PREREQUISITE/COREQUISITE: NURS 7104.

NURS 7606 - Family Nurs Prac III Cln (2)
Provides opportunities to deliver advanced nursing care to children and adolescents in families and communities; employs various primary care settings for clinical practice in collaboration with nursing faculty and clinical preceptors. COREQUISITE: NURS 7605. PREREQUISITE: NURS 7003

NURS 7609 - FNP Practicum (4)
PREREQUISITE: NURS 7003

NURS 7633 - Pediatric Nurs II (3)
Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in pediatric settings.

NURS 7635 - Advanced Pediatric Nursing (3)
Pre- or Co-Requisites: NURS 7101, 7102, 7103, 7104

NURS 7811 - Global Perspective in Nursing (3)
This special topics course presents cultural concepts and the relationship to health/illness of individuals and families in an international setting. The focus is on how culture influences nursing roles and public health in diverse cultures. The course intent is to broaden the student's worldview and global perspective of nursing and public health. Where/when available, students will be assigned to Host Families with whom they will reside during their study abroad experience in the international country. PREREQUISITE: Permission of faculty.

NURS 7901 - Comm/Rel Bldg Nurse Exec (3)
Imparts skills to effectively communicate, manage relationships, influence behaviors, support diversity, implement shared decision making, support community involvement, manage medical-staff relations, and support academic
relations. COREQUISITE: NURS 7902. PREREQUISITE: Admission to Executive Leadership MSN program or permission of instructor.

**NURS 7902 - Dev Organizational Ldrshp (3)**
Creates nurse executive skills including foundational thinking skills, personal journey disciplines, systems thinking, succession planning, and change management. PREREQUISITE: Admission to Executive Leadership MSN program or permission of instructor.

**NURS 7903 - Accountability, Advocacy, Ethics (3)**
Teaches skills to promote accountability, develop career planning paths, integrate high ethics into organizational culture, mentor others in using evidence-based management practices, advocate patient care as organization core, ensure nursing involvement in organizational decisions, and promote participation in professional organization(s). PREREQUISITES: admission to Executive Leadership MSN program or permission of instructor.

**NURS 7904 - Fin/Hum Rsrcs Patient Care (3)**
Imparts skills required to articulate business models for health-care organizations, utilize accounting principles, analyze financial statements, manage financial resources by developing business plans, establish accurate charging mechanisms, and educate others on financial implications of patient care decisions. PREREQUISITES: ACCT 7080 AND NURS 7303 or permission of instructor.

**NURS 7905 - Improving Patient Care Del (3)**
Creates skills to interpret clinical practice knowledge; analyze delivery models/work designs; explain payer mix, CMI, and benchmark data; and effectively represent nursing to the organization's governing body. PREREQUISITES: Admission to Executive Leadership MSN program or permission of instructor. COREQUISITE: NURS 7904.

**NURS 7907 - Evidenc-Based Ldrshp Pract (3)**
Creates skills to implement strategic management; analyze marketing opportunities; utilize hospital databases, decision support, and expert system programs to plan operational processes and systems; evaluate utility of information systems; involve nursing in planning, designing, choosing, and implementing information systems; and analyze benchmarking, financial, and occupational data. PREREQUISITES: Admission to Executive Leadership MSN program or permission of instructor.

**NURS 7909 - Nurse Executive Practicum (4)**
Student collaborates with Nurse Executive mentor to enhance competency in communication/relationship building, knowledge of health-care environment, leadership, professionalism, and business skills. PREREQUISITES: NURS 7001, 7002, 7007, 7901, 7903, 7904, 7905, 7907, ACCT 7080. COREQUISITE: NURS 7990 or permission of instructor.

**NURS 7990 - Scholarly Synthesis (3)**
Students will complete a synthesizing activity as a culminating experience. Student may choose one of the following scholarly activities: 1) design a program, 2) write a grant proposal, 3) complete a scholarly project, 4) submit a manuscript for publication, or 5) present at a national or regional research conference. PREREQUISITE: Course to be taken within the last two semesters of the program.

**NURS 7996 - Thesis (1-3)**
Directed study in the completion of the thesis. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.
COMMUNICATION SCIENCES AND DISORDERS (AUSP)
AUSP 6001 - Accent Modification (1)
This course is an individually directed study of standard pronunciation, stress patterns, and intonation of American English for speakers of English as a foreign language. It is focused toward students who desire to improve their speech intelligibility in American English. Permission of instructor required. (S/U).

AUSP 7000 - Speech Science (3)
Contemporary survey of phonetic sciences; detailed discussion of neurological, physiological, acoustic, and perceptual processes involved in the production, transmission, and intelligibility of the speech signal.

AUSP 7001 - Hearing Science (3)
Basic acoustics, psychoacoustical methods, and psychoacoustical findings presented with emphasis on matters of greatest importance for foundations of audiological practice.

AUSP 7002 - Sem Comm Sciences (1-3)
Advanced study of selected aspects of basic sciences related to hearing, speech, or language; with different content, may be repeated for up to 6 hours credit at 7000 level or up to 12 hours at 8000 level. PREREQUISITE: Permission of instructor.

AUSP 7003 - Anat Phys Spch Mech (3)
Structure and function of bodily organs related to the processes of speech production.

AUSP 7004 - Anat Phys Hear Mec (3)
Structure and function of outer, middle, inner ear, and auditory neural pathways; formation of auditory system in context of general prenatal development.

AUSP 7006 - Lang & Speech Devel (3)
Normal acquisition and maintenance of speech and language, theoretical formulations about language and speech behavior, and approaches to its study. Students observe and describe the language of children of various ages whose development is within normal range.

AUSP 7007 - Commun Interaction (3)
Concepts and processes fundamental to communicative interaction; emphasis on application of such concepts and processes to the student's own communicative interactions.

AUSP 7008 - Acoustic/Percept Phonetics (3)
Survey of experimental phonetics: acoustic phonetic theory; speech perception theory and research; techniques of acoustic analysis and synthesis. PREREQUISITE: Permission of instructor.

AUSP 7010 - Neurol Bases Comm (3)
Review of the neuroanatomy of the central and peripheral nervous systems and the physiology of nerves and
muscles; attention on cortical and subcortical structures and on neuropsychological processes that are attributed to speech and/or language functions. This course builds on fundamental concepts in language, speech and hearing.

**AUSP 7011 - Psycholinguistics (3)**
Historical and recent trends in linguistics; relationship between brain, language, and cognition; knowledge and processes involved in speaking and listening; topics include nature of mental representations and organization of knowledge; speech perception; lexical, sentence, and discourse processing; speech and language production.

**AUSP 7015 - Prof Writing/Comm Dsord (1)**
Overview of grammatical concepts, including syntactic form and function, and proofreading skills; specific application to audiology and speech-language pathology coursework, as well as academic, scientific, and clinical writing.

**AUSP 7016 - Sociocultrl Base Comm (3)**
Influences of socio-cultural factors such as age, religion, ethnicity, socioeconomic status, and geographic region, on communication; emphasis on cross-cultural communication in educational and health-care settings.

**AUSP 7101 - Audiol Concepts (4)**
Basic audiological concepts and their applicability to clinical procedures; topics include pure-tone air and bone conduction procedures, clinical masking, speech threshold and recognition testing, acoustic immittance, and acoustic reflex testing; weekly laboratory exercises included.

**AUSP 7104 - Clincl Exper Audiology (1-6)**
Supervised clinical experience in the evaluation and/or management of clients with hearing impairments; designed to meet student's individual needs. May be repeated as often as desired. Grades of A-F, or IP will be given.

**AUSP 7106 - Intro Surv Of Audiology (3)**
Introduction to anatomy and physiology of the ear; the etiology, pathology, and treatment of hearing loss; and the educational implications of hearing loss; also introduces hearing assessment techniques, including audiogram interpretation.

**AUSP 7107 - Cochlear Implants (3)**
Cochlear implant technology, signal processing, candidacy, surgery, speech perception performance, and follow-up for adults and children; implantable hearing devices, such as middle ear implants and bone-anchored hearing aids.

**AUSP 7113 - Rehabilitativ Audiol I (3)**
Roles of auditory, visual, and bisensory cues in communication: effects of hearing impairment on speech and language development; psychology of deafness and deaf culture; prosthetic devices. PREREQUISITE: AUSP 8101 or AUSP 7106 or permission of instructor.
AUSP 7117 - Individual Study/Audiol (3)
Directed topics include physics of sound, hearing loss, basic audiometric testing and hearing conservation. Grades of A-F, or IP will be given.

AUSP 7122 - Aural Rehabilitation (3)
Introduction to rehabilitative procedures for hearing-impaired children and adults; topics include minimal hearing loss, auditory perception of speech, amplification, speech and language behaviors, psychosocial problems, educational deficits and management; (re)habilitation programs for children and adults, and cochlear implants. Primarily for non-audiology majors. PREREQUISITE: AUSP 7101 or permission of instructor.

AUSP 7123 - Manual English (1)
Acquisition of basic vocabulary and understanding of rules of Signed English; sign continuum; situational usage of both American Sign Language and Signing Exact English.

AUSP 7124 - Clinical Educ Comm Disorders (1-3)
Processes involved in the clinical education of student clinicians in the areas of audiology and speech-language pathology. Experiences in supervision of student clinicians provided. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

AUSP 7127 - Rehabilitative Audiol II (3)
Study of qualitative and quantitative methods to assess communicative function in adult individuals with hearing impairment; use of assessment tools for identifying intervention goals and for measuring outcomes; review and evaluation of current rehabilitative programs and strategies. PREREQUISITES: AUSP 78101 and AUSP 78104 (3 hours), or permission of instructor.

AUSP 7129 - Psychosoc Adj Hrng Impr (3)
Seminar on facilitation of psychosocial and behavioral adjustment to hearing impairment and impact of cognitive status, general health and stigma on functional communication and social interaction of aging adults and their families; emphasis on exploration of appropriate counseling skills and strategies in both individual and group settings. PREREQUISITE: 78007 or permission of instructor.

AUSP 7200 - Intro Clin Pract (2)
Introduction to clinical practicum in speech and language disorders. For students without prior practical graduate experience in communication disorders. Normally taken concurrently with AUSP 7501.

AUSP 7201 - Clft Palate/Craniofcl Dis (3)
Cleft palate speech with emphasis on articulatory, resonance, and phonatory aspects as well as medical and habilitative and rehabilitative principles. PREREQUISITE: AUSP 7003 and 7200 or permission of instructor.
AUSP 7202 - Motor Speech Dis/Child (3)
Speech deficits attributable to developmental neuromuscular disorder; etiologies and classifications of cerebral palsy, hormonal disturbances, myopathologies, and various genetic disorders; review of contemporary approaches to diagnosis and management of developmental dysarthria and apraxia; special problems associated with treating profoundly- and multiply-handicapped child. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 7203 - Voice Disorders (3)
In depth review of voice disorders by patterns of deviation, etiology, and techniques of intervention. Opportunity for original papers and/or projects. PREREQUISITE: AUSP 7/8003 or permission of instructor.

AUSP 7204 - Disorders Phonology/Articulatn (3)
Current research in disorders of phonology and articulation, including assessment, production, and remediation procedures.

AUSP 7205 - Fluency Disorders (3)
A discussion of the nature, assessment, and treatment of fluency problems including developmental stuttering, cluttering, and acquired fluency disorders. Clinical rationales and protocols for children, adolescents, and adults are presented along with a review of the critical variables that contribute to a successful therapeutic outcome.

AUSP 7206 - Neuromotor Speech Disor (3)
Review of neuromotor systems subserving speech production and nature of neuromotor systems pathologies; diagnostic definitions and taxonomies associated with dysarthria and apraxia of speech, as well as applications of instrumental methods to clinical description of motor speech disorders; differential diagnosis, assessment, and interdisciplinary management of adults with acquired neuromotor disturbances affecting speech. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 7207 - Clinical Instrumentation (3)
Principles and procedures for measurement of speech and voice function and dysfunction; standardization, validity, and reliability of instrumental procedures; hands-on experience with acquisition and interpretation of acoustic and physiologic data for speech pathologies.

AUSP 7208 - Clin Exp Spch Lang Path (3)
Supervised clinical practice with clients. Designed to meet student's individual needs. May be repeated as often as desired. Grades of A-F, or IP will be given.

AUSP 7209 - Dysphagia/Related Disor (3)
Anatomy and physiology of normal deglutition; nature and characteristics of swallowing disorders; methods of evaluation and management of dysphagia in adults and children; and consideration of medical conditions such as aspiration pneumonia, tracheostomy, and other complicating factors associated with dysphagia. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.
AUSP 7210 - Sem Speech Pathology (1-3)
Selected areas of speech or language disorders. With different content, may be repeated for up to 6 hours at the 7000 level or for up to 12 hours at the 8000 level.

AUSP 7211 - Clinical Exp School Pers (1-2)
Supervised clinical experience designed to meet the needs of practicing public school personnel. PREREQUISITES: Permission of the Coordinator of Graduate Studies and completion of one semester of AUSP 7208. Grades of A-F, or IP will be given.

AUSP 7212 - Autism Spect Disord/Rel Disabl (3)
Review of characteristics and etiology of autism spectrum disorders, including strategies for language and communication evaluation, assessment, and intervention with children, adolescents and adults with autism spectrum disorders and related severe communicative disabilities.

AUSP 7213 - Comm Dis in Diverse Cultures (1)
Study Abroad. For graduate students in communication sciences and disorders for one week with additional preparation prior to and following the study abroad experience. Students will experiences the challenges of providing professional services with limited resources in under-served communities and gain awareness of the health care availability in diverse cultures. PREREQUISITE: permission of the instruction. May be repeated for up to 3 credit-hours.

AUSP 7300 - Lang Dis In Children (3)
Perceptual, social, and cognitive correlates of language disorders associated with specific language impairment, phonological disorders, mental retardation, autism, and hearing impairment; assessment, diagnosis, and treatment of language disorders in young children (0-6 years).

AUSP 7302 - Lang Disordrs/Adults I (3)
Communicative and cognitive deficits associated with focal neurological disease; differential diagnosis, assessment, and management of adults with aphasia and right hemisphere communication disorders. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 7303 - Lang Disordrs/Adults II (3)
Communicative and cognitive deficits associated with nonfocal neurological disease; differential diagnosis, assessment, and management of individuals with traumatic brain injury, dementia, and other disorders. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 7304 - Sem Lang Disorders (1-3)
Detailed study of selected topics in language disorders in children and adults. With different content, may be repeated for up to 6 hours at the 7000 level or 12 hours at the 8000 level. PREREQUISITE: Permission of
AUSP 7305 - Language Learning Disabilities (3)
Assessment and treatment of spoken and written language disorders in school-age children and adolescents with special emphasis on the collaborative role of the speech-language pathologist in school-based settings; attentional and social deficits associated with language-learning disabilities.

AUSP 7308 - Augmentative/Alternative Comm (3)
Comprehensive overview of theoretical and practical issues related to use of augmentative and alternative communication (AAC) systems; assessment and intervention strategies for children and adults in need of AAC.

AUSP 7309 - Sp Rehab/Head-Neck Path (3)
Etiology, disordered anatomy, and physiology resulting from cancer of head and neck; ways in which cancer, surgery, and other medical treatments affect speech and voice functioning and swallowing; diagnostic and treatment approaches.

AUSP 7500 - Eval Resrch Comm Disord (3)
A discussion of concepts and skills that prepare students to be intelligent consumers of research. Topics include the interpretation of basic statistical concepts, forms of empirical research, threats to internal and external validity, research designs, and issues related to evidence based practice, the publishing process, the protection of research participants, and writing with precision.

AUSP 7501 - Phonetic Transcript (1)
Broad and narrow transcription techniques and opportunities for transcription practice with normal and disordered populations.

AUSP 7502 - Intro to Phonetic Transcriptio (1)
Fundamentals of broad phonetic transcription including opportunities for transcription practice with standard American English materials.

AUSP 7700 - Individ Readings Audiol (1-3)
Directed independent study of literature in an area of audiology. May be repeated as often as desired. Grades of A-F, or IP will be given.

AUSP 7800 - Ind Read Speech-Language Path (1-3)
Directed independent study in the areas of speech or language pathology. May be repeated as often as desired. Grades A-F, or IP will be given.

AUSP 7990 - Special Projects (1-3)
Students study a specific area under faculty guidance. May be taken twice. PREREQUISITE: Permission of
individual faculty members to be involved.

**AUSP 7991 - Clinical-Research Colloquium (1)**
Faculty and guest presentations and discussions of recent, clinically relevant research and related topics in Communication Sciences and Disorders. Topics include (but are not limited to) evidence based practices in evaluation and treatment of communication disorders. May be repeated for up to 3 credits.

**AUSP 7996 - Thesis (1-3)**
Academic credit for thesis may be taken for a maximum of 6 hours and a minimum of 3 hours degree credit. Only 3 credits may be applied toward degree requirements for the master's degree. Grades of S, U, or IP will be given.

**AUSP 8000 - Speech Science (3)**
Contemporary survey of phonetic sciences; detailed discussion of neurological, physiological, acoustic, and perceptual processes involved in the production, transmission, and intelligibility of the speech signal.

**AUSP 8001 - Hearing Science (3)**
Basic acoustics, psychoacoustical methods, and psychoacoustical findings presented with emphasis on matters of greatest importance for foundations of audiological practice.

**AUSP 8002 - Sem Comm Sciences (1-3)**
Advanced study of selected aspects of basic sciences related to hearing, speech, or language; with different content, may be repeated for up to 6 hours credit at 7000 level or up to 12 hours at 8000 level. PREREQUISITE: Permission of instructor.

**AUSP 8003 - Anat Phys Speech Mech (3)**
Structure and function of bodily organs related to the processes of speech production.

**AUSP 8004 - Anat Phys Hear Mec (3)**
Structure and function of outer, middle, inner ear, and auditory neural pathways; formation of auditory system in context of general prenatal development.

**AUSP 8006 - Lang & Speech Devel (3)**
Normal acquisition and maintenance of speech and language, theoretical formulations about language and speech behavior, and approaches to its study. Students observe and describe the language of children of various ages whose development is within normal range.

**AUSP 8007 - Commun Interaction (3)**
Concepts and processes fundamental to communicative interaction; emphasis on application of such concepts and processes to the student's own communicative interactions.
AUSP 8008 - Acoustic/Percept Phonetics (3)
Survey of experimental phonetics: acoustic phonetic theory; speech perception theory and research; techniques of acoustic analysis and synthesis. PREREQUISITE: Permission of instructor.

AUSP 8010 - Neurol Bases Comm (3)
Review of the neuroanatomy of the central and peripheral nervous systems and the physiology of nerves and muscles; attention on cortical and subcortical structures and on neuropsychological processes that are attributed to speech and/or language functions.

AUSP 8011 - Psycholinguistics (3)
Historical and recent trends in linguistics; relationship between brain, language, and cognition; knowledge and processes involved in speaking and listening; topics include nature of mental representations and organization of knowledge; speech perception; lexical, sentence, and discourse processing; speech and language production.

AUSP 8012 - Measurement Techniques (3)
Principles and techniques involved in evaluation of equipment and environments used in practice of Audiology; major focus on the topics of calibration, of audiological instrumentation. Laboratory experience is provided. PREREQUISITE: AUSP 8001 or permission of instructor.

AUSP 8016 - Sociocultrl Base Comm (3)
Influences of socio-cultural factors such as age, religion, ethnicity, socioeconomic status, and geographic region, on communication; emphasis on cross-cultural communication in educational and health-care settings.

AUSP 8017 - Digitl Signl Proc Sp/Hear (3)
Survey of modern methods for processing of physiological and acoustic signals: interfacing components; analog-digital and digital-analog conversion; mathematical basics for signal processing applications; programming concepts.

AUSP 8019 - Anat/Phys Aud Sys I (3)
Basic anatomy and physiology of the outer ear, middle ear, and inner ear; embryologic origins and development of structures related to body systems.

AUSP 8020 - Anat/Phys Aud Sys II (3)
The nervous system, visual and proprioceptive systems as they relate to hearing and balance. PREREQUISITE: AUSP 8019 or permission of instructor.

AUSP 8021 - Prof Prep/Scientists (1)
Preparation of early PhD students for the role of scientist in the academic and clinical community; rotating themes include ethics, the publication and review process, teaching strategies and techniques, mentoring, grant preparation, and presentation of research. May be repeated for a maximum of 6 credit hours.
AUSP 8100 - Ind Read Audiology (1-6)
Directed independent study of literature in an area of audiology. May be repeated for a maximum of 6 credit hours. Grades of A-F, or IP will be given.

AUSP 8101 - Audiol Concepts (3)
Basic audiological concepts and their applicability to clinical procedures; topics include pure-tone air and bone conduction procedures, clinical masking, speech threshold and recognition testing, acoustic immittance, and acoustic reflex testing; weekly laboratory exercises included.

AUSP 8103 - Diag/Medical Audiology (3)
Differential diagnosis of hearing loss including behavioral and acoustic (otoacoustic emissions) tests and introduction to electrophysiologic tests; clinical decision analysis; medical audiology; cerumen management. PREREQUISITE: AUSP 8019, 7/8101, or permission of instructor. COREQUISITE: AUSP 7/8104.

AUSP 8104 - Clinicl Exper Audiology (1-6)
Supervised clinical experience in the evaluation and/or management of clients with hearing impairments; designed to meet student's individual needs. May be repeated as often as desired. Grades of A-F, or IP will be given.

AUSP 8105 - Vestibular Assmt/Rehab (3)
Evaluation of balance function using a test battery approach according to cross-check principles; interpretation of test results and rehabilitation of balance disorders. PREREQUISITE: AUSP 7/8103, or permission of instructor.

AUSP 8107 - Cochlear Implants (3)
Cochlear implant technology, signal processing, candidacy, surgery, speech perception performance, and follow-up for adults and children; implantable hearing devices, such as middle ear implants and bone-anchored hearing aids.

AUSP 8110 - Studebaker Lectures (1-3)
Lecture series covering broad range of topics presented by nationally and internationally recognized scholars in the areas of audiology, hearing science, and medicine. Grades of A-F, or IP will be given.

AUSP 8112 - Sem Audiology (3)
Detailed study of selected topics in audiology. With different content, may be repeated for up to 6 hours at the 7000 level or 12 hours at the 8000 level. PREREQUISITE: Permission of instructor.

AUSP 8113 - Rehabilitatv Audiol I (3)
Roles of auditory, visual, and bisensory cues in communication: effects of hearing impairment on speech and language development; communication strategies; psychology of deafness and deaf culture; prosthetic devices. PREREQUISITE: AUSP 8101 or AUSP 7106 or permission of instructor.
AUSP 8114 - Intro Hearing Aids (3)
Performance and measurement of wearable hearing aids; characteristics of hearing aids, standard and nonstandard hearing aid performance measurements, earmold acoustics, laboratory exercises. PREREQUISITE: AUSP 7101 or permission of instructor.

AUSP 8115 - Pediatric Audiology (3)
Audiologic procedures in pediatric assessment; special test techniques for hospital and school settings and central auditory processing; hearing loss due to birth defects. PREREQUISITE: AUSP 8020, 8103, or permission of instructor. COREQUISITE: AUSP 8104.

AUSP 8116 - Hearing Aid Provision (3)
Examination of multi-step process of hearing aid provision for children and adults; covers theoretical bases and practical implementations with contemporary hearing aids; laboratory exercises required. PREREQUISITE: AUSP 7/8114 or permission of instructor.

AUSP 8117 - Individual Study/Audiol (3)
Directed topics include physics of sound, hearing loss, basic audiometric testing and hearing conservation. Grades of A-F, or IP will be given.

AUSP 8118 - Electrophys Assessmnt (3)
Methods for assessing auditory system integrity from the periphery through the central nervous system using evoked bioelectric signals; normal and disordered function will be examined. PREREQUISITE: AUSP 8020, 8103 or permission of instructor.

AUSP 8119 - Hearing Conservation (2)
Includes study of the effects of noise on people, noise measurement and control, federal regulations/standards, and hearing conservation. PREREQUISITE: AUSP 8012 or permission of instructor.

AUSP 8121 - Ind Proj Audiology (1-6)
Students pursue individual research projects under the direction of a member of the graduate faculty in audiology. May be repeated for a maximum of 6 credit hours. Grades of A-F, or IP will be given.

AUSP 8124 - Clinical Educ Comm Disorders (1-3)
Practical experience in clinical education and supervision of student clinicians in areas of audiology and speech-language pathology. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

AUSP 8125 - Clinical Extrnshp Audio (2-6)
Fourth year clinical placement. Minimum of two credits in each of three semesters. Placement site selected in coordination with Director of Clinical Services in Audiology; approval of Director of Graduate Studies required.
PREREQUISITE: Successful completion of written and oral comprehensive examination.

AUSP 8127 - Rehabilitative Audiol II (3)
Study of qualitative and quantitative methods to assess communicative function in adult individuals with hearing impairment; use of assessment tools for identifying intervention goals and for measuring outcomes; review and evaluation of current rehabilitative programs and strategies. PREREQUISITES: AUSP 7/8101 and AUSP 7/8104 (3 hours), or permission of instructor.

AUSP 8128 - Evidenc-Based Pract Ampl (3)
Seminar emphasizing the principles of evidence-based practice, with applications in recent literature concerning effectiveness of amplification-based approaches to audiological rehabilitation. PREREQUISITE: AUSP 7/8116.

AUSP 8129 - Psychosoc Adj Hrng Impr (3)
Seminar on facilitation of psychosocial and behavioral adjustment to hearing impairment and impact of cognitive status, general health and stigma on functional communication and social interaction of aging adults and their families; emphasis on exploration of appropriate counseling skills and strategies in both individual and group settings. PREREQUISITE: 7/8007 or permission of instructor.

AUSP 8200 - Ind Read Sp Path (1-6)
Directed independent study of literature in an area of speech pathology. May be repeated as often as desired. Grades of A-F, or IP will be given.

AUSP 8201 - Clft Pllate/Craniofcl Dis (3)
Cleft palate speech with emphasis on articulatory, resonance, and phonatory aspects as well as medical and habilitative and rehabilitative principles. PREREQUISITE: AUSP 7003 and 7200 or permission of instructor.

AUSP 8202 - Motor Speech Dis/Child (3)
Speech deficits attributable to developmental neuromuscular disorder; etiologies and classifications of cerebral palsy, hormonal disturbances, myopathologies, and various genetic disorders; review of contemporary approaches to diagnosis and management of developmental dysarthria and apraxia; special problems associated with treating profoundly- and multiply-handicapped child. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 8203 - Voice Disorders (3)
In depth review of voice disorders by patterns of deviation, etiology, and techniques of intervention. Opportunity for original papers and/or projects. PREREQUISITE: AUSP 7/8003 or permission of instructor.

AUSP 8204 - Phonological Disorders (3)
Current research in disorders of phonology and articulation, including assessment, production, and remediation procedures.
AUSP 8205 - Fluency Disorders (3)
A discussion of the nature, assessment, and treatment of fluency problems including developmental stuttering, cluttering, and acquired fluency disorders. Clinical rationales and protocols for children, adolescents, and adults are presented along with a review of the critical variables that contribute to a successful therapeutic outcome.

AUSP 8206 - Neuromotor Speech Disor (3)
Review of neuromotor systems subserving speech production and nature of neuromotor systems pathologies; diagnostic definitions and taxonomies associated with dysarthria and apraxia of speech, as well as applications of instrumental methods to clinical description of motor speech disorders; differential diagnosis, assessment, and interdisciplinary management of adults with acquired neuromotor disturbances affecting speech. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 8207 - Clinical Instrumentation (3)
Principles and procedures for measurement of speech and voice function and dysfunction; standardization, validity, and reliability of instrumental procedures; hands-on experience with acquisition and interpretation of acoustic and physiologic data for speech pathologies.

AUSP 8208 - Clin Exp Spch Lang Path (1-6)
Supervised clinical practice with clients. Designed to meet student's individual needs. May be repeated as often as desired. Grades of A-F, or IP will be given. Permission from the Director of Clinical Services in Speech-Language Pathology is required.

AUSP 8209 - Dysphagia/Related Disor (3)
Anatomy and physiology of normal deglutition; nature and characteristics of swallowing disorders; methods of evaluation and management of dysphagia in adults and children; and consideration of medical conditions such as aspiration pneumonia, tracheostomy, and other complicating factors associated with dysphagia. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 8210 - Sem Speech Pathology (1-3)
Selected areas of speech or language disorders. With different content, may be repeated for up to 6 hours at the 7000 level or for up to 12 hours at the 8000 level.

AUSP 8212 - Autism Spect Disord/Rel Disabl (3)
Review of characteristics and etiology of autism spectrum disorders, including strategies for language and communication evaluation, assessment, and intervention with children, adolescents and adults with autism spectrum disorders and related severe communicative disabilities.

AUSP 8221 - Ind Proj Sp Path (1-6)
Students pursue individual research projects under the direction of a member of the graduate faculty in speech pathology. May be repeated as often as desired. Grades of A-F, or IP will be given.
AUSP 8300 - Lang Dis In Children (3)
Perceptual, social, and cognitive correlates of language disorders associated with specific language impairment, phonological disorders, mental retardation, autism, and hearing impairment; assessment, diagnosis, and treatment of language disorders in young children (0ars).

AUSP 8302 - Lang Disordrs/Adults I (3)
Communicative and cognitive deficits associated with focal neurological disease; differential diagnosis, assessment, and management of adults with aphasia and right hemisphere communication disorders. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 8303 - Lang Disordrs/Adults II (3)
Communicative and cognitive deficits associated with nonfocal neurological disease; differential diagnosis, assessment, and management of individuals with traumatic brain injury, dementia, and other disorders. PREREQUISITE: AUSP 7/8003 and 7/8010 or permission of instructor.

AUSP 8304 - Sem Lang Disorders (1-3)
Detailed study of selected topics in language disorders in children and adults. With different content, may be repeated for up to 6 hours at the 7000 level or 12 hours at the 8000 level. PREREQUISITE: Permission of instructor.

AUSP 8305 - Language Learning Disabilities (3)
Assessment and treatment of spoken and written language disorders in school-age children and adolescents with special emphasis on the collaborative role of the speech-language pathologist in school-based settings; attentional and social deficits associated with language-learning disabilities.

AUSP 8308 - Augmentative/Alternatv Comm (3)
Comprehensive overview of theoretical and practical issues related to use of augmentative and alternative communication (AAC) systems; assessment and intervention strategies for children and adults in need of AAC.

AUSP 8309 - Sp Rehab/Head-Neck Path (3)
Etiology, disordered anatomy, and physiology resulting from cancer of head and neck; ways in which cancer, surgery, and other medical treatments affect speech and voice functioning and swallowing; diagnostic and treatment approaches.

AUSP 9000 - Dissertation (1-12)
Academic credit for dissertation may be taken for a maximum of 12 hours and a minimum of 1 hour credit. Only 9 credits may be applied toward degree requirements for the PhD degree. Grades of S, U, or IP will be given.
Graduate Catalog
Learn more about our degree programs.

Graduate School

2015-2016 Academic Calendar
HEALTH AND SPORT SCIENCE (HMSE)
HMSE 7010 - Research Methods in HSS (3)
Introduction to health, nutrition, sport science, and/or exercise research/methodology. Addresses applicable research techniques and designs emphasizing planning, conducting, and reporting research, selecting appropriate statistical analyses, and interpreting findings. PREREQUISITE: Permission of Instructor

HMSE 7403 - Measurement/Evaluation (3)
(PHED 7403). Includes selection, application, and evaluation of certain tests appropriate to the Human Movement Sciences.

HMSE 7996 - Thesis (1-6)
(FITW/HLTH/PHED/RECR 7996). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Director of Graduate Studies. Grades of S, U, or IP will be given.

EXERCISE AND SPORT SCIENCE (EXSS)

In addition to the courses below, the department may offer the following Special Topics courses:

6902-11. Special Topics in EXSS. (3). Current topics in exercise and sport science. May be repeated with change in topic. See online class listings for topic.

7902-11--8902-11. Special Topics EXSS. (1-3). (PHED 7903-13). Current topics in exercise and sport science. May be repeated with a change in topic. See online class listings for topic.

EXSS 6000 - Exer Test Interp Lab (3)
Acquisition and practice of laboratory/clinical skills in measurement techniques, tools, and interpretations of physical performance and fitness; introduces theoretical and functional techniques of graded exercise testing for functional and/or diagnostic assessment.

EXSS 6010 - Supp/Food/Drugs Health (3)
A comprehensive exposure to the role of nutrition in optimizing performance and training adaptations, including macro- and micronutrient intake, proper timing and amount of intake, and analysis of the validity of proposed ergogenic performance and/or structural adaptations. PREREQUISITE: permission of instructor.

EXSS 6406 - Exercise Test/ECG Intrp (3)
Introduction to methods of conducting ECG and cardiopulmonary exercise testing for asymptomatic and symptomatic populations; ACSM principles of exercise testing and methods of ECG interpretation.

EXSS 6603 - Adv Meth Strength Cond (3)
Advanced study of training principles for strength and conditioning programs and their underlying physiological bases. PREREQUISITES: Permission of instructor.

**EXSS 7007 - Nutraceuticals/Diet Supp Hlth (3)**
In depth review of several classes of nutraceuticals and dietary supplements with relevance to human health, disease prevention, and physical performance improvement. Both in vitro and in vivo animal and human models are used to provide a mechanistic basis for proposed actions of various nutritional ingredients on target physiological systems. Intended for graduate students studying Exercise Science, Physiology, Biochemistry, Nutrition, Medicine, Nursing, or related fields. PREREQUISITE: Permission of instructor.

**EXSS 7020 - Pub/Prop in Health & Biomed (3)**
Steps involved in preparing external funding proposals and manuscripts for publication. Particular attention given to the following: organizing document components, effective writing techniques, documentation issues, interpretation of findings, sentence structure, and reference citing. Identification of appropriate journals for publication consideration as well as common and novel funding sources (federal, state, local, and private) for supporting research work.

**EXSS 7123 - Mech Analysis Mtr Skill (3)**
(PhED 7123). Experiences that will enhance the understanding and practical application of the laws of mechanical physics to the fundamental techniques utilized in the performance of physical activities.

**EXSS 7133 - Current Readings EXSS (3)**
(PhED 7133). Directed readings in area of exercise and sport science; materials selected to strengthen areas of study. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

**EXSS 7142 - Seminar/Health Sprt Sci (1-3)**
(HLTH 7142). May be repeated for maximum of 3 credits. NOTE: EXSS majors may not use this course to fulfill degree requirements. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

**EXSS 7152 - Problems in EXSS (3)**
Independent study and/or research project on selected problems and issues in exercise and sport science. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

**EXSS 7163 - Advanced Motor Learning (3)**
(PhED 7163). Analysis of research evidence related to motor skill learning and performance; emphasis on feedback mechanisms, practice variables, and retention and transfer of skills.

**EXSS 7173 - Sport/Exercise Psych (3)**
Survey of literature related to psychological aspects of participation in sport, exercise, and physical activity settings.
EXSS 7201 - Phys Exer Musculoskeletal (3)
An analysis of the physiological bases of musculoskeletal performance as well as specific adaptations that occur consequent to various regimens of exercise; instruction in selected techniques for assessing musculoskeletal function and structure.

EXSS 7202 - Phys Ex Metabolic/Cardiorespiratory (3)
An analysis of the acute and chronic metabolic/cardiorespiratory bases of human performance and fitness under various internal and external environmental conditions instruction in selected techniques for assessing metabolic/cardiorespiratory function and structure.

EXSS 7210 - Anlys Muscle Function (3)
Theoretical bases for and applications of isokinetic (velocity-controlled) and isoinertial (dynamic constant external resistance) testing; students are guided in developing and evaluating new specialized protocols for assessing musculoskeletal function with an emphasis on velocity-spectrum and load-spectrum testing; data interpretation will be stressed. PREREQUISITES: EDPR 7523, EDPR 7541, EXSS 7201, or permission of instructor.

EXSS 7220 - Adv Skltl Mscl Str/Fnct (3)
In-depth study of the skeletal muscle system; follows EXSS 7201 and covers gross, cellular, and molecular responses and adaptations of skeletal muscle of various types of human exercise; detailed information critical to the graduate student specializing in or interested in human skeletal muscle and exercise.

EXSS 7230 - Exercise Endocrinology (3)
Introduces principles of hormonal regulation of human physiological function and methods of assessing endocrine status; examines hormonal responses and adaptations to exercise and physical activity in healthy and diseased humans, testing and analysis procedures, and human exercise responses.

EXSS 7240 - Athero/Cvd Patho/Interv (3)
In-depth review of atherosclerosis and associated clinical manifestations; prevention and treatment emphasizing exercise, nutrient, and pharmacological therapy. PREREQUISITE: Permission of instructor.

EXSS 7250 - Motor Control Bhvl Emp (3)
Analysis of theoretical and empirical basis for psychological mechanisms underlying movement control and skill development. PREREQUISITE: permission of instructor.

EXSS 7300 - Coach-Musculoskeletal Antmy Strength (3)
Gross structure and function of the musculoskeletal system as related to purposeful movement of the human body during weight training activities. Note: May not be used for elective course credit in EXSS.
EXSS 7532 - Resrch/Sport Neuromechn (3)
Hands-on research methods training, including technological training in neuromechanical data collection and analysis; tests reliability and validity of data obtained using different technologies to examine acute response and chronic adaptation to exercise. PREREQUISITES: EDPR 7123 and EXSS 7201, or permission of instructor.

EXSS 7542 - Adv Kinesiology (3)
(PHED 7542). Analysis of mechanical factors related to body motions using experimentation and computer analysis of biophysical data; applications-intensive course involving collaboration between a faculty member and one or more students. PREREQUISITE: EDPR 7523, 7541 or permission of instructor.

EXSS 7800 - Internship in EXSS (3)
Directed laboratory experience focusing on development of knowledge, skills, and techniques needed to function as Exercise and Sport Science specialist in public or private settings. PREREQUISITE: Permission of Instructor. Grades of S, U, or IP will be given.

EXSS 7950 - Applied Project In EXSS (1-6)
Scholarly capstone experience in which students integrate and apply discipline-specific knowledge, skills, and insights in developing a product related to their professional goals as approved by a three-person project committee. PREREQUISITE: Completion of 18 credit hours in the program of study with a minimum graduate GPA of 3.00 and permission of instructor. Grades of S, U, or IP will be given.

EXSS 8007 - Nutraceuticals/Diet Supp Hlth (3)
In depth review of several classes of nutraceuticals and dietary supplements with relevance to human health, disease prevention, and physical performance improvement. Both in vitro and in vivo animal and human models are used to provide a mechanistic basis for proposed actions of various nutritional ingredients on target physiological systems. Intended for graduate students studying Exercise Science, Physiology, Biochemistry, Nutrition, Medicine, Nursing, or related fields. PREREQUISITE: Permission of instructor.

EXSS 8081 - Supervised Research (1-6)
Collaborative research with faculty within the major to include planning, design, management, analysis, and reporting of research. May be repeated as often as desired, but only 9 credit hours count toward the degree. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

EXSS 8123 - Mech Analysis Mtr Skill (3)
Experiences that will enhance the understanding and practical application of the laws of mechanical physics to the fundamental techniques utilized in the performance of physical activities.

EXSS 8133 - Current Readings EXSS (3)
(PHED 7133). Directed readings in area of exercise and sport science; materials selected to strengthen areas of study. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor. Grades of A-
F, or IP will be given.

**EXSS 8142 - Seminar/Health Sprt Sci (1-3)**
(HLTH 7142). May be repeated for maximum of 3 credits. NOTE: EXSS majors may not use this course to fulfill degree requirements. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

**EXSS 8163 - Advanced Motor Learning (3)**
(PHED 7163) Analysis of research evidence related to motor skill learning and performance; emphasis on feedback mechanisms, practice variables, and retention and transfer of skills.

**EXSS 8173 - Sport/Exercise Psych (3)**
Survey of literature related to psychological aspects of participation in sport, exercise, and physical activity settings.

**EXSS 8201 - Phys Exer Musculoskl (3)**
An analysis of the physiological bases of musculoskeletal performance as well as specific adaptations that occur consequent to various regimens of exercise; instruction in selected techniques for assessing musculoskeletal function and structure.

**EXSS 8202 - Phys Ex Mtbolc/Cardresp (3)**
An analysis of the acute and chronic metabolic/cardiorespiratory bases of human performance and fitness under various internal and external environmental conditions instruction in selected techniques for assessing metabolic/cardiorespiratory function and structure.

**EXSS 8210 - Anlys Muscle Function (3)**
Theoretical bases for and applications of isokinetic (velocity-controlled) and isoinertial (dynamic constant external resistance) testing; students are guided in developing and evaluating new specialized protocols for assessing musculoskeletal function with an emphasis on velocity-spectrum and load-spectrum testing; data interpretation will be stressed. PREREQUISITES: EDPR 7523, EDPR 7541, EXSS 7201, or permission of instructor.

**EXSS 8220 - Adv Sktl Mscl Str/Fnct (3)**
In-depth study of the skeletal muscle system; follows EXSS 7201 and covers gross, cellular, and molecular responses and adaptations of skeletal muscle of various types of human exercise; detailed information critical to the graduate student specializing in or interested in human skeletal muscle and exercise.

**EXSS 8230 - Exercise Endocrinology (3)**
Introduces principles of hormonal regulation of human physiological function and methods of assessing endocrine status; examines hormonal responses and adaptations to exercise and physical activity in healthy and diseased humans, testing and analysis procedures, and human exercise responses.
EXSS 8240 - Athero/Cvd Patho/Interv (3)
In-depth review of atherosclerosis and associated clinical manifestations; prevention and treatment emphasizing exercise, nutrient, and pharmacological therapy. PREREQUISITE: Permission of instructor.

EXSS 8250 - Motor Control Bhvl Emp (3)
Analysis of theoretical and empirical basis for psychological mechanisms underlying movement control and skill development. PREREQUISITE: permission of instructor.

EXSS 8532 - Resrch/Sport Neuromechn (3)
Hands-on research methods training, including technological training in neuromechanical data collection and analysis; tests reliability and validity of data obtained using different technologies to examine acute response and chronic adaptation to exercise. PREREQUISITES: EDPR 7123 and EXSS 7201, or permission of instructor.

EXSS 8542 - Adv Kinesiology (3)
(PHED 7542). Analysis of mechanical factors related to body motions using experimentation and computer analysis of biophysical data; applications-intensive course involving collaboration between a faculty member and one or more students. PREREQUISITE: EDPR 7523, 7541 or permission of instructor.

HEALTH PROMOTION (HPRO)

In addition to the courses below, the department may offer the following Special Topics courses:

6202-20. Workshops in HPRO. (1-3). (HLTH 6202-20). Selected phases of health promotion through group study; in-depth study of areas of interest and need for persons in health promotion and related fields.

6902-11 . Special Topics HPRO. (3). Current topics in health promotion. May be repeated with change in topic. See online class listings for topic.

7902-11. Special Topics HPRO. (1-3). (HLTH 7092-11). Current topics in health promotion. May be repeated with a change in topic. See online class listings for topic.

HPRO 7122 - Current Readings HPRO (3)
(HLTH 7122). Directed readings in health promotion; material selected to strengthen areas of study. May be repeated for maximum of 9 credits. Grades of A-F, or IP will be given.

HPRO 7142 - Seminar in HPRO (1-3)
(HLTH 7142). Graduate seminar in health promotion. Grades of S, U, or IP will be given.

HPRO 7152 - Problems In HPRO (3)
Independent study and/or research project on selected health problems or issues. PREREQUISITE: Permission of
instructor. Grades of A-F, or IP will be given.

**HPRO 7182 - Health Promotion (3)**
(FITW 7182). Introduction to broad and challenging academic discipline and profession of health promotion; explores theories of behavior and change, ethical and professional considerations, as well as fundamentals of program planning, implementation, and evaluation.

**HPRO 7183 - Lifestyle/Wellness/Disease (3)**
Effect of physical activity, physical fitness, and other lifestyle behaviors on health and prevention or delay of selected chronic diseases.

**HPRO 7702 - Contmporary Hlth Issue (3)**
(HLTH 7702). Extensive examination of timely and important issues in the health promotion area.

**HPRO 7703 - Life Phys Act & Hlth (3)**
Introduces classroom health promotion, including approaches to policy making, program development and implementation, practice of self-care, behavioral and attitudinal change, and health enhancement.
PREREQUISITE: Admission to TEP or licensed to teach.

**HPRO 7704 - Int Hlth Beh Evdy Life (3)**
Examines theories of behavior change, barriers to behavior change, how behaviors and individual risk factors affect chronic disease, how our environment affects health behaviors, and how to critique health information in order to synthesize nutrition, activity, and healthy behavior.

**HPRO 7710 - Event Plan/Prog Promo (3)**
Introduction to program promotion techniques and event planning strategies; focuses on techniques and requirements for planning and conducting health promotion campaigns and special events such as meetings, corporate events, professional conferences, community functions, state/national initiatives, and sponsorships.

**HPRO 7712 - Epidemiology (3)**
(HLTH 7712). Introduction to selected diseases of special concern in public health practice with emphasis on epidemiologic models and methods.

**HPRO 7722 - Hlth Intrvntn Thry/Apps (3)**
(HLTH 7722). Examination of an array of health theories and their applications to relevant health problems and prevention-intervention programs; these theoretical frameworks will be critiqued in some depth.

**HPRO 7732 - Random Cln Trial/HSS (3)**
Provides thorough grounding in planning and executing randomized clinical trials pertaining to design, conducting, evaluation, and resource acquisition. PREREQUISITES: EDPR 7523, 7541, or permission of instructor.
HPR0 7780 - Health Counseling (3)
Introduces clinical counseling techniques focusing on the development and application of basic health counseling and lifestyle coaching skills. Self-evaluation, giving and receiving feedback and reflection upon the development of clinical skills and ethical tendencies is an essential part of this course.

HPR0 7790 - Lead/Manage HPR0 Prgms (3)
Concepts and practice of the structure and functions of health promotion programs. Provides a foundation for various project direction skills, including planning, implementation, leadership, management (time, risk, and financial), quality assurance, evaluation, dissemination, and maintenance of health programs.

HPR0 7800 - Internship in HPR0 (3-6)
Directed field experience focusing on development of knowledge, skills, and techniques needed to function as health promotion specialist in public or private settings. Grades of S, U, or IP will be given.

HPR0 7950 - Applied Project in HPR0 (1-6)
Scholarly capstone experience in which students integrate and apply discipline-specific knowledge, skills, and insights in developing a product related to their professional goals as approved by a three-person project committee. PREREQUISITE: Completion of 18 credit hours in the program of study with a minimum graduate GPA of 3.00 and permission of instructor. Grades of S, U, or IP will be given.

HPR0 8732 - Random Cln Trial/HSS (3)
Provides thorough grounding in planning and executing randomized clinical trials pertaining to design, conducting, evaluation, and resource acquisition. PREREQUISITES: EDPR 7523, 7541, or permission of instructor.

NUTRITION (NUTR)

In addition to the courses below, the department may offer the following Special Topics courses:
NUTR 6001-6006. Special Topics NUTR. (3). Current topics in nutrition. May be repeated with change in topic. See online class listings for topic.

NUTR 6602 - Community Nutrition (3)
(HMEC, CSED 6602). Nutritional problems and practices of diverse ethnic, age, and socioeconomic groups; educational skill development for intervention; local, regional, national, international agencies that address these nutritional needs. PREREQUISITE: CSED 2202 or permission of instructor.

NUTR 6702 - Food Production Intern (3)
NUTR 6722 - Catering Internship (3)
(HMEC, CSED 6702). Supervised field experience in catering. PREREQUISITES: HMEC 3602, 4502 OR CSED 3602, 4502.

NUTR 6902 - Study Tour/Foods/Nutr (1-3)
(HMEC, CSED 6900). On-the scene knowledge about foods and nutrition. May be repeated for a maximum of 6 credit hours. Only 6 hours applicable to degree. PREREQUISITE: Permission of instructor.

NUTR 7152 - Problems in NUTR (3)
(EXSS/HPRO/PETE/SPRT 7152). Independent study and/or research project on selected problems and issues in exercise and sport science. PREREQUISITE: Permission of instructor.

NUTR 7182 - Environmental Nutrition (3)
Study of the relationships between food, nutrition, and the environment with emphasis on sustainability.

NUTR 7183 - Alternative/Complementary NUTR (3)
Study of alternative and complementary nutrition practices with emphasis on evaluating effectiveness.

NUTR 7204 - Nutrition Through Life Cycle (3)
Food, nutrition, and human behavior in the development of individuals throughout the life span; economic, social and environmental bases for intervention in development of food habits; nutrition assessment methods; current issues and controversies in nutrition, and prevention of nutrition-related problems and conditions. PREREQUISITE: Student must be enrolled in the MS in Clinical Nutrition or permission of instructor.

NUTR 7205 - Nutrition Care Acute/Chronic I (3)
(CSED 7205). Didactic and laboratory methods in the selection, performance, and interpretation of nutrition assessment techniques. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7206 - Lifetime Nutr & Hlth (3)
Equips teachers with nutrition knowledge, skills, and application needed to promote health learning. PREREQUISITE: Admitted to TEP or licensed to teach.

NUTR 7212 - Appl Nutr For Health (3)
(HMEC, CSED 7212). Basic principles of nutrition and their applications to health and fitness. Not applicable to nutrition concentration.

NUTR 7305 - Nutrition Care Acute/ChronicII (3)
Integration of principles of anatomy, normal and pathophysiology, biochemistry, psychology, anthropology, epidemiology, and foods science with a survey of current nutritional, medical, and pharmacological treatments in the prevention, treatment, and management of diseases and disorders of the body systems. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7405 - Pharmacol Nutr Prof (3)
Introduction to pharmaceutical sciences including general principles and phases of drug action, drug and nutrient interactions, pharmaceutical issues in nutrition support, supplement/herbal issues, and highlights of commonly prescribed medication that are used in medical condition which have a nutrition component. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7412 - Cellular Nutrition I (3)
(CSED 7412). Generation, storage, and use of energy; metabolism of carbohydrate, protein, fat, and other macro and micronutrients; control of metabolic processes in normal, anabolic, and catabolic conditions. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7415 - Prof Issues Nutr (2)
Survey of professional issues for clinical dietitians. Topics covered will include ethics, reimbursement, communicating nutrition information to the public, professional development and participation, entrepreneurship, marketing, and developing business plans. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7422 - Cellular Nutrition II (3)
(CSED 7422). Cellular and subcellular metabolism of the micro-nutrients; digestion, absorption, transport, utilization, and excretion of vitamins and minerals; interrelationships of micro- and macronutrients; recent advances in micronutrient research. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7452 - Comparative Digestion/NUTR (3)
Study of the vertebrate digestive system and the relations with diet, development, and health and disease.

NUTR 7454 - Molecular Nutrition (3)
Study of the cellular and molecular responses of the body to nutrients and the relations with health.

NUTR 7481 - Clin Intern Nutr (1-9)
(CSED 7481). Directed clinical experience (100 hours per credit) in health care settings serving children, adolescent, and adults in clinical and community settings, as well as administration of nutrition services. Emphasis on nutrition in growth and development, maintenance of wellness, and prevention and treatment of disease and disability. May be repeated for up to 9 hours of credit. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.
NUTR 7482 - Clinical Residency Nutr (1)
Individualized clinical experience (120 hours) designed at an advanced level to enhance self-direction in learning and to develop advanced competence in area of individual interest. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7522 - Clncl Nutrtn/Food Servc Mgmt (3)
(CSED 7522). Influence of leadership/management styles/practices on clinical nutrition/food service management effectiveness. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 7710 - Humanitarian Nutrition (3)
Study of local and global food/nutrition availability and accessibility. Food justice and environmental stewardship.

NUTR 7712 - Cultural Nutrition and Foods (3)
Overview of traditional food practices locally and globally to develop understanding of food values.

NUTR 7722 - Sustainable Food System (3)
Current issues related to sustainable food systems. Sustainable agriculture, health, hunger, environmental, economic, food safety, and political perspectives of relevant topics.

NUTR 7800 - Internship in Environ NUTR (3-6)
Directed field experience focusing on development of knowledge, skills, and techniques needed to function as an environmental nutrition specialist in public or private settings. PREREQUISITE: Permission of instructor. Grades of S, U, or IP will be given.

NUTR 7850 - Seminar in Environmental NUTR (3)
In depth review and presentation of topic focused on a current issue in environmental nutrition. PREREQUISITE: permission of instructor.

NUTR 7950 - Applied Project in NUTR (1-6)
Scholarly capstone experience in which students integrate and apply discipline-specific knowledge, skills, and insights in developing a product related to their professional goals as approved by a three-person project committee. PREREQUISITE: Completion of 18 credit hours in the program of study with a minimum graduate GPA of 3.00 and permission of instructor. Grades of S, U, or IP will be given.

NUTR 8412 - Cellular Nutrition I (3)
(CSED 7412). Generation, storage, and use of energy; metabolism of carbohydrate, protein, fat, and other macro and micronutrients; control of metabolic processes in normal, anabolic, and catabolic conditions. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

NUTR 8422 - Cellular Nutrition II (3)
(CSED 7422). Cellular and subcellular metabolism of the micro-nutrients; digestion, absorption, transport, utilization, and excretion of vitamins and minerals; interrelationships of micro- and macronutrients; recent advances in micronutrient research. PREREQUISITE: Enrollment in Clinical Nutrition program or permission of instructor.

PHYSICAL EDUCATION TEACHER EDUCATION (PETE)

NOTE: Courses numbered 7001-7008 are restricted to post-bachelor's non-degree students seeking certification in teaching physical education in Tennessee. They do not apply toward master's degrees.

In addition to the courses below, the department may offer the following Special Topics courses:

PETE 7902-7911. Special Topics PETE. (3). Important topics in Physical Education Teacher Education. May be repeated with a change in topic; see online class listings for topics.

PETE 7001 - App Sci Prin/PETE (3)
Applied study of structure and function of human body, including mechanical and physiological principles of human movement, motor learning, and psychological and sociological aspects of physical education.

PETE 7002 - Curriculum In PETE (3)
Study of different curricular models and how to set up yearly and unit plans.

PETE 7003 - Tchng Indv/Team Sports (3)
Augments physical educators' skills, knowledge, and attitudes about individual and team sports and the techniques of teaching these activities to different age groups.

PETE 7004 - Learner Assessmnt PETE (3)
Provides students with a range of tools to assess school children in psychomotor, cognitive, affective, and fitness areas.

PETE 7005 - Educational Gym&Dance (3)
Prepares students to teach educational gymnastics and dance in school settings, as well as providing opportunities to develop individual skills.

PETE 7006 - Instruction In PETE (3)
Provides students with a range of instructional models that can be used in teaching physical education.

PETE 7007 - Advanced Clinical Pract (3-9)
Full-time, planned, and supervised experience in a physical education setting for K-12 certified students, the
majority already placed in a school setting; supervision by HMSE faculty. COREQUISITE: PETE 7008.

PETE 7008 - PETE Professional Seminar (1-3)
Includes a range of professional issues and the development of a professional portfolio. COREQUISITE: PETE 7007.

PETE 7133 - Current Readings PETE (3)
Directed readings in area of physical education teacher education; materials selected to strengthen areas of study. PREREQUISITE: Permission of the instructor.

PETE 7142 - Seminar In PETE (1-3)
May be repeated when topic changes for a maximum of 3 credits.

PETE 7152 - Special Problems In PETE (1-3)
Independent study or research or both on selected physical education problems or issues, providing advanced knowledge and/or experiences. May be repeated for a maximum of 3 credit hours. Grades of S, U, or IP will be given.

PETE 7201 - Instructional Models/PETE (3)
Study and reflection on models of instruction unique to physical education: large class sizes, open indoor and outdoor settings, and greater diversity of students and learning styles; emphasis on reading, discussion, and application based on understanding instructional strategies and various instructional models for physical education.

PETE 7202 - Curriculum Models/PETE (3)
Study and reflection on current curriculum models in physical education, including a study and critical analysis of developmentally appropriate curriculum specific to physical education.

PETE 7203 - Assessmnt/Eval In PETE (3)
Study and reflection on assessment and evaluation strategies used in physical education and to provide teachers and researchers with knowledge and skills necessary to conduct both process and product evaluation of physical activity.

PETE 7204 - Instructional Supv/PETE (3)
Study and reflection on models of instructional supervision in physical education, including systematic supervision, rationale, models, research, and clinical supervision and evaluation of teachers, to provide an empirical base for the development of the physical education systematic supervision model.

PETE 7205 - Issues In Urban PETE (3)
Considers the complex problems and unique possibilities that face physical education teachers and students in
culturally diverse urban settings, examining different theoretical perspectives and practical approaches and their relationship to the success of children and youth in urban schools.

**PETE 7501 - Organizatn/Analys PETE (3)**
The teaching-learning process in physical education, focusing on teacher behaviors, student behaviors, academic learning time, teacher effectiveness as documented in both short and long term process-product studies, functional curriculum in the schools, descriptive analysis of coaches and athletes, and case study approaches.

**PETE 7950 - Applied Project in PETE (1-6)**
Scholarly capstone experience in which students integrate and apply discipline-specific knowledge, skills, and insights in developing a product related to their professional goals as approved by a three-person project committee. PREREQUISITE: Completion of 18 credit hours in the program of study with a minimum graduate GPA of 3.00 and permission of instructor. Grades of S, U, or IP will be given.

**SPORT COMMERCE (SPRT)**

*In addition to the courses below, the department may offer the following Special Topics courses:*

**SLC 6102-11. Workshops in SLC. (1-6). (RECR 6705-15).** Selected phases of sport and leisure commerce through group study, in-depth study in area of interest and need for leaders in sport and leisure commerce. May be repeated for credit when topic varies.

**SLC 6902-11. Special Topics SLC. (1-3). (RECR 6905-15).** Current topics in sport and leisure commerce. May be repeated with change in topic. See online class listings for topic.

**SPRT 7102-11. Special Topics SPRT. (1-6).** Selected phases of sport commerce through group study, in-depth study in area of interest and need for leaders in sport and leisure commerce. May be repeated for credit when topic varies.

**SLC 6001 - Sprt Sales/Rev Prod I (3)**
Analyzes and produces skills essential to revenue production and sales processes commonly found in the sport business. PREREQUISITE: Permission of instructor.

**SLC 6002 - Sprt Sales/Rev Prod II (3)**
Focuses on producing skills essential to managing existing customer sales commonly found in sport business. PREREQUISITE: SLC 6001.

**SLC 6800 - Adv Computer Apps in SPRT (3)**
Evolution, current application, and future potential of computers for sport commerce. PREREQUISITE: permission of instructor
SPRT 7031 - Sport Finance (3)
Provides an understanding of the current financial status of the various sectors of the sport industry as well as the strategies frequently implemented by financial managers within the industry.

SPRT 7142 - Seminar in SPRT (1-3)
(RECR 7145, SLC 7142). May be repeated for a maximum of 3 credits. Grades of S, U, or IP will be given.

SPRT 7152 - Spec Problems in SPRT (1-3)
(RECR 7155, SLC 7152). Independent study or research, or both, on selected sport commerce problems and issues. PREREQUISITE: Permission of instructor. Grades of A-F, or IP will be given.

SPRT 7165 - Adv Pers SC Global City (3)
(SLC 7165). Provides and understanding of synergies and disjunctures between the US and the UK sport and leisure marketplace; addresses cultural negotiations and promotional strategizing of corporations that attempt to secure a presence within multiple locales and the work of cultural intermediaries. PREREQUISITE: SPRT 7321 or permission of instructor.

SPRT 7175 - Adv Mgmt Sprt Org Int Per (3)
(SLC 7175). Provides a critical understanding of how management of sport and leisure organizations is carried out in a European context; students will gain critical knowledge of the global environment in which the US sport industry exists and the specific urban issues that frame the UK marketplace. PREREQUISITE: Permission of instructor.

SPRT 7321 - Theoretical Foundations (3)
(SLC 7321). Influence of historical, philosophical, and social elements upon sport and leisure management policies, practices, and programs.

SPRT 7331 - SPRT Promotional Culture (3)
(SLC 7331). Examination of popular sport practices and representations as both the products and producers of particular social, historical, economic, technological, and political arrangements; contribution to the formation of contextually specific class, race, gender, and nation based identities and experiences.

SPRT 7341 - Commrcl Rec/Travl Toursm (3)
(SLC 7341). Survey of commercial leisure services with special emphasis placed on travel and tourism; sports and athletics, theaters, fitness centers, amusement and theme parks, aquatic areas, risk recreation, and historical areas, and the travel and tourism industry.

SPRT 7351 - Gender/Sexuality in SPRT (3)
(SLC 7201, 7351). Relationship between sport, leisure, and the dominant gender practices, experiences, and identities that structure everyday life within contemporary society. PREREQUISITE: SPRT 7321, 7331, or permission of instructor.

**SPRT 7361 - Race & Ethnicity in SPRT (3)**
(SLC 7361). Influence of sport and leisure on construction of differentiated racial and ethnic identities and experiences in contemporary American society, focusing on the way sport and leisure provide contexts in which dominant understandings of race and ethnicity are introduced, naturalized, and reproduced. PREREQUISITE: SPRT 7321, 7331, or permission of instructor.

**SPRT 7371 - Sport Commerce in Global Mrkt (3)**
(SLC 7371). Cultural production, meaning, promotion, and consumption of sport and leisure across contrasting social, political, and economic systems; relative position of sport and leisure industries at cultural interstices in the emerging global village including the phenomena of cultural conflict, cultural resistance, and cultural imperialism. PREREQUISITE: SPRT 7321; and 7331 or permission of instructor.

**SPRT 7410 - Athletic Team Management (3)**
(SLC 7410). Managerial perspective for developing an athletic program. Includes ethics within coaching, developing a philosophy of coaching, developing a youth feeder program within an athletic program, building and supervising a staff, and working with various stakeholders including administrators, athletes, and boosters.

**SPRT 7420 - Sport Marketing (3)**
(SLC 7332, 7420). Basic market concepts with applications to sport and leisure organizations, including urban sport and leisure market consumer behavior, strategic market planning, marketing mix component integration, and market information management. PREREQUISITE: MKTG 3010 and 4901 (or equivalents); or MKTG 7060; or permission of instructor.

**SPRT 7440 - Promotions & Info Service (3)**
(SLC 7440). A study of marketing communication principles and practices as they relate to sport and leisure from a theoretical, as well as practical perspective; special emphasis on building and maintaining effective media relations, advertising, sponsorship, licensing, public relations, sales, and after-marketing tactics.

**SPRT 7503 - Strat Mgmt Sprt Cmrce Org (3)**
(SLC 7503). Analysis of theoretical and practical issues relevant to management and administration of sport and leisure organizations; application of organizational analysis, managing change and external environments; understanding and managing power and organizational culture of sport commerce.

**SPRT 7600 - Readings in SPRT (3)**
(RECR 7135 or PHED 7133, SLC 7600). Directed readings in the area of sport and leisure; materials related to strengthen areas of study. May be repeated for a maximum of 9 credits. Grades of A-F, or IP will be given.
SPRT 7603 - Admin of Athletics (3)
(SLC 7603). Representative athletic administration procedure for colleges, public school systems, and municipal athletic leagues; fiscal procedures and business management.

SPRT 7605 - Practicum in SPRT (3)
(RECR / SLC 7605). Culminating experience allows students to demonstrate knowledge and skills in an appropriate professional setting based on their training and skills. Should be conducted after all other course work is complete. Grades of S, U, or IP will be given.

SPRT 7650 - Law for the Sport Manager (3)
(SLC 7650). Introduces sport management students to advanced legal principles so that they may effectively deal with typical managerial situations within sport industry settings. Instead of being based around traditional legal theories, the course is organized around three basic managerial function: (1) strategic management/governance, (2) human resource management, and (3) marketing management.

SPRT 7651 - Policy Governance SPRT (3)
Analysis of sport organizational governance and policy development across a broad spectrum of organizations and settings, from youth sport to professional and international sport settings. Structure, leadership, planning, strategic management, regulatory power, membership, sanctions and appeals, governmental/sport commissions, policy development/implementation, and contemporary issues where policy is crucial for effective management.

SPRT 7653 - Sport Areas & Facilities Mgmt (3)
(SLC 7100, 7653). Advanced management and operation of leisure and sport areas and facilities, emphasizing comprehensive planning, design, maintenance, and inspection of areas and facilities.

SPRT 7741 - Occupational Devp SPRT (3-6)
Independent study on sport topics related to student's occupational experiences and goals. May be repeated. Grades of S, U, or I will be given. NOTE: Sport Commerce majors may not use this course to fulfill degree requirements. PREREQUISITE: Permission of Advisor.

SPRT 7800 - Adv Computer Apps in SPRT (3)
(RECR / SLC 7800). Evolution, current application, and future potential of computers for sport commerce.

SPRT 7950 - Applied Project in SPRT (1-6)
(SLC 7950). Scholarly capstone experience in which students integrate and apply discipline-specific knowledge, skills, and insights in developing a product related to their professional goals as approved by a three-person project committee. PREREQUISITE: Completion of 18 credit hours in the program of study with a minimum graduate GPA of 3.00 and permission of instructor. Grades of S, U, or IP will be given.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
HEALTH ADMINISTRATION (HADM)

In addition to the courses below, the department may offer the following Special Topics courses:
HADM 7705–7715. Special Topics in Health Administration. (1-3). Intensive study of selected topics in health administration. May be repeated for a maximum of 6 hours. PREREQUISITE: Permission of graduate coordinator.

HADM 7100 - Day 1 Sem I: Leadership Skills (1)
The Day One Seminar is designed to equip students with experiences which will assist them in developing personal and professional leadership skills and will enable them to function effectively as early careerists and entry level professionals. Seminar I will focus on team-building, self-assessment, interviewing, communication, and technical writing. Throughout the seminar, students interact with faculty and community leaders to engage in a set of unique experiential learning opportunities.

HADM 7101 - Day 1 Sem II: Leadership Skills (1)
The Day One Seminar is designed to equip students with experiences which will assist them in developing personal and professional leadership skills and will enable them to function effectively as early careerists and entry level professionals. Seminar II focuses on team-building, leading others, networking, business etiquette, and professional development. Throughout the seminar, students interact with faculty and community leaders to engage in a set of unique experiential learning opportunities.

HADM 7102 - Health Care Law (3)
Covers legal topics in relationship to their effect on operation of health care organizations; includes informed consent, research, confidentiality, professional negligence, regulation of health care provider conduct, and other relevant topics.

HADM 7103 - Health Planning (3)
Application of strategic planning and management concepts and techniques to health care sector; focus on strategy formation, strategic planning process, business planning and business development.

HADM 7105 - Hlth Policy & Org Hlth Svs (3)
This course explores the history and development of health policy and organization in the U.S., the forces affecting health policy, the impact of policy on health services delivery, and the most recent health care reform efforts. The course also covers the most basic knowledge, skills and attitudes required to manage health care organizations effectively.

HADM 7106 - Health Services Resrch (3)
(POLS 7-8601). Issues and techniques in data collection for design and implementation of independent research projects; logic of conducting health services research, measurement, ethical considerations, logic of sampling, various methods of collecting data for health services research, and writing research proposal; introduction to program evaluation and specific quantitative decision-making techniques; overview of epidemiological concepts and techniques. PREREQUISITE: POLS 6101 or permission of graduate coordinator.
HADM 7107 - Health Care Ethics (3)
Overview of ethical theory and its relationship to individual and community health; discusses critical issues, including beginning of life, end of life, medical research, access to care, and justice; emphasizes the critical decision making of individuals and how ethical thinking might inform public policy.

HADM 7108 - Health Care Finance I (3)
Introduction to accounting and financial management focusing on the health care industry; includes understanding financial reports, cost behavior and profit analysis, cost allocation, pricing and service decisions, managerial accounting, planning and budgeting, time value analysis, and financial risk and return.

HADM 7109 - Hlth Admin Info Systems (3)
Introduction to health information systems built around and upon the manager's role in the application in clinical settings of automated solutions to problems and concerns in today's health care service industry. PREREQUISITE: HADM 6101.

HADM 7110 - Health Mgmt Leadership (3)
Synthesis of theories, strategies, and systems of managing and leading health care organizations; emphasis on team leadership skills, utilization and outcome analysis, change strategies, and planning.

HADM 7111 - Issues Hlth Serv Admn (3)
Seminar for discussion of health problems for underserved populations in US health care system; issues include cultural diversity, social diversity, health care access, and health disparities among and between diverse populations; focuses on improving patient-provider relations and staff relations through understanding diversity.

HADM 7113 - Sem Managed Hlth Care (3)
Role of health service administrator in a managed care organization (MCO); theories of negotiation, incentives structure, pricing, information systems, legal aspects, and regulatory issues applied to practical management situations for the MCO administrator; issues in public/private managed care markets addressed in class lecture, discussion, and group/individual projects.

HADM 7115 - Public Health Organizatn/Mgmt (3)
This course synthesizes theories, strategies and systems of leading public health care organizations. This course is designed for graduate students in a variety of health disciplines. The course will cover leading theories of leadership and focus on application in public health organizations. Topics include but are not limited to systems thinking, leading change and innovation, community health leadership, and public health law and ethics.

HADM 7116 - Adm Health Serv Orgs (3)
Introduction to analysis of administrative practices in health services organizations: examines leadership roles, analyzes impact of professional roles on process within the organization, examines evolution of organizational design, appraises accountability relative to public trust.
HADM 7117 - Physician Practice Mgmt (3)
Examines environmental context, financial management, operations management, human resources management, planning and marketing, and strategic management within the variety of ambulatory settings.

HADM 7120 - Independent Study (3)
Independent investigation of research problems or directed readings in selected area of health administration. PREREQUISITE: Permission of graduate coordinator. Grades of A-F, or IP will be given.

HADM 7190 - Internship Hlth Admn I (1-6)
Participation in a field experience program, including a written report critically describing the student's responsibilities. Field experience may result from a supervised internship in cooperating public and non-profit organizations or from an appropriate administrative experience if the student is employed in a public or non-profit organization. PREREQUISITE: Successful completion of a minimum of 26 hours in the Health Administration program and permission of graduate coordinator. Grades of S, U, or IP will be given.

HADM 7204 - Healthcare Qual & Outcns Mgmt (3)
This course is designed to acquaint the student with quality management philosophies, approaches, and methodologies for improving health systems and processes. Students completing this course will be able to identify, analyze and create a basic quality/outcome research proposal.

HADM 7206 - Managerial Epidemiology (3)
Introduction to principles and tools of epidemiology, exploring distribution and determinants of disease, and examining ways to apply this knowledge to the management of health service organizations.

HADM 7208 - Health Care Finance II (3)
Continuation of tools and techniques for financial management in health care settings, blending theory and practice through lecture and case analysis to provide students an opportunity to apply theory presented in class to practical examples. PREREQUISITE: HADM 7108-8108

HADM 7209 - Quant Methods for Hlth Svcs (3)
Covers use and capabilities of Excel, particularly in the functional ability to construct operational and financial models for healthcare organizations; encourages active "hands-on" participation of students in the learning process; all data sets relate specifically to health care: e.g.: DRG codes, lengths of stay, Medicare charges, ICD-9 codes, diagnoses, etc.

HADM 7210 - Comp Expr/Hlth Care Mgmt (3)
Capstone course for the MHA program, requiring students to draw from all previous learning in the program. Major focus is a small-team project to create a needs analysis; identify gaps in health care services; plan an intervention (service or facility); and determine how to create, finance, staff, and deliver the intervention. Preparation of a
Certificate of Needs (CON) also required. PREREQUISITE: Minimum of 41 credit hours.

**HADM 7605 - Human Resources Admin (3)**
(POLS 7-8605). Policies, methods, and techniques utilized in public and health organizations; special attention is given to problems reflecting contemporary demands upon human resource systems, capacity to diagnose problems, select the most effective means of addressing them, and plan appropriate courses of action developed through case studies.

**HADM 7703 - Reading For Comps (3)**
Arranged on an individual basis for graduate students in health administration only. PREREQUISITE: Completion of degree requirements or in the last two semesters of program. Grades of S, U, or IP will be given.

**HADM 7707 - Business of Wellness (3)**
This course examines both the economic and psycho-social and community underpinnings of wellness programs and businesses. Topics include corporate health and fitness programs, the business case for wellness programs, building a culture of health in organizations, perspectives of employers and employees, and leading and managing a culture of health and wellness programs in private and public organizations. This course also explores the relationship between health policy, market-driven changes, the integration of wellness into business models, and the growth of the wellness industry.

**HADM 7718 - Med Tech Purchasing/Sales (3)**
Describes changing health care market environment, provides knowledge and skills about purchasing behavior and selling strategies important in adoption of medical technologies and services surrounding their adoption; reviews purchasing behaviors of key stakeholders e.g., physicians, pharmacists, and materials managers in major health care institutions; covers appropriate approaches to selling medical technology products to health institutions. PREREQUISITE: Permission of the Graduate Coordinator.

**HADM 7996 - Thesis (1-6)**
The student must write and defend satisfactorily a thesis on a subject approved by the major professor. Grades of S, U, or IP will be given.

**HADM 8102 - Health Care Law (3)**
Covers legal topics in relationship to their effect on operation of health care organizations; includes informed consent, research, confidentiality, professional negligence, regulation of health care provider conduct, and other relevant topics.

**HADM 8103 - Health Planning (3)**
Application of strategic planning and management concepts and techniques to health care sector; focus on strategy formation, strategic planning process, business planning and business development.
HADM 8105 - Govt Regul Hlth Ser (3)
Explores development of health policy and regulation in the US, forces affecting health policy, and impact of regulation on health care delivery; regulatory issues and health care reform discussed and debated.

HADM 8106 - Health Services Resrch (3)
(POLS 7-8601). Issues and techniques in data collection for design and implementation of independent research projects; logic of conducting health services research, measurement, ethical considerations, logic of sampling, various methods of collecting data for health services research, and writing research proposal; introduction to program evaluation and specific quantitative decision-making techniques; overview of epidemiological concepts and techniques. PREREQUISITE: POLS 6101 or permission of graduate coordinator.

HADM 8107 - Health Care Ethics (3)
Overview of ethical theory and its relationship to individual and community health; discusses critical issues, including beginning of life, end of life, medical research, access to care, and justice; emphasizes the critical decision making of individuals and how ethical thinking might inform public policy.

HADM 8108 - Health Care Finance I (3)
Introduction to accounting and financial management focusing on the health care industry; includes understanding financial reports, cost behavior and profit analysis, cost allocation, pricing and service decisions, managerial accounting, planning and budgeting, time value analysis, and financial risk and return.

HADM 8109 - Hlth Admin Info Systems (3)
Introduction to health information systems built around and upon the manager's role in the application in clinical settings of automated solutions to problems and concerns in today's health care service industry. PREREQUISITE: HADM 6101.

HADM 8113 - Sem Managed Hlth Care (3)
Role of health service administrator in a managed care organization (MCO); theories of negotiation, incentives structure, pricing, information systems, legal aspects, and regulatory issues applied to practical management situations for the MCO administrator; issues in public/private managed care markets addressed in class lecture, discussion, and group/individual projects.

HADM 8115 - Public Health Organizatn/Mgmt (3)
This course synthesizes theories, strategies and systems of leading public health care organizations. This course is designed for graduate students in a variety of health disciplines. The course will cover leading theories of leadership and focus on application in public health organizations. Topics include but are not limited to systems thinking, leading change and innovation, community health leadership, and public health law and ethics.

HADM 8116 - Adm Health Serv Orgs (3)
Introduction to analysis of administrative practices in health services organizations: examines leadership roles,
analyzes impact of professional roles on process within the organization, examines evolution of organizational
design, appraises accountability relative to public trust.

**HADM 8117 - Ambulatory Pract Mgmt (3)**
Examines environmental context, financial management, operations management, human resources management,
planning and marketing, and strategic management within the variety of ambulatory settings.

**HADM 8120 - Independent Study (3)**
Independent investigation of research problems or directed readings in selected area of health administration.
PREREQUISITE: Permission of graduate coordinator. Grades of A-F, or IP will be given.

**HADM 8204 - Quality/Outcome Mgmt Hlth Care (3)**
This course is designed to acquaint the student with quality management philosophies, approaches, and
methodologies for improving health systems and processes. Students completing this course will be able to
identify, analyze and create a basic quality/outcome research proposal.

**HADM 8208 - Health Care Finance II (3)**
Continuation of tools and techniques for financial management in health care settings, blending theory and practice
through lecture and case analysis to provide students an opportunity to apply theory presented in class to practical
examples. PREREQUISITE: HADM 7108-8108

**HADM 8605 - Human Resources Admin (3)**
(POLS 7-8605). Policies, methods, and techniques utilized in public and health organizations; special attention is
given to problems reflecting contemporary demands upon human resource systems, capacity to diagnose
problems, select the most effective means of addressing them, and plan appropriate courses of action developed
through case studies.

**HADM 8718 - Med Tech Purchasing/Sales (3)**
Describes changing health care market environment, provides knowledge and skills about purchasing behavior and
selling strategies important in adoption of medical technologies and services surrounding their adoption; reviews
purchasing behaviors of key stakeholders e.g., physicians, pharmacists, and materials managers in major health
care institutions; covers appropriate approaches to selling medical technology products to health institutions.
PREREQUISITE: Permission of the Graduate Coordinator.

**PUBLIC HEALTH (PUBH)**

**PUBH 7014 - Public Health Communication (3)**
(COMM 7014-8014) Explores the communication processes and practices that can be used to promote positive change in health behaviors, including the rhetorical exigencies inherent in public health care communication, the various formats for disseminating medical information, and the specific audience needs that health care communication must address.

**PUBH 7104 - Large Data Sets/PUBH Research (3)**
This course addresses secondary data analysis of health quality and outcomes issues. Secondary data analysis using large, public data sets will be examined. Issues related to secondary analysis and drawing items from multiple data sets will be discussed. Analytical techniques such as adjustments for missing data, transformations of data, and risk adjustment will be applied using public data sets.

**PUBH 7120 - Environmental Health I (3)**
Introduces complex and interlinked environmental issues facing public health professionals; presents concepts, principles, and applications of natural and social science disciplines forming the basis of environmental health; introduces environmental issues relevant to health problems; develops communication skills by discussing public health issues and environmental policies.

**PUBH 7122 - Environmental Health II (3)**
This course focuses on specific cases of environmental hazards and related health problems. It also focuses on the applied aspect of sources of environmental data, methods of environmental data collection, risk assessment and use of such data for policy development and risk management.

**PUBH 7124 - Environmental Toxicology (3)**
This course discusses basic principles governing the behavior and effects of toxic chemicals released into the environment; sources, distribution, and fate of toxic chemicals in the environment; chemicals and cancer and birth defects; government regulation of chemical hazards. Focus is on human health impacts of chemicals found in the workplace and general environment.

**PUBH 7125 - Environmental Health Microbiol (3)**
This course provides introduction to foodborne and waterborne microbial disease including sources and routes of transmission of microbes from the environment to humans; identification of common water and foodborne pathogens and methods for their detection and surveillance; safe preservation and intervention methods to reduce microbial loads in food and water; regulatory aspects of prevention of foodborne disease and how information from surveillance is used to improve public health policy and practice. PRE-REQUISITE: one college level course in both biology and chemistry.

**PUBH 7126 - Prin Exposure/Risk Assessmnt (3)**
Understanding of exposure and risk is a necessary application and of growing importance in environmental health studies. This course is designed to provide concepts, methods, models, statistics and theory necessary for the assessment of exposure to environmental agents and health risk from exposures. Topics to be covered include:
the selection of study populations; identification and quantification of exposure pathways; the design of exposure assessment strategies; exposure measurement methods; risk assessment framework, modeling of health effects; and derivation of risk estimates. Specific examples of exposure and risk assessments will be analyzed and critiqued.

PUBH 7128 - Envrnmnt Policy/DecisionMaking (3)
The course will present regulatory and non-regulatory approaches to the management of toxic substances in the environment, with emphasis on the scientific/technical basis for toxic substances control. It will examine approaches at the international level, in the European Union, and at the federal and state levels in the U.S. Overviews of each approach will be provided with the majority of the course dedicated to examination of the use of risk-based and public health-based approaches to toxicant control in regulatory as well as non-regulatory contexts. Topics that will be integrated into this examination include risk communication, risk perception, risk-benefit and cost-benefit analysis, and environmental justice.

PRE-REQUISITES: 7124-8124 and 7126-8126

PUBH 7129 - Envrnmntl Sampling & Analysis (3)
This is a graduate level laboratory and lecture course on principles, equipment, instrumentation, methodologies, and strategies for measuring environmental chemical and biological contaminants. We will examine sampling techniques, analytical methods, quality assurance/quality control, and regulatory mandates applied to air, water and soil samples. It is designed for students in the environmental health sciences and other graduate students interested in occupational and ambient-environmental exposure assessments for regulatory compliance and risk estimation.

PUBH 7130 - Social Determinants of Health (3)
This course focuses on the systematic study of the economic and social conditions which determine health. It examines the social gradient in health and explores how social influences such as poverty, social capital, job security, neighborhood characteristics, social support, transportation, discrimination, and stress affect health and longevity. It also explores structural interventions in shaping social environments that are conducive to better health. PRE-REQUISITE: PUBH 7160/8160 OR PERMISSION OF INSTRUCTOR

PUBH 7131 - Social/Behavioral Policy Devel (3)
This course will introduce students to how theories and methods in the social and behavioral sciences are applied to the development and implementation of public policy aimed at health prevention and promotion. Several current primary and secondary prevention issues will be used as exemplars, including tobacco control, physical activity, injury control, and regulation of food supply.

PUBH 7132 - Health Program Evaluation (3)
This graduate seminar provides qualitative and quantitative perspectives on health program evaluation. The course examines various models, theories, methods, and processes in evaluating community and public health programs. It is a practice-oriented course and facilitates students developing applied skills in the field of health program evaluation.
PUBH 7135 - Social Ntwrk Concepts in PUBH (3)
This course introduces students to the concepts of social networks and social relationships and how these factors are associated with health. Students will be provided with an overview of the history of social network research, social network constructs and measurements, and their application in health research and interventions. PRE-REQUISITES: PUBH 7150 AND PUBH 7160, OR PERMISSION OF INSTRUCTOR.

PUBH 7140 - Epidemiology Chronic Disease (3)
This course is designed to provide graduate students with knowledge on major chronic diseases and skill on applying various epidemiologic methods to design and conduct epidemiological studies on chronic diseases. The course covers selected topics in chronic disease with critical analysis of the current epidemiologic literature.

PUBH 7141 - Epidemiologic Survey Method (3)
This course provides students in Public Health with the basic elements in designing and performing survey research. The course describes the initial steps in formulating and focusing the research question and proceeds to the key steps in performing survey research, i.e., identifying the target population, obtaining an appropriate sample, designing the survey instrument and implementing it.

PUBH 7150 - Biostatistical Methods I (3)
Introduces elementary methods for presenting public health data in summary form and analyzing data; not a mathematics course and will not stress derivations of formulae; instead, emphasizes the application of statistical ideas and methods to the design and interpretation of public health studies.

PUBH 7152 - Biostatistical Methods II (3)
This course is the second course in Biometric statistics for public health research. It is intended for advanced students in public health who are interested in gaining expertise in advanced Biometric data analysis. You will be introduced to Biometric statistical modeling techniques commonly used in public health as well as analysis procedures using SPSS and SAS computer software.

PUBH 7153 - Biostat. in Bioinformatics (3)
This course is offered every other year to Master (7000 level) and Doctoral (8000 level) students. This course focuses on statistical methods in application to bioinformatics data and other large data sets with similar features. Students will be introduced to R programming, a commonly used programming language implemented in bioinformatics data analyses. This will be an applied course with focus on learning the methods, applying the methods, and programming in R. Prerequisite: PUBH 7150 (Biostatistical Methods I).

PUBH 7155 - SPSS for Health Research (1)
designed to introduce SPH students to programming and data structure topics they would be expected to know when using SPSS in their coursework or job. Please note that this is not a statistics course so statistical programming or statistical procedures will not be covered. All programming topics will be demonstrated using
public health data sets.

**PUBH 7156 - SAS for Health Research (1)**
designed to introduce SPH students to programming topics they would be expected to know when using SAS in their coursework or job. SAS is a very complex, sophisticated application so we will concentrate on the simple basics. This is strictly an applied course with obvious emphasis on using SAS Information Delivery Software, mainly SAS/base.

**PUBH 7160 - Soc/Behav Science Principles (3)**
This graduate level course will focus on the contribution of social and behavioral sciences to the understanding of the distribution, etiology, and solution of public health problems. The theoretical underpinnings of the most relevant explanation, planning, change, and evaluation theories will be reviewed in depth and illustrated with examples of the application of these models to health promotion and disease prevention with individuals, groups and communities.

**PUBH 7161 - Adv Psychosocial Thry Hlth (3)**
This course provides a multidisciplinary theoretical approach to the study of health and health behavior. Emphasis is on the use of psychosocial theories in health-related practice, policy-making, and research. Other theoretical perspectives, such as the ecological and biopsychosocial models, are addressed in order to integrate these theoretical perspectives.

**PUBH 7165 - PUBH Approaches to HIV/AIDS (3)**
This course introduces students to critical issues in HIV/AIDS prevention in diverse community settings using an ecological perspective to understand how multiple levels of influence contribute to HIV/AIDS disparities. Social determinants of HIV/AIDS/STI transmission will be addressed. The course will integrate various approaches to eliminating HIV/AIDS disparities including community-based participatory research, faith-based initiatives, and community-based methods.

**PUBH 7170 - Epidemiology in PUBH (3)**
Provides foundation needed to interpret, use, and research epidemiological data; focuses on methodological aspects of epidemiology as it applies to investigation of public health problems and guidance of public health planning and policies.

**PUBH 7172 - Epidemiology PUBH II (3)**
This course is designed for epidemiology majors and other students requiring a more thorough knowledge of the concepts and methods used in epidemiological research. This course stresses analytical study designs and etiologic research. Topics include exposure-disease associations, threats to internal validity and their control, and valid interpretation of study results, including concepts of association, causality, and effect modification. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR

**PUBH 7174 - Epidemiology PUBH III (3)**
This course is designed for doctoral and advanced master's degree students. The course focuses on the nature of causality in biological systems and the methods by which it may be determined. The course also focuses on extracting, organizing and interpreting various evidence to support public health and medical practices. Both observational and experimental study designs are considered. Landmark studies from the epidemiologic literature will be extensively used to illustrate these issues. PRE-REQUISITES: PUBH 7150, PUBH 7170, AND PUBH 7172, OR PERMISSION OF INSTRUCTOR.

**PUBH 7175 - Lab Tech in Molecular Epi (3)**
7000/8000 level; Lecture/Lab Hours: 3 contact hours (2-5 pm)/week  
This course covers cross-disciplinary approaches incorporating genomics and proteomics-based molecular laboratory techniques/methods currently used in epidemiology to identify and detect risk factors for diseases and to facilitate intervention. In addition to lectures, the course includes a series of laboratory modules to provide students with hands-on experience in different laboratory methods used in epidemiologic studies, investigation in microbial infectious diseases, and cancer diagnostics and treatments. Prerequisite: at least one college level course in both biology and chemistry.

**PUBH 7180 - Foundations of PUBH (3)**
Provides foundation for critical analysis of current public health issues, facilitating discussion of contemporary issues and challenges of public health policy and practice; key topics include balancing individual and societal rights; public health ethics; health disparities; cultural competence, socio-ecologic approaches to promote health; public health concerns in urban communities; and current public health practice.

**PUBH 7190 - Adv SAS for PUBH Prof 1 (3)**
This class introduces students to advanced SAS programming statements and techniques using the SAS system software. PREREQUISITES: PUBH 7150 or equivalent; students outside the School of Public Health must obtain permission from the instructor.

**PUBH 7191 - Adv SAS for PUBH Prof II (3)**
This class introduces students to advanced SAS programming language statements and methods specifically for data management and reporting. Students will learn methods and techniques to identify data errors, use methods for data entry, maintain analytical data sets and summarize clinical/medical encounter data. This class is a continuation of PUBH 7190-8190. PREREQUISITES: PUBH 7150 or equivalent; PUBH 7190-8190; students outside the School of Public Health must obtain permission from the instructor.

**PUBH 7202 - Intro to Human Disease (3)**
This course introduced pathophysiology of major human diseases relevant to the public health professional. The course materials will be discussed from public health perspectives that focus on mechanisms and progression of diseases (pathogenesis), pathophysiologic associations with risk factors, structural alterations (morphologic changes) resulting from the disease, the functional consequences of these structural changes (clinical significance), and the applications of this knowledge in disease prevention in public health.
PUBH 7203 - Built Environment & Pub Health (3)
This interdisciplinary course, required for graduate students seeking a Master degree of Public Health, focuses on the increasing recognition that the built environment can impact human health. The increasing recognition and understanding the significance of built environment to health will lead to innovative and promising policy interventions to solve public health problems such as obesity and chronic diseases. Key topics include: neighborhood, physical activity, and diet; active transportation; disparity by race/ethnicity and income levels; social determinants; and policy interventions.

PUBH 7305 - Quant Meth Review Rsch (3)
(same as PSYC 7305-8305). This course focuses on quantitative strategies for reviewing research findings in the social sciences. These quantitative review techniques (often referred to as ?meta-analysis?) can help investigators summarize and resolve conflicts in past research. The course should be particularly useful to graduate students who are planning to conduct literature review as part of a research project, master?s thesis, or doctoral dissertation. PRE-REQUISITES: Students enrolled in this course are expected to have completed PSYC 7302/8302 or an equivalent graduate-level statistics course, and to have a basic understanding of the analysis of variance and multiple regression.

PUBH 7306 - Linear Struct Modeling (3)
(PSYC 7306-8306). The purpose of this course is to provide students with an introduction to structural equation modeling (SEM). An emphasis will be placed on helping students use/apply SEM methodology to answer research questions in their areas of interest. After completing this course, students should be able to (1) conduct structural equation analyses using SAS, AMOS, and Mplus, (2) communicate results of structural equation analyses in both written and verbal form, (3) evaluate strengths and limitations of studies employing SEM techniques, and (4) provide consultation to colleagues on SEM related issues. PRE-REQUISITES: PUBH 7152 OR EQUIVALENT.

PUBH 7307 - App Struct Equ Modeling in PH (3)
This course will provide knowledge about the fundamentals of structural equation modeling, and its practical applications in public health. It will provide details of structural equation modeling, from statistical concepts to how to perform various types of structural equation analyses. Topics will include covariance structures, path diagrams, path analysis, model identification, model testing with emphasis on confirmatory factor analysis and invariance testing. Statistical software recommended for this course are SAS and SPSS AMOS. PREREQUISITE: PUBH 7152-8152

PUBH 7308 - Appl Multivariate Stat (3)
(PSYC 7308-8308). Covers multivariate analysis of variance (MANOVA) with independent designs and extensions to repeated measures and ANOVA. Goals include review of conceptual bases, learning SPSS and SAS procedures, learning analysis of simple and complex designs, and learning special post-hoc procedures. PRE-REQUISITES: PUBH 7152/8152 OR EQUIVALENT.

PUBH 7309 - Appl Surv Analys in Pub Hlth (3)
This course will cover the statistical concepts and techniques that are useful in the field of public health for the analysis of survival data or time to event data. The course will examine the features unique to survival data which distinguishes these data from other more familiar types of data. Topics include survival functions, hazard rates, types of censoring and truncation. Methods will include life tables, Kaplan-Meier plots, log-rank tests, Cox regression models, and Inference for parametric regression models. Statistical software recommended for this course are SAS and SPSS. PREREQUISITE: PUBH 7150 or instructors permission.

PUBH 7310 - Mixed Model Regression Analys (3)  
Instruction in the use of mixed-model regression with a focus on design and analysis of group-randomized trials; attention also given to analysis of data from surveys based on cluster sampling, longitudinal studies, and studies involving matching. Same as PSYC 7310-8310.

PUBH 7311 - Appl Categorical Data Analys (3)  
Instruction includes tabular, logistic, and Poisson and Cox regression, as well as interpretation of SAS output. For advanced students in psychology, education, and public health pursuing a career in research. Same as PSYC 7311-8311.

PUBH 7333 - Addictive Behaviors (3)  
This course provides public health students with an introduction to the historical, clinical, epidemiological, and public policy issues related to addictive behaviors, including alcohol, tobacco, illicit drugs, and gambling. Students will be exposed to a variety of methodological approaches used by social and behavioral scientists to study addictive behaviors, including ethnography, surveys, geographical information systems, and clinical trials.

PUBH 7334 - Comm Based Part Resrch Mthds (3)  
This course familiarizes students with key historical underpinnings of community based participatory research (CBPR), principles of CBPR practice, and methodological considerations in building community partnerships; community assessment; issue analysis; research planning; data gathering; and data sharing. The course will also address cultural competence; working with diverse populations; ethical considerations; as well as funding and Institutional Review Board issues.

PUBH 7335 - Struct/Environ Iss/Urban Comm (3)  
This course focuses on concepts of risk and burden of disease in urban communities. It examines contemporary issues and challenges of the social, cultural, built, and physical environments of urban communities. Key topics include public health and urban health; roots of health inequality; risk and burden of disease; stress, socio-economic and structural influences on health; and community-based approaches (CBPR) to address public health concerns in urban communities.

PUBH 7336 - Women's Health (3)  
This course examines topics in women's health in the United States; the programs, services, and policies that affect women's health; and methodological issues in research about women's health. the epidemiology,
measurement and interpretation of these factors, and how these factors can be translated into interventions, programs, and policy, will be of major interest.

PUBH 7337 - Eating Behavior, Nutr, & Family (3)
This graduate course examines family-based influences on feeding behavior and nutrition from a developmental perspective. Topics covered include how parent and family contextual factors affect the development of eating behaviors across infancy, childhood and adolescence; the relation of parenting practices, eating attitudes, and parent characteristics to feeding problems in special populations; and family influences on the development of disordered eating in children and adolescents.

PUBH 7338 - Critical Issues in Global Hlth (3)
This course focuses on critical issues in global health emphasizing the multidisciplinary approach to understanding global health problems as they occur within and across borders. Concepts include the interplay between global stressors such as population, urbanization, economics, environment, and war; and their effects on the spread of infectious and chronic diseases, nutrition, and environmental health.

PUBH 7339 - Transl Rsrch Meth Pop Hlth (3)
This course covers methods to plan, design and evaluate the potential translatable and public health impact of prevention interventions. Methodological issues to be considered include reach, representativeness, adoption, implementation, adaptation, impact, scalability, and sustainability of interventions. Measurement and metrics to assess these elements and evaluate their impact will be included.

PUBH 7340 - Behavioral Intervention Develp (3)
This course provides training in the development of theory-based behavioral interventions that are relevant to public health research and practice. Focuses on community and population level strategies and methods.
PREREQUISITE: PUBH 7160-8160 or permission of instructor.

PUBH 7341 - Physical Activity/Public Hlth (3)
This course is an overview of physical activity programming and interventions within the public health framework. Students will study issues germane to physical activity and public health; acquire knowledge of current research, best practices, guidelines and recommendations for physical activity; and develop skills integral to the design, implementation, and evaluation of public health programs that are intended to promote physical activity in specific populations.

PUBH 7342 - Epidemiology Min/ Ethnic Pop (3)
This course provides an evidence-based approach to the study of the epidemiology and health disparities of racial and ethnic groups in the U.S. Emphasis is placed on historical events and immigration policies that have contributed to the prominent size of these populations, identification of data sources to describe this demographic imperative and health status, and on socio-political, cultural, and religious influences that inform public policy on health disparities.
PUBH 7343 - Tobacco Use: Cause, Conseq, Ctrl (3)
This course utilizes a multi-level approach to public health by providing a comprehensive overview of the health effects, history, marketing, politics, and control of tobacco use, combining medical, psychosocial, epidemiological and economic perspectives to give students a framework for understanding tobacco addiction and its prevention and treatment.

PUBH 7345 - Health Literacy (3)
(Same as COMM 7345-8345) This course will introduce students to the issues of health literacy from a public health perspective. We will explore the impact of health literacy on access to care, vulnerable populations, management of chronic illness, mental health, healthcare costs, and several other areas.

PUBH 7346 - Public Mental Health (3)
This course provides an overview of mental health issues from a public health perspective. Topics include differentiating mental health from mental illness, socio-economic disparities in mental illness, community-based services for the diagnosis, treatment, and prevention of prevalent mental illnesses, and major mental health policy issues in the United States.

PUBH 7347 - Qualitative Mtds Hlth Research (3)
This course provides an overview of qualitative research methods commonly used in health related research, including the basic skills needed for data collection and analysis and an understanding of philosophical and epistemological roots. Students will learn to develop and critique a qualitative research proposal in terms of design, technique, analysis and interpretation.

PUBH 7348 - Hlth Equity, Cult Comp, Soc Just (3)
This course provides a foundation for needs assessment of current public health issues to promote health equity. Key topics include health disparities; cultural competence in community intervention development; cultural approaches to health, illness, and health-seeking behavior; and public health challenges in diverse communities in achieving health equity and promoting social justice.

PUBH 7400 - Special Problems (3)
Independent investigation of a research problem or directed readings, in a selected area of public health chosen in consultation with the instructor. Only six hours of credit may be applied to a degree. May be repeated for a maximum of 6 credits.

PUBH 7442 - Cancer Epidemiology (3)
The course concentrates on distribution and trends of incidence, mortality and survival of major cancer types. It also discusses in depth current theories of cancer etiology, including radiation, tobacco, alcohol, drugs, occupation and other environmental, biologic and behavioral factors. Special issues of epidemiological research in cancer, such as study design, issues related to abstracting information from medical and other records and retrospective
assessment of exposures will also be emphasized. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.

**PUBH 7443 - Infectious Disease Epidemiology (3)**
This course is designed to introduce students to the basic concepts in infectious disease epidemiology. Topics include history and major concepts of infectious disease epidemiology, investigating new outbreaks, emerging infectious disease and bioterrorism. Measures for controlling infectious disease, such as surveillance, vaccination, and vector control will be taught. Major infectious diseases will be discussed in some detail, including HIV/AIDS, TB, Malaria, and Flu. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.

**PUBH 7444 - PUBH Surveillance Fundamentals (3)**
This course covers topics related to the systematic collection, analysis, and interpretation of health outcomes for use in planning, implementation, reporting, and evaluation of public health. Additional topics include basic concepts and procedures of sample designs, graphical techniques, and statistical methods of population sampling.

**PUBH 7445 - Genetic Epidemiology (3)**
This course will serve as a basic introduction to genetic epidemiology and its application in research. Basic concepts of human genetics will be introduced, and the research methods used to study the genetic basis of disease will be presented. Research methods discussed will include family based studies such as twin studies and affected sib pair linkage analyses, and candidate gene methods such as case-control, cohort and transmission/disequilibrium test. Gene-environment and gene-gene interaction will also be discussed. The course will conclude with a discussion of ethical issues around genetic epidemiology, current research and future directions. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.

**PUBH 7447 - Public Health Genomics (3)**
This course introduces students to the field of public health genomics through providing an overview of the field and evaluating challenges associated with the translation of genomic information into public health practices. The course materials will be presented on selected topics including: historical background of the field, genetic testing and counseling, communication of genomic information to public, using genomic information in disease prevention and health promotion efforts, genomic information in health care practices, ethical issues, genetics and race/health disparities, and implications of genomic information for communities.

**PUBH 7450 - Randomized Clinical Trials (3)**
The purpose of this course is to provide students with a thorough grounding in the conduct of randomized clinical trials (RCTs) including design, management, evaluation, and resource acquisition. Emphasis is placed on RCTs that are relevant to public health research and practice.

**PUBH 7501 - Health Systems Organizations (3)**
This course focuses on issues that contribute to assessing and improving the quality of health systems and services, including: institutional reforms and capacity building, politics and governance, health system financing,
public/private partnerships, and building community capacity. The course will emphasize how problems come to be recognized and defined, their characteristics and magnitude, and plans and programs to alleviate them. Students will be taught to understand health system characteristics, problems, policies and management and to champion solutions to structural and behavioral challenges in the health care system.

**PUBH 7502 - Hlth Policy, Theory & Methods (3)**
This course provides students with historical, theoretical, and analytic foundations to conduct research in health policy. It is assumed that students are familiar with health systems and services and are aware of the major policy issues facing the US health care system today. In addition, students are expected to have basic knowledge of research methods and strategies. This class will apply this existing knowledge to policy research questions. Students are expected to demonstrate this knowledge in class discussions and presentations. PRE-REQUISITE: HADM 7105 OR PERMISSION OF INSTRUCTOR.

**PUBH 7503 - Health Systems Decision-Making (3)**
This course addresses decision-making processes associated with managing risk in healthcare organizations in multiple healthcare settings. Students will examine and evaluate the quality of risk management decisions for program-level decisions as well as for addressing enterprise-wide risks. Students will learn to structure challenging decision problems using critical thinking, to gather information, develop alternatives based upon organizational values, mission, and objectives, and determine the best course of action.

**PUBH 7504 - IT & Organizational Change (3)**
This course will focus on electronic medical records, and the potential for health IT to improve quality; the economics of healthcare IT; theories of diffusion of innovations; theories of the relationship between healthcare IT, and behavior, practice and healthcare organizational changes; the costs and benefits of healthcare IT in costs, benefits and quality improvement; and alternative health policy approaches to hasten IT adoption in health care.

**PUBH 7505 - Aging, Pub Hlth, & Hlth Svs (3)**
The graduate seminar introduces students to population aging and the current U.S. infrastructure designed to provide health services to the aging. It also focuses on federal and state policies that affect the health of older individuals as well as the systems designed to meet their health care needs. The class will follow an interactive seminar format with a combination of traditional lectures, guest speakers, student presentations, student-led discussions, and writing assignments.

**PUBH 7601 - PUBH Preparedness & Response (3)**
This course will introduce the organizational structure of emergency management and the specific role of public health emergency management in preparedness and response. Key topics include the common framework for emergency response, public health law, public health surveillance tools, and health concerns of vulnerable populations.

**PUBH 7603 - PUBH Emergency Response Ldrshp (3)**
This course will identify the range of hazards that public health emergency managers must confront in order to understand the public health consequences and create the plans that guide us through our response. Key topics include leadership and mitigation strategies that can reduce morbidity and mortality resulting from disasters.

**PUBH 7710 - HealthCare Economics (3)**
(cross-listed with ECON 7710-8710) Applies basic economic concepts to analyze health care market and evaluate health policies; including distinctive economic characteristics of health, health care industry, and health care professionals; American system of health care; current health care policy issues such as health care reform, managed care, and manpower planning. PREREQUISITES: ECON 7010 or equivalent, or permission of instructor.

**PUBH 7880 - Leadership Skills for GA (3)**
Overview and practical demonstrations of leadership skills to enhance professional development for graduate assistants. NOTE: PUBH graduate students may not use this course to fulfill degree requirements.
PREREQUISITE: PERMISSION OF ADVISOR.

**PUBH 7985 - Practicum/Field Experience (3-6)**

**PUBH 7992 - Master's Project Seminar (3)**
Capstone course for the MPH program, drawing from all previous learning in the program. Students identify a public health problem, develop a format for intervention, conduct the intervention, and evaluate program success; requires formal report and oral presentation. PREREQUISITES: Completion of core coursework and minimum of 24 credit hours toward the MPH degree. Grades of S, U, or IP will be given.

**PUBH 7996 - Thesis (1-6)**
Grades of S, U, or IP will be given.

**PUBH 8014 - Public Health Communication (3)**
(COMM 7014-8014) Explores the communication processes and practices that can be used to promote positive change in health behaviors, including the rhetorical exigencies inherent in public health care communication, the various formats for disseminating medical information, and the specific audience needs that health care communication must address.

**PUBH 8104 - Large Data Sets/PUBH Research (3)**
This course addresses secondary data analysis of health quality and outcomes issues. Secondary data analysis using large, public data sets will be examined. Issues related to secondary analysis and drawing items from multiple data sets will be discussed. Analytical techniques such as adjustments for missing data, transformations of data, and risk adjustment will be applied using public data sets.

**PUBH 8120 - Environmental Health I (3)**
This doctoral course introduces complex and interlinked environmental issues facing public health professionals; presents concepts, principles, and applications of natural and social science disciplines forming the basis of environmental health; introduces environmental issues relevant to health problems; develops communication skills by discussing public health issues and environmental policies.

**PUBH 8122 - Environmental Health II (3)**
This course focuses on specific cases of environmental hazards and related health problems. It also focuses on the applied aspect of sources of environmental data, methods of environmental data collection, risk assessment and use of such data for policy development and risk management.

**PUBH 8124 - Environmental Toxicology (3)**
This course discusses basic principles governing the behavior and effects of toxic chemicals released into the environment; sources, distribution, and fate of toxic chemicals in the environment; chemicals and cancer and birth defects; government regulation of chemical hazards. Focus is on human health impacts of chemicals found in the workplace and general environment.

**PUBH 8125 - Environmental Health Microbiol (3)**
This course provides introduction to foodborne and waterborne microbial disease including sources and routes of transmission of microbes from the environment to humans; identification of common water and foodborne pathogens and methods for their detection and surveillance; safe preservation and intervention methods to reduce microbial loads in food and water; regulatory aspects of prevention of foodborne disease and how information from surveillance is used to improve public health policy and practice. PRE-REQUISITE: one college level course in both biology and chemistry.

**PUBH 8126 - Prin Exposure/Risk Assessmmt (3)**
Understanding of exposure and risk is a necessary application and of growing importance in environmental health studies. This course is designed to provide concepts, methods, models, statistics and theory necessary for the assessment of exposure to environmental agents and health risk from exposures. Topics to be covered include: the selection of study populations; identification and quantification of exposure pathways; the design of exposure assessment strategies; exposure measurement methods; risk assessment framework, modeling of health effects; and derivation of risk estimates. Specific examples of exposure and risk assessments will be analyzed and critiqued.

**PUBH 8128 - Envrnmnt Policy/DecisionMaking (3)**
The course will present regulatory and non-regulatory approaches to the management of toxic substances in the environment, with emphasis on the scientific/technical basis for toxic substances control. It will examine approaches at the international level, in the European Union, and at the federal and state levels in the U.S. Overviews of each approach will be provided with the majority of the course dedicated to examination of the use of risk-based and public health-based approaches to toxicant control in regulatory as well as non-regulatory contexts. Topics that will be integrated into this examination include risk communication, risk perception, risk-benefit and
cost-benefit analysis, and environmental justice. PRE-REQUISITES: 7124-8124 and 7126-8126

PUBH 8129 - Envrnmntl Sampling & Analysis (3)
This is a graduate level laboratory and lecture course on principles, equipment, instrumentation, methodologies, and strategies for measuring environmental chemical and biological contaminants. We will examine sampling techniques, analytical methods, quality assurance/quality control, and regulatory mandates applied to air, water and soil samples. It is designed for students in the environmental health sciences and other graduate students interested in occupational and ambient-environmental exposure assessments for regulatory compliance and risk estimation.

PUBH 8130 - Social Determinants of Health (3)
This course focuses on the systematic study of the economic and social conditions which determine health. It examines the social gradient in health and explores how social influences such as poverty, social capital, job security, neighborhood characteristics, social support, transportation, discrimination, and stress affect health and longevity. It also explores structural interventions in shaping social environments that are conducive to better health. PRE-REQUISITE: PUBH 7160/8160 OR PERMISSION OF INSTRUCTOR

PUBH 8131 - Social/Behavioral Policy Devel (3)
This course will introduce students to how theories and methods in the social and behavioral sciences are applied to the development and implementation of public policy aimed at health prevention and promotion. Several current primary and secondary prevention issues will be used as exemplars, including tobacco control, physical activity, injury control, and regulation of food supply.

PUBH 8132 - Health Program Evaluation (3)
This graduate seminar provides qualitative and quantitative perspectives on health program evaluation. The course examines various models, theories, methods, and processes in evaluating community and public health programs. It is a practice-oriented course and facilitates students developing applied skills in the field of health program evaluation.

PUBH 8135 - Social Ntwrk Concepts in PUBH (3)
This course introduces students to the concepts of social networks and social relationships and how these factors are associated with health. Students will be provided with an overview of the history of social network research, social network constructs and measurements, and their application in health research and interventions. PRE-REQUISITES: PUBH 7150 AND PUBH 7160, OR PERMISSION OF INSTRUCTOR.

PUBH 8140 - Epidemiology Chronic Disease (3)
This course is designed to provide graduate students with knowledge on major chronic diseases and skill on applying various epidemiologic methods to design and conduct epidemiological studies on chronic diseases. The course covers selected topics in chronic disease with critical analysis of the current epidemiologic literature.
PUBH 8141 - Epidemiologic Survey Method (3)
This course provides students in Public Health with the basic elements in designing and performing survey research. The course describes the initial steps in formulating and focusing the research question and proceeds to the key steps in performing survey research, i.e., identifying the target population, obtaining an appropriate sample, designing the survey instrument and implementing it.

PUBH 8150 - Biostatistical Methods I (3)
Introduces elementary methods for presenting public health data in summary form and analyzing data; not a mathematics course and will not stress derivations of formulae; instead, emphasizes the application of statistical ideas and methods to the design and interpretation of public health studies.

PUBH 8152 - Biostatistical Methods II (3)
This course is the second course in Biometric statistics for public health research. It is intended for advanced students in public health who are interested in gaining expertise in advanced Biometric data analysis. You will be introduced to Biometric statistical modeling techniques commonly used in public health as well as analysis procedures using SPSS and SAS computer software.

PUBH 8153 - Biostat. in Bioinformatics (3)
This course is offered every other year to Master (7000 level) and Doctoral (8000 level) students. This course focuses on statistical methods in application to bioinformatics data and other large data sets with similar features. Students will be introduced to R programming, a commonly used programming language implemented in bioinformatics data analyses. This will be an applied course with focus on learning the methods, applying the methods, and programming in R. Prerequisite: PUBH 7150 (Biostatistical Methods I).

PUBH 8155 - SPSS for Health Research (1)
designed to introduce SPH students to programming and data structure topics they would be expected to know when using SPSS in their coursework or job. Please note that this is not a statistics course so statistical programming or statistical procedures will not be covered. All programming topics will be demonstrated using public health data sets.

PUBH 8156 - SAS for Health Research (1)
designed to introduce SPH students to programming topics they would be expected to know when using SAS in their coursework or job. SAS is a very complex, sophisticated application so we will concentrate on the simple basics. This is strictly an applied course with obvious emphasis on using SAS Information Delivery Software, mainly SAS/base.

PUBH 8160 - Soc/Behav Science Principles (3)
This graduate level course will focus on the contribution of social and behavioral sciences to the understanding of the distribution, etiology, and solution of public health problems. The theoretical underpinnings of the most relevant explanation, planning, change, and evaluation theories will be reviewed in depth and illustrated with examples of the
application of these models to health promotion and disease prevention with individuals, groups and communities.

PUBH 8161 - Adv Psychosocial Thry Hlth (3)
This course provides a multidisciplinary theoretical approach to the study of health and health behavior. Emphasis is on the use of psychosocial theories in health-related practice, policy-making, and research. Other theoretical perspectives, such as the ecological and biopsychosocial models, are addressed in order to integrate these theoretical perspectives.

PUBH 8165 - PUBH Approaches to HIV/AIDS (3)
This course introduces students to critical issues in HIV/AIDS prevention in diverse community settings using an ecological perspective to understand how multiple levels of influence contribute to HIV/AIDS disparities. Social determinants of HIV/AIDS/STI transmission will be addressed. The course will integrate various approaches to eliminating HIV/AIDS disparities including community-based participatory research, faith-based initiatives, and community-based methods.

PUBH 8170 - Epidemiology in PUBH (3)
This doctoral level course provides foundation needed to interpret, use, and research epidemiological data; focuses on methodological aspects of epidemiology as it applies to investigation of public health problems and guidance of public health planning and policies.

PUBH 8172 - Epidemiology PUBH II (3)
This course is designed for epidemiology majors and other students requiring a more thorough knowledge of the concepts and methods used in epidemiological research. This course stresses analytical study designs and etiologic research. Topics include exposure-disease associations, threats to internal validity and their control, and valid interpretation of study results, including concepts of association, causality, and effect modification. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR

PUBH 8174 - Epidemiology PUBH III (3)
This course is designed for doctoral and advanced master's degree students. The course focuses on the nature of causality in biological systems and the methods by which it may be determined. The course also focuses on extracting, organizing and interpreting various evidence to support public health and medical practices. Both observational and experimental study designs are considered. Landmark studies from the epidemiologic literature will be extensively used to illustrate these issues. PRE-REQUISITES: PUBH 7150, PUBH 7170, AND PUBH 7172, OR PERMISSION OF INSTRUCTOR.

PUBH 8175 - Lab Tech in Molecular Epi (3)
7000/8000 level; Lecture/Lab Hours: 3 contact hours (2-5 pm)/week This course covers cross-disciplinary approaches incorporating genomics and proteomics-based molecular laboratory techniques/methods currently used in epidemiology to identify and detect risk factors for diseases and to facilitate intervention. In addition to lectures, the course includes a series of laboratory modules to provide students with hands-on experience in
different laboratory methods used in epidemiologic studies, investigation in microbial infectious diseases, and cancer diagnostics and treatments. Prerequisite: at least one college level course in both biology and chemistry.

**PUBH 8180 - Foundations of Public Health (3)**
Provides foundation for critical analysis of current public health issues, facilitating discussion of contemporary issues and challenges of public health policy and practice; key topics include balancing individual and societal rights; public health ethics; health disparities; cultural competence, socio-ecologic approaches to promote health; public health concerns in urban communities; and current public health practice.

**PUBH 8190 - Adv SAS for PUBH Prof 1 (3)**
This class introduces students to advanced SAS programming statements and techniques using the SAS system software. PREREQUISITES: PUBH 7150 or equivalent; students outside the School of Public Health must obtain permission from the instructor.

**PUBH 8191 - Adv SAS for PUBH Prof II (3)**
This class introduces students to advanced SAS programming language statements and methods specifically for data management and reporting. Students will learn methods and techniques to identify data errors, use methods for data entry, maintain analytical data sets and summarize clinical/medical encounter data. This class is a continuation of PUBH 7190-8190. PREREQUISITES: PUBH 7150 or equivalent; PUBH 7190-8190; students outside the School of Public Health must obtain permission from the instructor.

**PUBH 8202 - Intro to Human Disease (3)**
This course introduced pathophysiology of major human diseases relevant to the public health professional. The course materials will be discussed from public health perspectives that focus on mechanisms and progression of diseases (pathogenesis), pathophysiologic associations with risk factors, structural alterations (morphologic changes) resulting from the disease, the functional consequences of these structural changes (clinical significance), and the applications of this knowledge in disease prevention in public health.

**PUBH 8203 - Built Environment & Pub Health (3)**
This interdisciplinary course, required for graduate students seeking a Master degree of Public Health, focuses on the increasing recognition that the built environment can impact human health. The increasing recognition and understanding the signification of built environment to health will lead to innovative and promising policy interventions to solve public health problems such as obesity and chronic diseases. Key topics include: neighborhood, physical activity, and diet; active transportation; disparity by race/ethnicity and income levels; social determinants; and policy interventions.

**PUBH 8305 - Quant Meth Review Rsch (3)**
(same as PSYC 7305-8305). This course focuses on quantitative strategies for reviewing research findings in the social sciences. These quantitative review techniques (often referred to as 'meta-analysis') can help investigators summarize and resolve conflicts in past research. The course should be particularly useful to graduate students.
who are planning to conduct literature review as part of a research project, master’s thesis, or doctoral dissertation. PRE-REQUISITES: Students enrolled in this course are expected to have completed PSYC 7302/8302 or an equivalent graduate-level statistics course, and to have a basic understanding of the analysis of variance and multiple regression.

**PUBH 8306 - Linear Struct Modeling (3)**
(PSYC 7306-8306). The purpose of this course is to provide students with an introduction to structural equation modeling (SEM). An emphasis will be placed on helping students use/apply SEM methodology to answer research questions in their areas of interest. After completing this course, students should be able to (1) conduct structural equation analyses using SAS, AMOS, and Mplus, (2) communicate results of structural equation analyses in both written and verbal form, (3) evaluate strengths and limitations of studies employing SEM techniques, and (4) provide consultation to colleagues on SEM related issues. PRE-REQUISITES: PUBH 7152 OR EQUIVALENT.

**PUBH 8307 - App Struct Equ Modeling in PH (3)**
This course will provide knowledge about the fundamentals of structural equation modeling, and its practical applications in public health. It will provide details of structural equation modeling, from statistical concepts to how to perform various types of structural equation analyses. Topics will include covariance structures, path diagrams, path analysis, model identification, model testing with emphasis on confirmatory factor analysis and invariance testing. Statistical software recommended for this course are SAS and SPSS AMOS. PREREQUISITE: PUBH 7152-8152

**PUBH 8308 - Appl Multivariate Stat (3)**
(PSYC 7308-8308). Covers multivariate analysis of variance (MANOVA) with independent designs and extensions to repeated measures and ANOVA. Goals include review of conceptual bases, learning SPSS and SAS procedures, learning analysis of simple and complex designs, and learning special post-hoc procedures. PRE-REQUISITES: PUBH 7152/8152 OR EQUIVALENT.

**PUBH 8309 - Appl Surv Analys in Pub Hlth (3)**
This course will cover the statistical concepts and techniques that are useful in the field of public health for the analysis of survival data or time to event data. The course will examine the features unique to survival data which distinguishes these data from other more familiar types of data. Topics include survival functions, hazard rates, types of censoring and truncation. Methods will include life tables, Kaplan-Meier plots, log-rank tests, Cox regression models, and Inference for parametric regression models. Statistical software recommended for this course are SAS and SPSS. PREREQUISITE: PUBH 7150 or instructors permission.

**PUBH 8310 - Mixed Model Regression Analys (3)**
Instruction in the use of mixed-model regression with a focus on design and analysis of group-randomized trials; attention also given to analysis of data from surveys based on cluster sampling, longitudinal studies, and studies involving matching. Same as PSYC 7310-8310.
PUBH 8311 - Appl Categorical Data Analys (3)
Instruction includes tabular, logistic, and Poisson and Cox regression, as well as interpretation of SAS output. For advanced students in psychology, education, and public health pursuing a career in research. Same as PSYC 7311-8311.

PUBH 8333 - Addictive Behaviors (3)
This course provides public health students with an introduction to the historical, clinical, epidemiological, and public policy issues related to addictive behaviors, including alcohol, tobacco, illicit drugs, and gambling. Students will be exposed to a variety of methodological approaches used by social and behavioral scientists to study addictive behaviors, including ethnography, surveys, geographical information systems, and clinical trials.

PUBH 8334 - Comm Based Part Resrch Mthds (3)
This course familiarizes students with key historical underpinnings of community based participatory research (CBPR), principles of CBPR practice, and methodological considerations in building community partnerships; community assessment; issue analysis; research planning; data gathering; and data sharing. The course will also address cultural competence; working with diverse populations; ethical considerations; as well as funding and Institutional Review Board issues.

PUBH 8335 - Struct/Environ Iss/Urban Comm (3)
This course focuses on concepts of risk and burden of disease in urban communities. It examines contemporary issues and challenges of the social, cultural, built, and physical environments of urban communities. Key topics include public health and urban health; roots of health inequality; risk and burden of disease; stress, socio-economic and structural influences on health; and community-based approaches (CBPR) to address public health concerns in urban communities.

PUBH 8336 - Women's Health (3)
This course examines topics in women's health in the United States; the programs, services, and policies that affect women's health; and methodological issues in research about women's health. The epidemiology, measurement and interpretation of these factors, and how these factors can be translated into interventions, programs, and policy, will be of major interest.

PUBH 8337 - Eating Behavior,Nutr, & Family (3)
This graduate course examines family-based influences on feeding behavior and nutrition from a developmental perspective. Topics covered include how parent and family contextual factors affect the development of eating behaviors across infancy, childhood and adolescence; the relation of parenting practices, eating attitudes, and parent characteristics to feeding problems in special populations; and family influences on the development of disordered eating in children and adolescents.

PUBH 8338 - Critical Issues in Global Hlth (3)
This course focuses on critical issues in global health emphasizing the multidisciplinary approach to understanding
global health problems as they occur within and across borders. Concepts include the interplay between global stressors such as population, urbanization, economics, environment, and war; and their effects on the spread of infectious and chronic diseases, nutrition, and environmental health.

**PUBH 8339 - Transl Rsrch Meth Pop Hlth (3)**
This course covers methods to plan, design and evaluate the potential translatability and public health impact of prevention interventions. Methodological issues to be considered include reach, representativeness, adoption, implementation, adaptation, impact, scalability, and sustainability of interventions. Measurement and metrics to assess these elements and evaluate their impact will be included.

**PUBH 8340 - Behavioral Intervention Develp (3)**
This course provides training in the development of theory-based behavioral interventions that are relevant to public health research and practice. Focuses on community and population level strategies and methods.
PREREQUISITE: PUBH 7160-8160 or permission of instructor.

**PUBH 8341 - Physical Activity/Public Hlth (3)**
This course is an overview of physical activity programming and interventions within the public health framework. Students will study issues germane to physical activity and public health; acquire knowledge of current research, best practices, guidelines and recommendations for physical activity; and develop skills integral to the design, implementation, and evaluation of public health programs that are intended to promote physical activity in specific populations.

**PUBH 8342 - Epidemiology Min/Ethnic Pop (3)**
This course provides an evidence-based approach to the study of the epidemiology and health disparities of racial and ethnic groups in the U.S. Emphasis is placed on historical events and immigration policies that have contributed to the prominent size of these populations, identification of data sources to describe this demographic imperative and health status, and on socio-political, cultural, and religious influences that inform public policy on health disparities.

**PUBH 8343 - Tobacco Use:Cause,Conseq,Ctrl (3)**
This course utilizes a multi-level approach to public health by providing a comprehensive overview of the health effects, history, marketing, politics, and control of tobacco use, combining medical, psychsocial, epidemiological and economic perspectives to give students a framework for understanding tobacco addiction and its prevention and treatment.

**PUBH 8345 - Health Literacy (3)**
(Same as COMM 7345-8345) This course will introduce students to the issues of health literacy from a public health perspective. We will explore the impact of health literacy on access to care, vulnerable populations, management of chronic illness, mental health, healthcare costs, and several other areas.
PUBH 8346 - Public Mental Health (3)
This course provides an overview of mental health issues from a public health perspective. Topics include differentiating mental health from mental illness, socio-economic disparities in mental illness, community-based services for the diagnosis, treatment, and prevention of prevalent mental illnesses, and major mental health policy issues in the United States.

PUBH 8347 - Qualitative Mtds Hlth Research (3)
This course provides an overview of qualitative research methods commonly used in health related research, including the basic skills needed for data collection and analysis and an understanding of philosophical and epistemological roots. Students will learn to develop and critique a qualitative research proposal in terms of design, technique, analysis and interpretation.

PUBH 8348 - Hlth Equity,Cult Comp,Soc Just (3)
This course provides a foundation for needs assessment of current public health issues to promote health equity. Key topics include health disparities; cultural competence in community intervention development; cultural approaches to health, illness, and health-seeking behavior; and public health challenges in diverse communities in achieving health equity and promoting social justice.

PUBH 8400 - Special Problems (3)
Independent investigation of a research problem or directed readings, in a selected area of public health chosen in consultation with the instructor. Only six hours of credit may be applied to a degree. May be repeated for a maximum of 6 credits.

PUBH 8442 - Cancer Epidemiology (3)
The course concentrates on distribution and trends of incidence, mortality and survival of major cancer types. It also discusses in depth current theories of cancer etiology, including radiation, tobacco, alcohol, drugs, occupation and other environmental, biologic and behavioral factors. Special issues of epidemiological research in cancer, such as study design, issues related to abstracting information from medical and other records and retrospective assessment of exposures will also be emphasized. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.

PUBH 8443 - Infectious Disease Epidemiology (3)
This course is designed to introduce students to the basic concepts in infectious disease epidemiology. Topics include history and major concepts of infectious disease epidemiology, investigating new outbreaks, emerging infectious disease and bioterrorism. Measures for controlling infectious disease, such as surveillance, vaccination, and vector control will be taught. Major infectious diseases will be discussed in some detail, including HIV/AIDS, TB, Malaria, and Flu. PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.

PUBH 8444 - PUBH Surveillance Fundamentals (3)
This course covers topics related to the systematic collection, analysis, and interpretation of health outcomes for
use in planning, implementation, reporting, and evaluation of public health. Additional topics include basic concepts and procedures of sample designs, graphical techniques, and statistical methods of population sampling.

**PUBH 8445 - Genetic Epidemiology (3)**
This course will serve as a basic introduction to genetic epidemiology and its application in research. Basic concepts of human genetics will be introduced, and the research methods used to study the genetic basis of disease will be presented. Research methods discussed will include family based studies such as twin studies and affected sib pair linkage analyses, and candidate gene methods such as case-control, cohort and transmission/disequilibrium test. Gene-environment and gene-gene interaction will also be discussed. The course will conclude with a discussion of ethical issues around genetic epidemiology, current research and future directions. **PRE-REQUISITES: PUBH 7150 AND PUBH 7170, OR PERMISSION OF INSTRUCTOR.**

**PUBH 8447 - Public Health Genomics (3)**
This course introduces students to the field of public health genomics through providing an overview of the field and evaluating challenges associated with the translation of genomic information into public health practices. The course materials will be presented on selected topics including: historical background of the field, genetic testing and counseling, communication of genomic information to public, using genomic information in disease prevention and health promotion efforts, genomic information in health care practices, ethical issues, genetics and race/health disparities, and implications of genomic information for communities.

**PUBH 8450 - Randomized Clinical Trials (3)**
The purpose of this course is to provide students with a thorough grounding in the conduct of randomized clinical trials (RCTs) including design, management, evaluation, and resource acquisition. Emphasis is placed on RCTs that are relevant to public health research and practice.

**PUBH 8501 - Health Systems Organizations (3)**
This course focuses on issues that contribute to assessing and improving the quality of health systems and services, including: institutional reforms and capacity building, politics and governance, health system financing, public/private partnerships, and building community capacity. The course will emphasize how problems come to be recognized and defined, their characteristics and magnitude, and plans and programs to alleviate them. Students will be taught to understand health system characteristics, problems, policies and management and to champion solutions to structural and behavioral challenges in the health care system.

**PUBH 8502 - Hlth Policy, Theory & Methods (3)**
This course provides students with historical, theoretical, and analytic foundations to conduct research in health policy. It is assumed that students are familiar with health systems and services and are aware of the major policy issues facing the US health care system today. In addition, students are expected to have basic knowledge of research methods and strategies. This class will apply this existing knowledge to policy research questions. Students are expected to demonstrate this knowledge in class discussions and presentations. **PRE-REQUISITE: HADM 7105 OR PERMISSION OF INSTRUCTOR.**

PUBH 8503 - Health Systems Decision-Making (3)
This course addresses decision-making processes associated with managing risk in healthcare organizations in multiple healthcare settings. Students will examine and evaluate the quality of risk management decisions for program-level decisions as well as for addressing enterprise-wide risks. Students will learn to structure challenging decision problems using critical thinking, to gather information, develop alternatives based upon organizational values, mission, and objectives, and determine the best course of action.

PUBH 8504 - IT & Organizational Change (3)
This course will focus on electronic medical records, and the potential for health IT to improve quality; the economics of healthcare IT; theories of diffusion of innovations; theories of the relationship between healthcare IT, and behavior, practice and healthcare organizational changes; the costs and benefits of healthcare IT in costs, benefits and quality improvement; and alternative health policy approaches to hasten IT adoption in health care.

PUBH 8601 - PUBH Preparedness & Response (3)
This course will introduce the organizational structure of emergency management and the specific role of public health emergency management in preparedness and response. Key topics include the common framework for emergency response, public health law, public health surveillance tools, and health concerns of vulnerable populations.

PUBH 8603 - PUBH Emergency Response Ldrshp (3)
This course will identify the range of hazards that public health emergency managers must confront in order to understand the public health consequences and create the plans that guide us through our response. Key topics include leadership and mitigation strategies that can reduce morbidity and mortality resulting from disasters.

PUBH 8710 - HealthCare Economics (3)
(cross-listed with ECON 7710-8710) Applies basic economic concepts to analyze health care market and evaluate health policies; including distinctive economic characteristics of health, health care industry, and health care professionals; American system of health care; current health care policy issues such as health care reform, managed care, and manpower planning. PREREQUISITES: ECON 7010 or equivalent, or permission of instructor.

PUBH 8800 - Guided Research in PUBH (1-6)
Students will conduct public health-related research under the mentorship of a faculty member.

PUBH 8900 - Adv Concepts in PUBH I (3)
One of two core PhD seminars for all entering students to the doctoral programs in the School of Public Health, this seminar is intended to provide the ?big picture? context in which public health and other health sciences research is conducted. The seminar focuses on four broad areas: (1) the philosophy of science, history of science, scientific revolutions and paradigms, and the scientific method; (2) the important role that theory plays in setting a research agenda and conducting research generally?and being engaged in public health research in particular; (3)
the interdisciplinary nature of public health research and practice; and (4) scientific inquiry as a life’s work reflecting on several individual’s personal perspectives.

**PUBH 8901 - Adv Concepts in PUBH II (3)**
This is one of two required seminar courses for all doctoral students in the School of Public Health. The seminar will address a variety of professional and personal issues that are vital to success as a doctoral student and public health professional. Topics include developing positive mentor/mentee relationships, time management, manuscript and grant writing, reviewing other’s scientific work, delivering poster and oral presentations, teaching skills, preparing curriculum vitae, networking and job negotiation/survival skills. PRE-REQUISITE: Enrollment as a doctoral student in the School of Public Health.

**PUBH 9000 - Dissertation (1-9)**
Independent research for Doctor of Philosophy degree. Only 9 hours may be counted toward degree requirements. Students must be enrolled in this course during the semester in which the student expects to graduate. Grades of S, U, or IP will be given.
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
In addition to the courses below, the department may offer the following Special Topics courses:
UNIV 7003-05. Special Topics. (3). Selected topics course based on current as well as emerging issues and/or trends of topical interest.

UNIV 7000 - Fndtns Liberal Studies (3)
Analytical introduction to graduate liberal studies and its theoretical framework; readings in and concerning the humanities, social sciences, and natural sciences. PREREQUISITE: Approval of MALS program coordinator. Must be taken during the first semester in the MALS program.

UNIV 7002 - Seminar in University Studies (3)
Analysis of contemporary issues and trends in various topics. Course may be repeated for a maximum of 6 credits.

UNIV 7100 - Rsrch/Intrdiscipl Study (3)
Methods of inquiry and research appropriate to interdisciplinary studies. PREREQUISITE: Approval of MALS major advisor and MALS program coordinator.

UNIV 7110 - Internship (1-6)
Experiential learning allowing students the opportunity to supplement academic instruction and demonstrate application as well as development of knowledge and skills in a practical setting related to student's educational objectives. PREREQUISITE: Approval of Internship Contract (S/U).

UNIV 7111 - Data-Based Decision-making (3)
This course will examine how you interpret research data and turn it into useful or meaningful information. Students will study the use of business intelligence to prepare and present useful information in supporting conclusions and decision-making.

UNIV 7115 - Experiential Learning Credit (1-9)
A systematic process for evaluating and credentialing graduate-level learning gained in a variety of contexts. Students will provide documentation of graduate-level knowledge and skills garnered in non-traditional settings to expert faculty reviewers.

UNIV 7200 - Liberal Studies Sem (3)
Interdisciplinary examination of major issue, historical period, theme. Subject matter will change from semester to semester. PREREQUISITE: Admission to MALS program or permission of instructor and MALS program coordinator.

UNIV 7205 - Guerrilla Warfare & Terrorism (3)
An examination of the history of, and complex relationship between, guerrilla warfare and terrorism emphasizing their impact on American society in the 21st century.
UNIV 7210 - Rise and Fall of Empires (3)
May serve as a course substitute for UNIV 7200 Liberal Studies Seminar.

UNIV 7300 - Prof Issues & Ethics (3)
Classical approaches to ethics presented with their application to decision points confronted in various professions, as well as analysis of issues of diversity and moral responsibility in professional practice.

UNIV 7350 - Globalization & Professions (3)
Examines relationship between globalization and the professions.

UNIV 7796 - Independent Study (1-3)
Research into interdisciplinary area of study supportive of individualized MALS program. May be repeated once. PREREQUISITE: Approval of MALS out-of-class learning contract by instructor of record, student's major advisor, and MALS program coordinator. Grades of A-F, or IP will be given.

UNIV 7997 - Special Project (3)
Supervised research based upon knowledge and skills learned in MALS program. Creative or performance component acceptable. PREREQUISITE: Successful completion of UNIV 7100; approval of MALS special project contract by major advisor and MALS program coordinator. Grades of A-F, or IP will be given.

UNIV 7998 - Professional Project (3)
Supervised research that serves as the integrative culmination for the Master of Professional Studies student. PREREQUISITE: Approval of Professional Project contract by faculty advisor and the MPS program coordinator. Grades of A-F, or IP will be given.

PROFESSIONAL STUDIES (PRST)

Prerequisites: Admission to the MPS Program or Departmental approval unless otherwise noted.

PRST 7040 - Human Resources Mgmt (3)
This course emphasizes the development of skills for dealing with selected aspects of human resource management. It aims to enhance the students' ability to apply theoretical concepts and alternative approaches for dealing with common issues concerning the human side of the enterprise. The course is geared to serve the needs of line and staff administrators in supervisory positions.
PRST 7100 - Prof Environ/Issue/Ethic (3)
Classical approaches to ethics presented with their application to decision points confronted in various professions, as well as analysis of issues of diversity and moral responsibility in professional practice.

PRST 7105 - Project Planning & Scheduling (3)
Contemporary methods used in project planning and scheduling; emphasis on critical path method (CPM) with computer application; solution of actual problems stressed. Prerequisites: Admission to the MPS Program or Departmental approval.

PRST 7200 - Globalization/Professions (3)
Analysis of globalization and its effects on the workplace, including the interactions of advancing communications technology, multi-national corporations, and global societies.

PRST 7300 - Research Methods (3)
The study and application of research methods appropriate to professional studies.

PRST 7310 - Leadership/Organization (3)
Organizational leadership is a course designed to inform the individual about the structure and behavior of actors at all levels of the organization.

PRST 7400 - Instr Dsgn Train/Develpmnt (3)
Organizational leadership is a course designed to inform the individual about the structure and behavior of actors at all levels of the organization.

PRST 7410 - Evaluation of Learning (3)
Evaluation of Learning, covers the concepts and skills used in evaluation models, theories, and best practices. Prerequisites: PRST 7600 or PRST 7770 and PRST 7400.

PRST 7420 - Org Needs Assessment (3)
The purpose of this course is to provide an overview of the processes and techniques used to conduct an organizational analysis and then identify training needs in private and public organizations.

PRST 7430 - Adv Instr Dsgn/Train&Devel (3)
This course builds on basic instructional design theory and enhances it with considerations necessary to build and deliver instructionally sound training materials across multiple media, focusing on electronic media delivery systems. This course will include an in-depth look at media selection strategies, interface design considerations, and instructional strategies for developing online training.

PRST 7440 - Engage the Adult Online Learner (3)
This course specifically addresses web-based learning environments with a particular focus on student
engagement and interaction. Developing alternative means of training employees has become of greater interest to employers recently, and e-training can give employers a mechanism for cutting costs, an alternative method for delivering training at any time and any place, a means for remediation of employee training, and an opportunity for employees to develop learning communities. Prerequisite: PRST 7430.

**PRST 7450 - Computer-Based Instruction (3)**
Students will study leadership from a historical and contemporary perspective. They will identify, apply, and reflect on aspects of leadership development, including concepts of personal change toward effective leadership in a changing environment. Topics cover historical development of leadership theories, personal assessment and development, values and ethics, motivation, power, followership, group dynamics, diversity in leadership, controversy with civility, change process, and citizenship.

**PRST 7470 - Facilitation of Learning (3)**
Prepares trainers to design and facilitate programs that work effectively and efficiently with adult learners; provides necessary theory and experience to ensure competent facilitation of learning; students plan and conduct training sessions and receive feedback.

**PRST 7500 - Foundation/Leadership (3)**
Students will study leadership from a historical and contemporary perspective. They will identify, apply, and reflect on aspects of leadership development, including concepts of personal change toward effective leadership in a changing environment. Topics cover historical development of leadership theories, personal assessment and development, values and ethics, motivation, power, followership, group dynamics, diversity in leadership, controversy with civility, change process, and citizenship.

**PRST 7600 - Statistical Analysis (3)**
The purpose of this course is to provide students with an introductory survey of the many applications of descriptive and inferential statistics.

**PRST 7700 - Conflict Mgmt/Negotiatn (3)**
Negotiation and Conflict Management presents negotiation theory – strategies and styles – within an employment context.

**PRST 7770 - Comp Based Decsn Model (3)**
Modeling and analyzing managerial problems on spreadsheets. Working knowledge of Excel will be assumed so that we can focus on the modeling aspects. The spreadsheet modeling experience in this course will enhance not only analytical problem solving capabilities but also spreadsheet skills of even an experienced Excel user. Prerequisite: PRST 7300.

**PRST 7800 - Organizational Change Skills (3)**
This course examines concepts and techniques of organization development (OD) and the leadership skills
required for organizational change. Based on behavioral science knowledge and methods, OD interventions facilitate planned organizational change and renewal.

**PRST 7910 - Employment & HR Law (3)**
This course provides an overview of legal issues affecting the administration of employment issues, human resource management and leadership. The course focuses on policies and laws that impact human resource decisions in organizations. Prerequisite PRST 7040.

**PRST 7920 - Diversity in the Workplace (3)**
Examines processes and techniques to conduct an organizational analysis and identify training needs in an organizational environment, with emphasis on how language, gender, race, tradition, education, economic structure, and organizational philosophy interact.

**PRST 7930 - Compensation and Benefits (3)**
The focus of this course is on management tools designed to ensure that the right people get the right pay for achieving organizational objectives in the right way. Prerequisite: PRST 7040.

**PRST 7940 - Recruitment, Selection, Retention (3)**
In addition to staff planning, students in this course will learn, step by step, the employee selection process, from pre-recruitment through hiring. Specific strategies for attracting potential employees, interview preparation and interview techniques, and reference checking will be examined. Additionally students will examine the usefulness of various methods used in job analysis, testing and measurements, internal and external market analysis, and retention plans. Prerequisite: PRST 7040.

**PRST 7998 - Professional Project (3)**
Supervised research that serves as the integrative culmination for the Master of Professional Studies student. PREREQUISITE: Approval of Professional Project contract by faculty advisor and the MPS program coordinator. Grades of A-F, or IP will be given.

**ELPA 7560 - Small Group Leadership (3)**
This course examines how group behavior affects organizational effectiveness, decision making, conflict resolution, and strategies for efficient group and task management.

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**Graduate Catalog**
Learn more about our degree programs.
Graduate School

2015-2016 Academic Calendar

Full sitemap
The University of Memphis does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs and activities sponsored by the University of Memphis. The following person has been designated to handle inquiries regarding non-discrimination policies: Latosha Dexter, Interim Director for Institutional Equity. For more information see University of Memphis Equal Opportunity and Affirmative Action.
Minimum Requirements for Doctoral Degrees

Doctoral degrees require at least 72 credit hours beyond the bachelor's degree; however, many programs require...
additional hours. Specific requirements for the doctoral degree vary with the academic department; see the appropriate section in this Bulletin. The student's program must be approved by the major academic department. A student may be required to take courses beyond the minimum to ensure balance and depth in the discipline.

No more than 15 post-baccalaureate hours of 6000 level courses may be applied to a doctoral degree. The last 30 hours of credit must be earned at the University of Memphis. Of the final 30 hours, no more than the maximum allowed by the program may be dissertation hours. A minimum of 6 hours of dissertation credit is required.

The maximum amount of combined hours of transfer credit, credit-by-examination, course validation and experiential learning that can be used to fulfill degree requirements is no more than two-thirds the number of hours required for the degree. The Graduate School sets minimum standards to which all the diverse graduate programs across the university must adhere. Individual colleges, schools, and graduate programs are encouraged to set more stringent requirements as necessary to meet their accreditation and student needs.

**ADDITIONAL PROGRAM REQUIREMENTS**

Each graduate program listed in this catalog has minimum degree requirements. In consultation with the faculty, the coordinator of each graduate program may specify any additional requirements, such as prerequisites, a reading knowledge of a foreign language, a working knowledge of statistics, or specific courses related to graduate or teaching assistantships.

**FOREIGN LANGUAGE PROFICIENCY**

A reading knowledge of at least one foreign language is required in several graduate programs. This requirement may be met in one of the following ways:

- achieving a grade of B ("3.0") or better in a fourth-semester language course (e.g. FREN/GERM/ITAL/SPAN 2020),
- achieving a grade of B ("3.0") or better in a graduate reading course (FREN 7000 and GERM 7000 are the only two courses available for this option. They are usually offered in the summer)
- achieving a grade of B ("3.0") or better in upper-division courses at the 3000- or 4000-levels (e.g. FREN 3302/GERM 3790/ITAL 3311/PORT 3301/SPAN3303),
- achieving a grade of B ("3.0") or better in graduate courses taught in the target language at the 6000- or 7000 levels (e.g. FREN 6302/PORT 6024/SPAN 6307),
- students who provide evidence of knowledge of a foreign language other than that of the concentration equivalent to a fourth-semester language course or superior may arrange with the section head of the specific language for a written test to prove competency.

**TIME LIMITATION**
Doctoral degrees must be earned within 12 consecutive years. All course work must be completed within 10 years of the student's original admission to a doctoral program. The student may take a further two years of dissertation credit. However, some academic departments may have more stringent time limitations. There are no exceptions to program time limitations. However, students may request the option of validating old courses taken at The University of Memphis as described in the "Academic Regulations" section of this Bulletin.

Grades earned in courses at The University of Memphis older than program time limits will be shown on the transcript and calculated in the cumulative GPA, but will not be accepted for graduation purposes.

RESIDENCY REQUIREMENT

Students must commit to full-time study for a minimum of two successive semesters after admission to the degree program to fulfill the residency requirement. Some academic departments do not count the summer term towards residency. The College of Education, Health and Human Sciences has an alternative residency program; refer to the appropriate section of this catalog or contact the College for additional information.

ADVISORY COMMITTEE

After admission to the doctoral program, the student will be assigned a major advisor, who must be a full member of the Graduate Faculty, to chair the student's Advisory Committee. This committee will work closely with the student to formulate an approved program of study. The program head, following consultation with the student and major advisor, will approve the appointment of a minimum of three members to the Advisory Committee. Only one adjunct or affiliate graduate faculty member may serve as a voting member on an advisory committee. These appointments will be forwarded to the Dean of the Graduate School. The advisory committee is not necessarily, but may be, the same as the dissertation committee (see below).

QUALIFYING EXAMINATION

Individuals seeking a doctoral degree may be required to take a qualifying examination administered by the academic department in which the student wishes to major. The examination may cover specialized and general knowledge of the major area as well as writing skill. The results of the qualifying exam should be used, in part, to plan the academic program. To be eligible to take this qualifying examination, the student must be fully admitted to the Graduate School. Academic departments may hold additional requirements.

COMPREHENSIVE EXAMINATION

When a student in good standing has completed all basic required coursework for the doctoral degree or is enrolled in the last semester of coursework (exclusive of dissertation hours), he/she must pass a comprehensive examination. This examination must contain both written and oral components, covering the major and collateral
fields of study. Performance must be acceptable to the Advisory Committee (not more than one dissenting vote is allowed). The result of the exam (positive or negative) must be communicated to the Graduate School on the Comprehensive Results Form within the same semester the exam was taken or by the specified deadline in the Graduate Catalog. Protocols and procedures for administration of comprehensive examinations can be obtained at the departmental level.

The comprehensive examination is not a course; therefore the results of the examination can not be appealed, nor can they be changed after the form has been filed with the Graduate School. Students may take the examination a second time, however. A second failure results in termination, which can be appealed. The retention appeals process is formalized and must be followed in all cases. See the section on Retention Appeals.

A student may register for dissertation hours only after passing the comprehensive examination, submitting the results to the Graduate School, and submitting an approved "Doctoral Degree Candidacy" form to the Graduate School.

**DISSERTATION COMMITTEE**

The student will select a dissertation committee (minimum of four members) made up of graduate faculty approved by the head of the academic unit and/or the college director. The chair of the dissertation committee must hold full graduate faculty status. It is strongly recommended that one member be outside the discipline. Only one affiliate or adjunct graduate faculty member may serve as a voting member of a dissertation committee. If the dissertation committee differs from the advisory committee, a new committee form must be filed with the Graduate School.

**ADMISSION TO CANDIDACY**

Before an applicant will be officially admitted to candidacy for a doctoral degree and allowed to register for dissertation hours, the student must have satisfied the following requirements:

1. The student must submit a graduation application ("Apply to Graduate") in the term the dissertation will be completed and submitted to Graduate School for final approval. This application is available in the student's MyMemphis account under the MyDegree tab. A student must have at least a 3.00 grade point average in all graduate work before applying to graduate.
2. The student must also submit a Doctoral Degree Candidacy Form, if one has not previously been submitted.
3. An approved Thesis/Dissertation Proposal Form must be filed with the Graduate School. Any necessary human or animal subjects approvals must be included before any research is undertaken. See the section on "Regulatory Issues."
4. The student must have a cumulative GPA of 3.0 on all graduate work undertaken at The University of Memphis whether or not the courses are listed on the candidacy form. Grades of "D" or "F" are not accepted for any graduate degree credit but these grades will be computed in the GPA. No more than (7 hours of "C+", "C," or "C-" will be counted toward degree requirements.
5. No more than 15 hours of 6000-level courses may be applied to a doctoral degree. Individual departments may have more restrictive requirements.

6. Grades earned on courses taken during the student’s final semester may not be used to correct GPA deficiencies. All coursework offered for the doctoral degree must have been completed within 10 years.

7. If a student wishes to substitute a course for a required course, the substitution must be approved by the student’s advisor or the graduate program coordinator on the Course Substitution Form. The form must accompany the candidacy form.

**Dissertation**

An acceptable dissertation is a requirement for all doctoral degrees. The dissertation must represent a significant scholarly effort that culminates in an original contribution to the field of inquiry. It should reflect the candidate’s ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research. The dissertation must meet the specific regulations of the academic department in which the student is majoring and the Graduate School. Consult the academic department for the acceptable format. Students should also familiarize themselves with the Thesis/Dissertation Preparation Guide before starting to write.

The dissertation proposal (or prospectus) is developed under the guidance of the dissertation committee. All members of the dissertation committee must approve the proposal (prospectus) and the approved form must be filed with the Graduate School.

If human or animal subjects are involved, the appropriate approval forms must accompany the approved Thesis/Dissertation Proposal form. Approval from the institutional review board must be secured before undertaking any research. See the section on "Regulatory Issues."

The final draft of the dissertation must be approved by all members of the dissertation committee. After the successful defense, a copy of the defended and corrected dissertation must be submitted to the Graduate School along with the committee approval form. After the Graduate School has reviewed the final draft, the student must make all additional corrections. At such time, the student will convert the final corrected document into a PDF version and then upload to the Electronic Thesis/Dissertation (ETD) archival system. See the Graduate School Thesis/Dissertation Preparation Guide for instructions on how to upload the final document.

After the dissertation has been approved by the ETD manager, the student should submit the final approved PDF version to the Graduate School on a CD, along with an extra title page, an extra unnumbered abstract of not more than 350 words, the ProQuest Microfilming Agreement form (provided to student when defended copy has been reviewed) and confirmation that the Survey of Earned Doctorates has been completed. The abstract will be published by ProQuest. Fees to cover the cost of microfilming and publishing are specified in Section 6, under "Miscellaneous Fees," and are to be paid by the student.

Students who unsuccessfully defend their dissertation will be assigned a "U" (unsatisfactory) grade. The Graduate School will then send a letter of termination from the program.
CONTINUOUS ENROLLMENT

Doctoral candidates must register for dissertation credit each academic semester (fall and spring) until the dissertation is completed. Students must enroll in the summer semester if they plan to complete and defend their dissertation then. See individual academic units for specific requirements. Failure to so register will result in the student being charged tuition for each semester he or she did not enroll.

The only exception to this policy is if the student's major professor is on leave or otherwise unavailable. In such cases the approval of the appropriate college director and the Vice Provost for Graduate Programs is required. In case of serious medical circumstances, students may request a leave of absence, subject to the approval of the program graduate coordinator, the college director of graduate studies, and the Dean of the Graduate School. Retroactive approval will not be granted. A leave of absence does not extend time limit to the degree.

DEFENSE OF DISSERTATION

After the completion of the dissertation and all other prescribed work for the degree, candidates will be given a final oral examination dealing with the dissertation and its relation to the candidate's major field of study. The student's dissertation advisory committee will conduct this exam. All members must be present at the examination. If the student's performance on this examination is satisfactory as judged unanimously by the committee, all requirements for the degree will have been completed. Students must be enrolled in the semester during which they defend the dissertation. Students who unsuccessfully defend their dissertation will be assigned a "U" (unsatisfactory). The Graduate School will then send a letter of termination from the program.

DISSERTATION CREDIT

Credit will be posted upon the completion and acceptance of the dissertation. A minimum of 6 hours of dissertation credit is required. No more than the maximum number of semester hours for dissertation accepted by the academic department will be counted towards the degree, even though the student may have registered for additional hours in order to maintain continuous enrollment.

GRADUATION

To be certified for graduation, the student's entire program, including the dissertation, must be acceptable to the dissertation committee, department chair and/or director of graduate studies in the student's college, and the Dean of the Graduate School. The following paper work, in addition to Comprehensive Examination Results and Admission to Candidacy forms (filed before enrolling for dissertation hours), must be filed in the Graduate School by the stated deadline:
1. Students must "Apply to Graduate" by the deadline published in the Graduate Catalog, posted on academic unit bulletin boards, and available on-line for the term the dissertation will be complete. No exceptions will be made if a student does not complete an application to graduate by the stated deadlines.

2. The Dissertation Defense Results form, as soon as the defense has concluded.

Please notify the Graduate School Graduation Analyst, Michelle Stout, of any changes in name or address. Students who are graduating will receive notification from the Commencement Office explaining graduation ceremony requirements periodically throughout each semester.

SECOND DOCTORAL DEGREE

Students who hold or are pursuing a doctoral degree from the University of Memphis may pursue a second doctoral degree with a different major or degree if the academic unit accepts them. Students pursuing two doctoral degrees must seek prior approval from each major professor and doctoral committee before being considered a doctoral candidate.

No more than 12 semester hours from one doctoral degree may be applied toward the other degree. The second academic unit will determine whether any credit from the former degree will be accepted toward the second degree. Any credit accepted toward the second degree must have been earned within the regular time limit requirements for the doctoral degree. Students must pass separate comprehensive examinations and successfully defend separate dissertations. Two degrees may be pursued simultaneously or sequentially.