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THE UNIVERSITY OF
MEMPHIS

Graduate School

The

2008-2009
Graduate Catalog

SHIRLEY C. RAINES, EdD, President

THOMAS G. CARPENTER, PhD, President Emeritus

The Ninety-sixth Session Will Open August 23, 2008

For students whose initial enrollment occurs Fall 2008-Summer 2009, this Catalog is valid through Summer 2018.

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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Comments and corrections? Contact Nancy Hurley, the [catalog webmaster](#).

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The Graduate School

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Vice Provost for Graduate Studies
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The University of Memphis is a Doctoral Extensive Research 1 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, chemistry, communication arts, computer science, counseling psychology, earth sciences, educational psychology and research, engineering, English, history, mathematical sciences, music, philosophy, and psychology. The degrees of Doctor of Audiology, Doctor of Education, and Doctor of Musical Arts are awarded by the School of Audiology and Speech-Language Pathology, the College of Education, and the College of Communication and Fine Arts, respectively. The College of Education 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-three major areas through six colleges and two schools. The degrees include Master of Science, Master of Arts, Master of Architecture, Master of Fine Arts, 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 Music, Master of Health Administration, Master of Professional Studies, Master of Public Health, Master of Public Administration, and Master of Science in Nursing.

Graduate certificates are offered in African American Literature, College Teaching, Community College Teaching and Leadership, Geographic Information Systems, Information Assurance, Instructional Computing Applications, Local Government Management, Museum Studies, Teaching English as a Second Language, and Women's Studies. The Loewenberg School of Nursing awards the post-master's Family Nurse Practitioner certificate.

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.

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 Audiology and Speech-Language Pathology, 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, 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 nation's 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, Federal Express/St. Jude Memphis Golf Classic, Carnival Memphis, and Mid-South Fair. 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. A public transportation system connects the University and many other parts of the city.

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.

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ACADEMIC SERVICES

Academic Personnel Services

The Office of Academic Personnel Services conducts The University of Memphis' program for student evaluation of instruction. The Student Instructional Rating Systems (SIRS) uses a comprehensive approach for collecting, analyzing, and reporting student reactions to certain aspects of classroom instruction. All teaching faculty are required to participate in the student evaluation program. SIRS are not to be administered during the week of final exams. Faculty receive the completed forms and a computer generated summary at the beginning of the following semester. These documents, which are an important part of the dossier prepared for tenure and promotion, also provide useful information to individual faculty members for course development and/or improvement of instruction.

Minority Affairs

The Office of Minority Affairs houses such registered student organizations as the Black Student Association, Black Scholars Unlimited, the Hispanic Student Association, NAACP, and the Minority Association of Pre-Health Students. The office provides a venue where student groups as well as individuals can go to study, use office equipment, and interact with their peers and the office staff. In addition, the office deals with academic, social, and personal concerns that the students may need to address.

The Office of Minority Affairs also serves as a resource for students, providing information on scholarships, internships, employment opportunities, and community resources available to them. The office also works in conjunction with various other campus departments as well as community agencies to provide students with services that may assist them in academic and professional endeavors.

For more information, call 678-2054 or visit the office in the University Center, room 419.

Psychological Services Center

The Psychological Services Center offers psychotherapy and psychological evaluation services to children and adults. The clinic is open to the general public, as well as the University community. Fees are reduced for university students, staff, and faculty. The Center is located in room 126 of the Psychology Building. For appointments or information, contact the Center at 678-2147.

Student Disability Services

The Student Disability Services Office provides, arranges, and coordinates academic accommodations and support services to qualified students with disabilities to enable them to fully access the educational opportunities at The University of Memphis. To establish eligibility for disability accommodations and services, students are required to register with the Student Disability Services Office and provide current medical or psycho-educational documentation of the disability from a professional who is appropriately qualified to diagnose the particular disability. Disability information is strictly confidential, is not released without written consent, and does not appear on transcripts or any permanent record of the University.

Students must follow established university procedures for obtaining accommodations and services. Specific accommodations and services are determined on an individual basis and are based on documented functional limitations resulting from the disability. Services available include orientation to disability services, assessment of disability related needs, academic accommodation plans each semester, test accommodations, books on tape, note-takers, readers, scribes, interpreters, Braille, enlarged print, loan of adaptive aids and special equipment, adaptive computer lab, guidance and counseling, adapted campus

housing, accessible parking, and limited campus shuttle service.

Since some services require advance notice, applicants are requested to provide sufficient notice to Student Disability Services of anticipated needs and expected date of enrollment. For more detailed information, please contact the Director of Student Disability Services at 678-2880.

Mid-South ACT (Access Center for Technology)

Mid-South ACT provides services for individuals of all ages with disabilities in the areas of assistive technology and augmentative alternative communication in West Tennessee, East Arkansas, and North Mississippi. These technologies allow all individuals with special needs access to the world. The Center provides services and information to teachers, students, consumers, and caregivers regarding assistive technology. This is a hands-on center set up for the purposes of hardware and software preview and assistive technology evaluation.

Academic Common Market

Participation in the Academic Common Market allows qualified students from southern states to pay in-state tuition while pursuing certain degree programs at The University of Memphis. This arrangement is available only for students whose home states do not offer the designated program. The state in which the student resides determines which of the programs offered by The University of Memphis it will make available to its students.

The Academic Common Market is sponsored by the Southern Regional Education Board (SREB). Participating states are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia (Florida and Texas grant access for graduate level programs only). Current SREB common market guidelines and requirements may be found on the web at www.sreb.org/programs/acm/acmindex.asp.

Students may request through their home state coordinators that additional programs be made accessible. A list of the state coordinators with their addresses and telephone numbers may be obtained from the Office of Curriculum Planning or from the Academic Common Market web site at www.sreb.org/programs/acm/acmindex.asp.

In addition to certification requirements that the student's state of residence may specify, the following pertain: (1) students must be fully admitted to a degree program that has been approved as an Academic Common Market program (non-degree students are ineligible); (2) students must obtain a letter certifying residency, term of entry, and approval for the particular University of Memphis program from their state's Academic Common Market coordinator.

NOTE: After enrollment, students remain eligible for in-state tuition only so long as they are continuously enrolled consecutive fall and spring terms in the same major for which they were originally certified. If students change major, they must process a Change of Major through their advisor and notify the Office of Admissions to change the Academic Common Market residency code on their records. **Failure to process the Change of Major and to notify the Office of Admissions may subject the student to out-of-state fees for all subsequent terms of enrollment in classes for a major other than the one for which the student received ACM certification.** Missing a fall or spring term of enrollment or a change of major requires that the student be recertified through the ACM coordinator in the student's state of residence.

International Students Office in the Center for International Programs and Services

The Center for International Programs and Services (CIPS) advises international students, faculty, staff, visiting scholars, and researchers regarding federal regulations from the Department of Homeland Security, Immigration and Customs Enforcement; health insurance matters; and employment issues. In addition, the Center prepares federal documents necessary for internationals in certain visa categories, as well as meeting the SEVIS requirements set by the U.S. Department of Homeland Security.

The Center produces the federally mandated orientation for F-1 and J-1 visa holders new to campus. CIPS also frequently provides this information for in-country dependent family members of students, faculty, and researchers on campus, as well as to international applicants to the University and area colleges and University staff.

The Center for International Programs and Services advises the International Students Association and several other international student clubs. Annual events include International Night, International Education Week, Diwali, and India Fest among various other cultural events.

Currently, CIPS consists of James H. Carson, Immigration Specialist; Rebecca Laumann, Exchange Advisor; Clar Nunis, International Students Advisor; Susan Cohn, Gail Warren, and Brenda Cowans. For more information, please visit Brister 102, call 678-4271, or visit the website at: <http://cipsweb.memphis.edu>.

Oak Ridge Associated Universities

Since 1971, students and faculty of the University of Memphis have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 91 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found at www.ornl.gov/orise/educ.htm or by calling either of the contacts below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs, as well as services to chief research officers.

For more information about ORAU and its programs, contact Dr. Andrew W. Meyers, Vice Provost for Research, ORAU Councilor for The University of Memphis, at 901-678-2590; Monnie E. Champion, ORAU Corporate Secretary, at 865-576-3306; or the ORAU Home Page at www.ornl.gov.

Extended Programs

Extended Programs provides credit and non-credit educational opportunities, both on and off-campus, and through innovative educational methods, such as video-assisted courses and online courses. Extended Programs also provides support for Tennessee Public Service activities.

THE OFFICE OF PUBLIC SERVICES is a prime contact for individuals and organizations outside the University. Through this office, access may be gained to University facilities and resources.

PROFESSIONAL AND CONTRACT TRAINING features Custom Corporate Training, Online Sales & Marketing Certification, Business & Career Development, The Global Marketplace, Human Resources Training, Corporate Technology, Small Business Development, Foreign Languages, On-Line Courses, Real Estate & Real Estate Appraisal, National Safety Council Defensive Driving Course, [Regents Online Continuing Education](#), and MidSouth Training Program.

JACKSON CENTER, located on the campus of Jackson State Community College, offers a wide variety of graduate and undergraduate courses and degree programs to students living in the Jackson area. In addition, the Jackson Center houses the Office of Extended Programs, which coordinates course and program delivery at various locations in West Tennessee.

THE KEEP TENNESSEE BEAUTIFUL program, established in 1983, serves as the state Keep America Beautiful agency and state resource center for litter prevention and proper solid waste management education. Keep Tennessee Beautiful is funded by Tennessee Department of Transportation.

For more information, please contact Extended Programs at 901-678-2991 or visit their website at: www.extended.memphis.edu.

Cecil C. Humphreys School of Law

The Cecil C. Humphreys School of Law offers a program of instruction leading to the degree of Juris Doctor.

Admission to the Cecil C. Humphreys School of Law is on a selective basis. To be eligible for admission, a student must have received a bachelor's degree from an accredited college or university and must have made a satisfactory score on the Law School Admission Test. Questions concerning additional admissions requirements should be addressed to the Assistant Dean for Admissions, Recruitment, and Scholarships at lawadmissions@mail.law.memphis.edu.

The regulations and policies of the School of Law are set out in greater detail in the Law School Bulletin. Additional information can be obtained by contacting Law Admissions, 3715 Central Avenue, Memphis, TN 38152, or visit the Cecil C. Humphreys School of Law home page at www.law.memphis.edu.

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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 2008-2009*, 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](#) homepage 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, 101 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**" below 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.

Admission to Masters Degree Programs

The following Graduate School admissions requirements are minimum standards that identify the pool of master's level applicants from which each academic unit makes its selection. International applicants should consult "Admission of International Students" below for further requirements.

1. **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 may 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. For domestic students, signed and sealed transcripts that have been in the applicant's possession can be used for admission purposes; however, official transcripts may later be requested. Personal copies are not acceptable as official documents.
2. **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 test(s) and what score(s) are acceptable. Scores on MAT exams written in less than two-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. See individual program descriptions for details.
3. **Program Requirements:** Many academic units have separate departmental applications and/or additional requirements for admission. See program descriptions for more information on requirements.

Admission to Education Specialist (EdS) Program

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. This program is administered by the College of Education; please refer to the appropriate section of this Bulletin for a more complete description or contact the dean's office in the College of Education for additional details.

Admission to Doctoral Degree Programs

The following Graduate School admissions requirements are minimum standards that identify the pool of doctoral level applicants from which each academic unit makes its selection. International applicants should consult "Admission of International Students" below for further requirements.

1. **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. For domestic students, signed and sealed transcripts that have been in the applicant's possession can be used for admission purposes; however, official transcripts may later be requested. Personal copies are not acceptable as official documents.

2. 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 score(s) 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.
3. 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 this Bulletin for details.

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 is authorized under Federal law to enroll non-immigrant alien students on the "F-1" student visa.

Prospective students should check with the appropriate program for specific deadlines. International applicants should file complete credentials **at least four months** before the beginning of the semester for which enrollment is sought. Applicants are urged to apply early to ensure full consideration.

Complete credentials include all the documents listed above under "Admission Requirements" as well as those listed below under "Additional Requirements."

The application should be completed and returned to Graduate Admissions, Wilder Tower 101, University of Memphis, Memphis, Tennessee, 38152-3370.

A non-refundable application and processing fee of sixty dollars US (US \$60.00) is required of every international applicant, unless previously paid. Applications received without the application fee will not be processed.

International admission applications (graduate and undergraduate) will only be accepted through [Self-Service Banner](#). The Office of Admissions no longer accepts hard-copy (paper) applications. Payment of the application fee is by credit card.

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 academic units may have additional requirements such as portfolios, proficiency examinations, auditions, etc.

All transcripts, test scores, and other credentials must be accompanied by an official English translation of these documents and must be on file in Graduate Admissions at least four (4) months before the desired enrollment date.

Additional Requirements

In addition to admissions requirements described above, international students must supply the following:

TOEFL Scores: 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 550 on the paper or 210 on the computer-based Test of English as a Foreign Language (TOEFL). Some units, however, require a higher TOEFL score; check program descriptions 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.

Required Evaluation of Credentials: 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' website (www.naces.org). The course-by-course report is required. For general information on the equivalency of international degrees click [here](#).

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.

Health Certificate: Within 30 days from the first day of classes, each international student must submit a certificate from a licensed US 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 US 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.

Readmission: International students who wish to apply for readmission to the University must meet the deadlines stated above.

Intensive English for International (IEI) Students

The Graduate School will conditionally admit highly qualified international students who do not quite meet our TOEFL standards if they simultaneously enroll in Intensive English and achieve fluency. Students will be given one year to meet the English requirement (level 5). Students will pay the IEI fees until they meet the language criterion. If they take courses outside of IEI, they will be charged additional tuition at the regular rate. They will not be eligible for assistantships until they are fully admitted.

OTHER ADMISSION REGULATIONS

Readmission

Once accepted into a degree program, a student is expected to enroll every semester thereafter (excluding summer sessions) and make satisfactory progress toward the degree. A student who does not enroll for one Fall or Spring semester must apply for readmission. Submission of an application for readmission does not ensure acceptance. An application for readmission may be rejected or additional requirements may be imposed on the student. A readmitted student must follow the rules, prerequisites, and degree requirements listed in the most current Graduate Bulletin.

Continuous Enrollment

Students writing a thesis or dissertation or engaged in a culminating or capstone project must enroll on a continuous basis (Fall and Spring) until the thesis, dissertation, or project is complete. 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, dissertation, or project is complete. A student must be enrolled in the Summer semester if the thesis, dissertation, or project 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 Vice Provost for Graduate Studies is required. In the 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 Studies. Retroactive approval will not be granted. A leave of absence does not extend time limit to degree.

Admission to Non-Degree Status

Combination Senior: An undergraduate senior student may earn up to 12 hours of graduate credit while enrolled on a Combination Senior/Graduate Non-Degree basis. The student must have a total cumulative GPA of at least 3.25 and must have filed with his or her Graduate School Academic Advisor a plan for completing the bachelor's degree within two semesters. Eligible students may enroll concurrently in undergraduate and select graduate courses. Approval to register for graduate credit does not imply approval for admission into a graduate program at the University or that the credit earned will be accepted towards a graduate degree. After the bachelor's degree is awarded, a Combination Senior/Graduate Non-Degree student must make formal application in order to be admitted to a graduate degree program. Courses taken for graduate credit may not be used for both the baccalaureate and graduate degree. Combination seniors are not eligible for graduate assistantships.

Graduate Non-Degree: This classification is for domestic students who wish to enroll in graduate courses but who do not wish to pursue a graduate degree at the University or whose applications are incomplete. Graduate non-degree applicants must show proof of having earned a baccalaureate degree at the time of application. At the end of the first semester of course work, the Graduate Non-Degree student may be required to furnish an official transcript showing at minimum a bachelor's degree from an accredited college or university.

Academic units may restrict non-degree students to designated courses. Graduate Non-Degree students who decide to matriculate for a degree must make application to the Graduate School and must meet all admissions requirements. Master's students in programs requiring 36 credit hours or fewer are limited to 12 credit hours while in non-degree status. Students in degree programs requiring more than 36 hours must take at least 2/3 of the credit hours after acceptance into the program. Students should note that some academic units count coursework toward a degree only after admission or have more restrictive policies regarding the number of non-degree hours that count toward the degree.

Before registering for a second semester of graduate level coursework, the non-degree student is required to sign a release agreeing that additional coursework will not apply to degree programs.

Non-degree students must maintain a 3.00 GPA in graduate courses in order to re-enroll and are not eligible for graduate assistantships.

MISCELLANEOUS INFORMATION

Hepatitis Vaccination

The General Assembly of the State of Tennessee mandates that each public or private post-secondary institution in the state provide information concerning Hepatitis B infection to all students entering the institution for the first time. Those students who will be living on campus must also receive information about the risk of meningococcal meningitis infection.

After reading this information and prior to registering for classes, you must complete and sign the waiver form to indicate that you have received the information and have chosen to have the vaccination, plan to have the vaccination, or chosen not to have the vaccination. The waiver form is on-line at:

<http://saweb.memphis.edu/health/>.

Measles Vaccination

The University of Memphis requires all students born after January 1957 to have had the measles (MMR) vaccination after January 1, 1980, in order to register. The vaccination is available in the University Health Center for a nominal fee.

Health Services

Limited medical services are available in the University Health Center upon presentation of a valid student identification card. Outpatient medical services, including general clinical evaluation, diagnosis, and treatment; laboratory and X-ray; family planning; and a dispensary are available. Students are charged only for lab tests sent off-campus to a reference lab, for medicines (over-the-counter or prescribed by the center) purchased at the dispensary, and for family planning.

Entrance Examination Information

The GRE, PRAXIS I (PPST), and TOEFL can be taken on campus by computer. Call the University of Memphis ETS Computer-Based Testing Center (John W. Brister Hall 112) at 901-678-1457 to make an appointment.

Graduate Record Examination (GRE): Registration packets for the GRE may be obtained from Graduate Admissions (WT 101) or the Testing Center (JWB 112).

Graduate Management Admissions Test (GMAT): Arrangements for taking the GMAT can be made by writing to GMAT, Educational Testing Service, Princeton, New Jersey 08540, by calling 1-800-462-8669, or by using www.gmac.com.

Miller Analogies Test (MAT): Students who wish to arrange for the MAT should contact the Testing Center, JWB 112.

Residency Classification

Determinations concerning the classification of graduate students as in-state or out-of-state for fee purposes are made in Graduate Admissions. The determinations are based on the regulations and guidelines of the Tennessee Board of Regents. See "[Expenses](#)" for further information. The residency guidelines differ from and are independent of guidelines used to determine residency for other purposes, such as tax liability, driver's licenses, voting, etc. If, for any reason, there is a question about a student's residency classification for fee paying purposes, it is his or her responsibility to check with Graduate Admissions. Application for reclassification must be made to the classification officer on or before the last day of regular registration of that semester.

Veterans Services

Mission: The Office of Veterans Services, 003 Wilder Tower, provides assistance for eligible National Guard/Reserves, veterans, and/or dependents who enroll at the University of Memphis and who make application for programs of education or training, and VA tutorial services. Other assistance includes: liaison with Veterans Administration Regional Office, counseling, and counseling referral for personal, family, career, financial, and educational problems.

Application for VA benefits: Those who will be using VA educational assistance while enrolled at the University of Memphis should contact the Office of Veterans Services. They should also be prepared to furnish the following items as applicable:

1. The number 4 original or copy of the DD214 or other armed forces separation papers.
2. Copy of Delayed Enlistment Contract.
3. Copies of marriage licenses and children's birth certificates.
4. Copy of final divorce decree if either veteran or spouse has been previously married.
5. VA file number if different from social security number.

Advance Pay: Advance payment is available for eligible veterans and dependents who plan to enroll on at least a half-time basis. Applications will be accepted in the Veterans Services Office as early as 120 days before the term begins but no later than 45 days before the beginning entry. Generally, the advance pay deadline for the fall semester is around July 15, while spring semester deadline is around November 15. Advance pay checks include an allowance for the month or fraction thereof in which the course begins and the allowance for the following month. Advance pay checks are mailed to the school for delivery to the student at registration. Initial applicants who do not apply for advance pay may expect their check to be mailed to their home within six to eight weeks after registration.

Enrollment Status: For VA benefits during the regular terms (Fall and Spring), 12 semester hours constitute a full-time load for undergraduate students; 9 hours is full-time for graduate students. However, training time for summer session at the undergraduate and graduate level is based on the number of semester hours attempted per term. The Veterans Administration places restrictions on those who receive veterans educational benefits. Some of these restrictions include: (1) regular class attendance, (2) satisfactory academic progress, and (3) adherence to a specific degree plan.

Degree Plan: Only courses that are required for the degree and major may be certified for VA pay. VA will not pay for repeat courses if the grade already earned is accepted by the U of M and will fulfill graduation requirements toward the declared degree and major (even if the course was taken at another institution with or without use of the GI Bill). VA will not pay for elective courses in excess of those needed to meet graduation requirements.

Although advisors are provided for veterans, this assistance does not relieve students of the responsibility for fulfilling all VA and University requirements.

Certification: Enrollment certifications are mailed and/or electronically submitted to the appropriate VA Regional Office upon receipt of the Veterans Request for Certification Form. Students are required to submit this form to the Veteran Services Office at the University of Memphis each semester. Students will be certified on a term-by-term basis. Pre-certification will be done only when a request for advance pay is made.

Termination of Benefits: 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 or dropped a course. The instructor will report the last known date of attendance as the student's "unofficial withdrawal date." Students who stop attending will be assigned a grade of "F" in courses that do not reflect an official withdrawal.

ROTC Programs

Graduate students are eligible to earn a commission as a second lieutenant in the US Air Force by completing 12 semester hours of the AFROTC advanced program in conjunction with their graduate studies. Applications are accepted during January and February for Fall semester entries.

Graduate students are also eligible to earn a commission as a second lieutenant in the US Army by completing 16 semester hours of the ROTC advanced program in conjunction with their graduate studies.

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ACADEMIC REGULATIONS

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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 units, as well as with the [Code of Student Conduct](#). The [Fogelman College of Business and Economics](#), the [College of Education](#), and the [Herff College of Engineering](#) have additional college degree requirements. Please see [Degree Programs and Courses](#) for individual program requirements.

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 12.

Those who register for 9 or more hours per semester in the academic year will be considered full-time students. University-funded graduate assistants must register for no fewer than 12 hours credit per semester (or 6 thesis/dissertation hours) in both the Fall and Spring terms.

Requests for overloads must be approved by the director of graduate studies in the student's college or school. Students in the School of Audiology & Speech-Language Pathology 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 student's participation in the course, including class discussion, projects, and readings. Students auditing a course will receive "audit" (AD) 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.

Attendance

Requirements for attendance in any graduate course will be determined by the instructor and must be communicated in writing to students in the first class meeting.

Changing a Major or Advancing from a Master's to a Doctoral Program

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 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 not automatic.

Adding and Dropping Courses

Courses may be added or dropped after initial registration for a limited time only. Refer to the Student Calendar at www.enrollment.memphis.edu/registrar/calendars/calendar.htm 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 Audiology & Speech-Language Pathology 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 Vice Provost for Graduate Studies 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 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 Vice Provost for Graduate Studies 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 withdrawn.

Grading System

Grades

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

PLUS/MINUS GRADING SCALE

GRADE	QUALITY POINTS	GRADE	QUALITY POINTS
A+	4.00	C+	2.33
A	4.00	C	2.00
A-	3.84	C-	1.67
B+	3.33	D+	1.33
B	3.00	D	1.00
B-	2.67	F	0.00

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

Independent studies courses, student teaching, workshops, practica, internships, theses, and dissertations should be graded "A-F, IP" or "S/U, IP." Courses designated with a "single dagger" in the listing of courses are graded "S" (Satisfactory), "U" (Unsatisfactory), or "IP (In Progress). Those designated with a "double dagger" are graded "A"- "F," or "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 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 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. Grades earned in the final semester may not be used to correct GPA deficiencies.

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. The Grade Appeals procedure is described below.

Credit by Examination

In cases where the student has knowledge, but has not taken the appropriate course, the academic units, with approval from the Vice Provost for Graduate Studies or designee, may offer graduate courses for credit by examination. Total credit-by-examination applied to a student's degree program may not exceed six (6) semester hours. The necessary form is available on-line.

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.

For additional information about credit by examination procedures, contact the Graduate School Academic Advisor at mstout@memphis.edu or the Graduate School Office.

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 12 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.

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 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 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.

For additional information about course validation procedures, contact the Graduate School Academic Advisor at mstout@memphis.edu or the Graduate School Office.

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) These courses have not been used to earn a previous degree. (2) They relate to the content of the graduate program and/or are comparable to those offered at the University. (3) 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 Academic Advisor at mstout@memphis.edu. Only transcripts received directly from an issuing institution are considered official.

Approved transfer credit may be accepted for not more than 12 semester hours of course credit toward a master's or EdS degree. Individual academic units may set more stringent limitations. Credit will be transferred to apply toward a doctoral program upon approval of the student's advisory committee; however, 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.

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.

Academic Misconduct

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.

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 Studies. 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 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 to teach 6000 level courses or above.

The Southern Association of Colleges and Schools requires that faculty teaching graduate and post-

baccalaureate course work have an earned doctorate/terminal degree in the teaching discipline or a related discipline. All 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.

Regulatory Issues

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.

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.

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.

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APPEALS PROCEDURES

Retention Appeals

Any 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

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 Vice Provost for Graduate Studies 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 Vice Provost for Graduate Studies 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. If the 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 Vice Provost for Graduate Studies, 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 Vice Provost for Graduate Studies and selected from the graduate faculty; a graduate faculty member and alternate designated by the Vice Provost for Graduate Studies; two graduate faculty members and two alternates elected by the University Council for Graduate Studies; three students and three alternates selected by the Vice Provost for Graduate Studies.

The appeals procedure is not complete until all appropriate records are forwarded to the Graduate School Office. At this time, the Vice Provost for Graduate Studies 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 Vice Provost for Graduate Studies for consideration and 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.

. 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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ACADEMIC DEGREE PROGRAMS
(listed by departments within academic colleges/schools)

COLLEGE OF ARTS & SCIENCES
Anthropology
Bioinformatics
Biology
Chemistry
Computer Science
Earth Sciences
English
Foreign Languages & Literature
History
Mathematical Sciences
Philosophy
Physics
Political Science
Psychology
Public Health
Sociology
Women's and Gender Studies
School of Urban Affairs and Public Policy
City & Regional Planning
Criminology & Criminal Justice
Health Administration
Public Administration

FOGELMAN COLLEGE OF BUSINESS & ECONOMICS
School of Accountancy
Economics
Finance, Insurance & Real Estate
Management
Management Information Systems
Marketing and Supply Chain Management

COLLEGE OF COMMUNICATION & FINE ARTS
Architecture
Art
Communication

Journalism
Rudi E. Scheidt School of Music
Theatre & Dance

COLLEGE OF EDUCATION
Counseling, Educational Psychology & Research
Health and Sport Sciences
Instruction & Curriculum Leadership
Leadership

HERFF COLLEGE OF ENGINEERING
Biomedical Engineering
Civil Engineering
Electrical and Computer Engineering
Engineering Technology
Mechanical Engineering

LOEWENBERG SCHOOL OF NURSING

SCHOOL OF AUDIOLOGY & SPEECH-LANGUAGE PATHOLOGY
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UNIVERSITY COLLEGE

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EXPENSES

UNIVERSITY FEES AND CHARGES

The information in this Bulletin concerning fees, tuition, deposits, refunds, and the like is applicable to students enrolled in the Graduate School. It is intended to cover the situations that most students enrolled in the Graduate School will encounter. However, the University may have additional policies and procedures by which fees and charges are implemented or that apply to unusual situations. Similar information for students enrolled in the University's undergraduate colleges and the School of Law is provided in the bulletins of those schools. All university fees and charges are calculated and assessed consistent with policies and procedures of the Tennessee Board of Regents and The University of Memphis. The listing of any fee or incidental charge in this Bulletin does not constitute a contract between the University and the student. Because of rapidly changing conditions, it may be necessary to alter a fee structure before the next edition of the Bulletin is published. As a condition of registration, each student will pay the fees in effect for the semester for which he or she registers. The University will usually collect the amount of fees due at the time of registration each semester in accordance with the residency classification and fee rates in effect. After all enrollments are complete, any over-collections will be refunded and students will be billed for any under-collections.

Application Fee Information

Each domestic student submitting an application for admission to the Graduate School must pay, at the time of submitting his or her first application, a one-time, nonrefundable fee of \$35.00. International applicants must pay a one-time, nonrefundable application fee of \$60.00.

Registration (Enrollment) Fee Information

Registration (enrollment) fees are established by the Tennessee Board of Regents and are subject to change. Click on [this link](#) for the most up-to-date fee schedule.

Fogelman College of Business Course Fee: Students taking Fogelman College of Business graduate level courses (courses beginning with 5 or above) will be charged an additional \$20 per credit hour.

Engineering Course Fee: Student taking an undergraduate or graduate level engineering course will be charged an additional \$20 per credit hour.

Summer Session: The summer session consists of a PreSession term, two separate terms of approximately five weeks each, plus an extended term for specified courses. Registration (enrollment) fees for the summer sessions are determined solely on a credit hour basis.

Courses offered between terms, for concentrated periods during a term, or at specific locations may be subject to fees on a per-hour basis only.

Maintenance Fee: Maintenance fees are assessed based on the course level and the number of hours enrolled. The maximum fee amount will be the graduate maximum if a student is enrolled for any graduate level courses. Maintenance fee amounts quoted in the Fee Schedule above include the Debt Service and General Access Fee components.

Tuition: Students classified as out-of-state residents by the Office of Admissions, using regulations provided by the Tennessee Board of Regents (TBR), pay the additional out-of-state tuition indicated in the Fee Schedule above. Residency regulations of the TBR are given at the end of this section. Information on

appeals procedures is available in the Graduate Admissions. RESIDENCY CLASSIFICATIONS MAY BE CHANGED ONLY BY THE ADMISSIONS OFFICE.

Student Activity Fee: All students enrolled for one to five credit hours pay a student activity fee of \$6.00 per credit hour. All students enrolled for six or more credit hours pay a full-time student activity fee of \$44.00. Students paying the full-time fee are entitled to admission to home athletic events as well as certain health services, concerts, plays, and other student-sponsored activities and social events.

Applied Music Fee: Certain music courses require an additional applied music fee of \$75.00 per half-hour private lesson per week. This fee is not included in the Fee Schedule.

Materials Fee: Certain courses, such as Art, Biology, Music, may require an additional materials fee of up to \$150 per semester. This fee is not included in the Fee Schedule.

Regents Online Degree Program: Cost for in-state graduate students will be \$313 per credit hour. Please note that these fees do not max at 12 hours. Cost for out-of-state graduate students will be \$677 per credit hour. Fees for these courses are in addition to fees in the Registration Fee Schedule.

International Master of Business Administration Program: All students enrolled in the International MBA major are required to pay a matriculation fee of \$3,000 per year. This fee is not included in the fee schedule above. The IMBA fees are subject to change. For further details contact the International MBA Program Office at the Fogelman Executive Center (901-678-3499).

Master of Business Administration Program (Executive Concentration): The Executive MBA class of 2005-2007 charges a total fee of \$42,000 for Tennessee residents for the 21-month program. Out-of-state residents are charged the current out-of-state tuition rates in addition to the program fee. This program fee covers maintenance fees, tuition, and other expenses of the EMBA concentration. The EMBA fees are subject to change. For further details contact the Executive MBA Office at the Fogelman College of Business and Economics (901-678-4866).

Late Registration Fee: A late registration fee of \$100 will be assessed to each student who does not complete registration prior to the first day of classes in that semester. This fee is not included in the Fee Schedule above.

Late Payment Fee: A late payment fee of \$100 will be assessed to each student who does not satisfy at least the initial installment amount of enrollment fees (50% of fees after all financial aid, scholarships, and/or sponsorships have been applied for the fall or spring semesters; 100% of fees for summer sessions) by the appropriate deadline date as shown at <http://bf.memphis.edu/finance/bursar/fee.php>

Auditing Classes: Fees for auditing classes are assessed on the same basis as fees for credit courses.

All questions regarding fees, fee payments, refunds, and appeals should be directed to the Bursar's Office, Room 115 Wilder Tower, 901-678-5579.

Refund of Registration (Enrollment) Fees

The University adheres to state of Tennessee policy on the refund of student enrollment fees. As such, the following refund percentages of enrollment fees (Maintenance, Out-of-State Tuition, Applied Music, Laboratory Materials, and Student Activity) apply to students who withdraw from the University or who drop to an hourly load below full time:

A. 100% Refund: A full (100%) refund of these fees will be provided (1) until the semester's first day of classes, (2) for courses cancelled by the University, and (3) in the case of the death of the student during the semester.

B. 75% Refund: A 75% refund will be provided beginning with the semester's first day of classes and extending for a period of time as noted in the term calendar on the Bursar's website at <http://bf.memphis.edu/finance/bursar/fee.php> for each semester.

C. 25% Refund: A 25% refund will be provided beginning at the expiration of the 75% refund period and extending for a period of time as noted in the term calendar on the Bursar's website (<http://bf.memphis.edu/finance/bursar/fee.php>) each semester.

D. No Refund: At the conclusion of the 25% refund period, there will be no refund of these fees.

E. Title IV: Students who receive federal Title IV funds and who withdraw during their first semester of attendance at the University may be eligible for a refund of enrollment fees based on the federal pro-rata refund calculation.

Please note that the specific dates for these refund periods are found in the term calendar for each semester at <http://bf.memphis.edu/finance/bursar/imp.php>. The refund period ends earlier than the final deadline for dropping a course or withdrawing.

The University's refund policy is based entirely upon the official date of withdrawal or change of course that would result in a refund. Refunds beyond the specified dates or percentages will not be made for reasons such as employment conflicts, relocating out-of-town, or other reasons that are beyond the University's control or responsibility.

Registration fee refunds will be processed and mailed to students beginning approximately ten (10) days after classes begin and should usually be completed within four weeks. The University will offset against proposed refunds any amount owed by the student to the University.

Other Registration (Enrollment) Fee Information

Payment of University Fees and Charges: Registration (enrollment) fees may be paid by cash, check, money order, Visa/Mastercard/Discover, Financial Aid/Scholarship Award(s), or University Tiger Fund\$ account. Fees may be paid as soon as the student registers for classes; however, all registration fees and outstanding debts to the University are due by the fee payment deadline date noted in the Fee Payment Section of the Bursar's website at <http://bf.memphis.edu/finance/bursar/>. The University offers a deferred (installment) payment plan to assist students with the payment of enrollment fees for the Fall and Spring semesters (not available for Summer terms). Please refer to the website above for complete information.

Returned Checks/Charge Card Drafts: It is expected that any check or credit card draft given to the University for any reason will be honored by the bank on which it is drawn. Any check or draft dishonored by the bank on which it is drawn may be presented a second time at the discretion of the University. A \$20.00 returned item fee will be assessed for any check/draft returned.

The privilege of making payments to the University by personal check and check cashing privileges will be revoked for any student who has had more than one returned check/draft within a twelve-month period. The suspension of this privilege will be for a period of one year from the date the last item is redeemed.

A student will not be permitted to satisfy registration fees by check if ANY previous check in payment of registration (enrollment) fees has been returned unpaid. Any check or credit card draft presented to the University in payment of enrollment fees that is subsequently dishonored by the bank on which it is drawn will be assessed the Late Payment Fee of \$100.00. Students on a "NO CHECKS" status must be prepared to satisfy registration fees with cash, cashier's check, or by authorized credit card draft.

Indebtedness to the University: Policy of the Tennessee Board of Regents prohibits the enrollment of any person who owes the University any amount of money. All outstanding financial obligations to the University must be satisfied before a student will be allowed to register for courses. Tennessee law also prohibits the release of grades, transcripts, or diplomas of any person who has outstanding financial obligations to the University.

Academic Common Market: Participation in the Academic Common Market provides qualified students from various southern states with the opportunity to pay in-state enrollment fees while pursuing certain degree programs at the University of Memphis. See Section 1 for a full description of this program.

Totally Disabled Persons and Persons over 60 Years of Age: Persons who are domiciled in Tennessee and (1) have a permanent disability that totally incapacitates them from the potential to work at an occupation that brings them an income or (2) will become 60 years of age or older during the academic semester in which they begin classes may AUDIT courses at the University of Memphis without paying maintenance fees, tuition charges, student activity fees, access fees, or registration fees. Admission to AUDIT courses will be limited according to space availability on an individual classroom basis.

Persons who are totally disabled and those who will become 65 years of age or older during the academic semester in which they begin classes and who are domiciled in Tennessee may enroll for credit courses at the cost of one-half (1/2) the normal per credit hour fee, not to exceed a maximum of \$70.00 per semester. University Health Services shall examine certification of permanent disability (not the applicant) and determine the eligibility of the applicant under this legislation.

Inquiries concerning these programs may be addressed to Student Information Services, 003 Wilder Tower.

Eligibility for Deferment of Payment of Tuition and Fees by Certain Eligible Students Receiving U.S. Department of Veterans Affairs or Other Governmentally Funded Educational Assistance Benefits

Service members, veterans, and dependents of veterans who are eligible beneficiaries of US Department of Veterans Affairs education benefits or other governmentally funded educational assistance, subject to the conditions and guidelines set forth in Tennessee Code Annotated 49-7-104 as amended, may elect, upon formal application, to defer payment of required tuition and fees until the final day of the term for which the deferment has been requested. Application for the deferment must be made no later than 14 days after the beginning of the term, and the amount of the deferment shall not exceed the total monetary benefits to be received for the term. Students who have been granted deferments are expected to make timely payments on their outstanding tuition and fees balance once education benefits are being delivered, and eligibility for such deferment shall terminate if the student fails to abide by any applicable rule or regulation, or to act in good faith in making timely payments. This notice is published pursuant to Public Chapter 279, Acts of 2003, effective July 1, 2003.

Student Housing

Residence Halls: Charges for rooms in university residence halls are indicated below (2005-06 rates; subject to change). For information concerning application for rooms, contact the Office of Residence Life 901-678-2295 or visit their website: <http://reslifeweb.memphis.edu/reslife/>.

Application Procedures: Applications for residence hall space may be obtained from the Office of Residence Life, University of Memphis, Memphis, TN 38152, or from their website. Because spaces are allocated by date of receipt and home address, completed applications accompanied by the required \$100 application/reservation deposit should be returned to the Office of Residence Life as soon as possible. Checks or money orders should be made out to the University of Memphis. Please do not send cash.

Receipt by the Office of Residence Life of the housing application and \$100 check or money order, however, does not guarantee admission to the University or to a residence hall. The Director of Residence Life reserves the right to refuse any housing application, to change or cancel any assignment, or to terminate a resident's occupancy for justifiable cause.

Contract Period and Conditions: Fall assignment/contracts are for the full academic year (fall and spring semesters). Fall residents wishing to petition for release from their contract for the spring semester must do so in writing by November 1. Residents who cancel after this date, but prior to claiming their key for the spring semester, will forfeit 50% of their application/reservation deposit. Residents who fail to cancel by the close of the check-in period will forfeit the entire \$100 deposit. The application/reservation deposit, once submitted with the application, covers the initial term of occupancy and all subsequent terms of occupancy and continues until such time as it is cancelled in writing. There will be no penalty if written cancellation is received prior to the published deadline for any specific contract period.

Residents claim and vacate their rooms according to directions issued by the Department of Residence Life. Returning and new residents will have claimed their spaces if any or all of the following procedures have occurred: (1) receiving the room key during the check-in period, (2) paying residence hall rent in full or in part by the end of the check-in period, (3) returning the signed contract with the rental payment.

Cancellation Policy: Full deposit and pre-payment of rent will be refunded if: (1) the institution is notified by the following cancellation deadlines for the first semester in which the contract is in force: July 1 for fall residents; December 1 for new spring residents; May 1 for summer residents; (2) the student is prevented from entering the University because of personal medical reasons confirmed in writing by a licensed physician; (3) residence hall space is not available; (4) if the applicant has not been assigned to a room at the time written cancellation is received by Residence Life; or (5) the student is denied admittance or re-admittance to the University. Full refund will be made in the case of death. Fall residents wishing to petition for release from their contract for the spring semester must do so in writing by November 1. No refunds will be made for other than the above conditions.

Assigned applicants who fail to cancel by the deadline referred to in (1) above but cancel before the close of the check-in period will forfeit 50% of their deposit. Assigned residents who fail to cancel by the close of the check-in period will forfeit their entire deposit. (This is applicable to both the Fall and Spring semesters.)

Refund of Residence Hall Rent: Refunds of residence hall rent after registration will be prorated on a weekly calendar basis when the student is forced to withdraw from the residence halls: (1) because of personal medical reasons confirmed in writing by a licensed physician, or (2) at the request of the institution for other than disciplinary reasons. Full refund will be made in the case of death.

For reasons other than those stated above, the following procedure shall apply: 75% of fees will be refunded for withdrawal from the residence halls for a period of approximately 14 calendar days beginning with and inclusive of the first official day of classes or within an equivalent period for a short-term course. Twenty-five percent (25%) of fees will be refunded following expiration of the 75% period, for a period of time extending approximately 25% of the time covered by the term. The periods during which refunds of 75% or 25% will be made are exactly the same as the periods during which the same refund percentages are made for maintenance fees. No refunds will be made for other than the above conditions.

2004-2005 STUDENT HOUSING RATES

Residence Halls, per semester

Residence Hall	Room Size	Fee Amount
Rawls	Double	\$1,310
	Single	\$1,670
	Single w/o sink	\$1,930
Richardson	Double	\$1,475
	Single	\$2,135
Smith	Double	\$1,310
	Single	\$1,930
West	Double	\$1,310
	Single	\$1,930
South	Double	\$1,465
	Single	\$2,125
Mynders	Double	\$1,230
	Single (small)	\$1,680
	Single (medium)	\$1,750
	Single (large)	\$1,800
	Single (private bath)	\$1,840

Carpenter Complex	Apartment	\$2,330
	Townhouse	\$2,400

2005 Summer Session Rates

Residence Hall	Summer Session	Fee Amount
Carpenter Complex - Apartments	First Summer	\$725
	Second Summer/Extended	\$870
Carpenter Complex - Townhouses	First Summer	\$745
	Second Summer/Extended	\$865

Student Family Housing

Student Family Housing is located on the South Campus approximately one mile from the main campus. Phase One consists of 56 one-bedroom townhouse apartments, 62 two-bedroom townhouse apartments, and 8 two-bedroom flats. All apartments are equipped with stove, refrigerator, garbage disposal, living room carpet, and venetian blinds. Electric central heat and air are also provided. Each apartment has an enclosed private patio at the rear. The new Phase Two consists of 24 two-bedroom flats. These apartments are equipped with stove, frost-free refrigerator, garbage disposal, dishwasher, venetian blinds, thermal pane windows, hook-ups for stackable washers and dryers, and carpet for living room and bedrooms. Gas central heat and air are also provided. Each apartment has a patio/balcony with locking storage area. Four apartments are specifically designed for physically disabled students. Application forms may be obtained from the Office of Residence Life in Room 011, Richardson Towers or from their website, www.people.memphis.edu/~reslife. A \$100 application/ reservation deposit is required when the application is submitted.

Student Family Housing, per month

Phase 1 Units	1 bedroom	\$490
	2 bedroom	\$560
Phase 2 Units	2 bedroom	\$690

Miscellaneous Fees

Automobile Registration: Every vehicle parked on campus property must have a university parking permit (hangtag) properly displayed. A permanent parking permit, which provides access to the University's general parking areas, is issued to students upon their initial enrollment at the University. There is no additional charge to students for their initial general parking permit (or general parking permit validation sticker issued each subsequent semester the student enrolls and satisfies registration fees). Students will be charged a \$10.00 fee for the replacement of their permanent parking permit. Students may also request access to university reserved, resident, or priority (gate access) parking areas, which require payment of an additional parking fee, depending on the level of parking desired.

Credit By Examination: The fee for taking an examination for credit is \$60.00 minimum and an additional \$15.00 for each hour over three (3) per course. These fees are non-refundable and must be paid prior to the examination.

Doctoral Dissertation: A student completing the doctorate will be required to pay the \$7.50 fee for binding each copy of the dissertation and a fee of \$65.00 to defray the cost of microfilming the dissertation and publishing the abstract. The student will be required to present a receipt from the Bursar's Office to the Graduate School showing that these fees have been paid. A minimum of three copies are required and the student should consult with the department chair or dissertation adviser as to the number of actual copies required.

Meals: The university cafeterias, food service locations, and vending areas, open to all students, provide wholesome food at reasonable prices. The cost of meals per student is estimated to be approximately

\$3,400 per academic year (for FY2002-03).

Music Locker/Instrument Rental: Music students are required to have a locker for storage of university-owned musical instruments or equipment. Personal instruments may also be stored in these lockers. A music instrument rental fee of \$25.00 is required. Students will be expected to pay for any damages. A fee of \$5.00 per semester is assessed for the locker rental.

Master's Thesis: Students will be required to present a receipt from the Bursar's Office to the Graduate School showing that a fee of \$7.50 has been paid for each thesis to be bound. A maximum of four copies will be bound. Students should consult with the department chair and/or thesis adviser as to the number of copies required.

Appeal Procedures (Fees And Refunds)

Any individual may appeal the assessment, application, calculation, collection, or interpretation of any university fee, charge, deposit, or refund. The University has developed the following processes for an appeal:

Traffic Fines/Citations: Traffic fines and citations may be appealed through a separate process on forms available from the Parking Office, Office of Judicial Affairs, or the Student Government Association Office.

Residence Life: Appeals related to Residence Life financial matters should be filed first with the Office of Residence Life for review within their process. Decisions of the Office of Residence Life may be appealed in writing to the Office of the Assistant Vice President for Finance.

All Other University Fees/Charges, Refunds, etc.: A written appeal of all other financial matters should be filed first on forms available in the Bursar's Office, 115 Wilder Tower. Decisions of the Bursar's Office may be appealed in writing to the Office of the Assistant Vice President for Finance. The Bursar's Office will forward any appeals that they cannot address to the Office of the Assistant Vice President.

The Office of the Assistant Vice President for Finance will provide a decision in writing of those matters appealed to that office. This decision may be appealed to the University Fee/Refund Appeals Committee. The recommendation of the Committee will be forwarded to the Vice President for Business and Finance for a final decision, which will conclude the University's appeal process.

University ID Cards

The University of Memphis issues each student an identification card that bears the student's image. There is no charge to the student for the initial university ID card. All students should obtain this permanent identification card, which is used as the primary campus-wide method of determining privileges and accesses permitted to each student.

The university identification card remains the property of The University of Memphis and should be surrendered upon the request of a University official. A student may possess only ONE university identification card at any time.

Students may obtain a replacement for a lost, stolen, or damaged university identification card in 115 Wilder Tower, between the hours of 8:00am-5:30pm Monday-Thursday, or 8:30am-4:30pm Friday. Students will be charged a \$10.00 fee to replace a lost or stolen card. A charge of \$2.00 will be made to change any data on a card.

Tiger Fund\$

A personal Tiger Fund\$ account, accessed through the student's university ID card, is also available to all students at the University of Memphis. Tiger Fund\$ is a declining balance money management program that allows students a convenient way to obtain supplies and services on campus without the need to carry cash or the inconvenience of paying by check or credit card.

Tiger Fund\$ are accepted at numerous campus locations, including the University Store, Health Center, and campus food service locations.

A personal Tiger Fund\$ account can be activated by making a deposit at the Bursar's Office cashier windows, 115 Wilder Tower. Additional information on university ID cards and the advantages and convenience of having a personal Tiger Fund\$ account may be obtained at <http://bf.memphis.edu/finance/bursar/tigerfund.php> or by calling the ID Card Office at 678-2712.

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FINANCIAL ASSISTANCE

Graduate Assistantships

Graduate teaching and research assistantships are available in most of the academic areas of The University of Memphis, requiring 10-20 hours of service per week. Most assistantships are provided by the student's home academic unit. 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 as graduate assistants only. Graduate assistantship contracts filed by the fourth day of class are eligible for a scholarship equal to the amount of tuition and fees. University-supported graduate assistants are expected to carry a 12-credit-hour load every semester (or 6 hours when enrolled only in thesis or dissertation hours). Nonresident assistants appointed for the preceding spring semester are eligible for in-state fees for summer, whether or not the student holds an assistantship in that summer term. Non-degree students may not be awarded an assistantship. Graduate assistants must maintain a 3.0 GPA to retain their assistantships.

The Southern Association of Colleges and Schools requires that graduate teaching assistants have a master's in the teaching discipline or 18 graduate credit hours in the discipline. GAs must have direct supervision by a faculty member experienced in the teaching discipline, regular in-service training, and planned and periodic evaluations. Non-native English speakers must also pass the SPEAK test before they can be appointed teaching assistants. Contact the Center for International Programs and Services for information on when the SPEAK test is administered. Teaching assistants may teach only undergraduate courses. They may not teach more than 6 hours of for-credit courses without prior approval from the Vice Provost for Academic Affairs.

Graduate Certificate in College Teaching

This program provides specific training in college teaching for graduate teaching assistants. The 12-hour program equips TAs with knowledge of and skill in effective college teaching methods. Only fully admitted graduate students who are graduate teaching assistants are eligible to enroll in the program. Contact the Graduate School for details.

Graduate Awards and Fellowships

Graduate student fellowship and award information can be obtained in the Graduate School, or on the Graduate School home page. All competitive awards administered by the Graduate School require maintenance of at least a 3.25 GPA. The Graduate School administers the following awards and fellowships:

The Van Vleet Memorial Doctoral Award is granted to two to three incoming doctoral students enrolled in the designated science fields of Audiology & Speech-Language Pathology, Biology, Chemistry, Geological Sciences, Mathematical Sciences, Microbiology & Molecular Cell Sciences, Psychology, Biomedical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering. Eligible students must be nominated by their respective department chair. The award includes a stipend of \$16,000 per year for four years plus tuition scholarship.

The Provost's Predoctoral Diversity Awards are awarded by least two departments each year, based on how well various requirements have been met. The amount of the awards vary by discipline and will be renewable for up to five years. All include a tuition scholarship. Each year departments compete based on their record of recruiting and graduating minority students. Departments provide a summary of their efforts, along with documentation of national under-representation in their discipline, to the Graduate School by October 15.

The University of Memphis Society, Inc. Doctoral Fellowship, established by UMS, Inc., annually awards a \$2,000 fellowship to a full-time doctoral student based on exceptional academic achievement.

The Part-time Master's Fellowships are awarded annually to ten entering master's students. Awardees will receive \$1,500 (\$750 per semester; this award does not include a tuition scholarship) and must maintain a 3.5 GPA to receive the second semester funding. These awards are limited to one year.

Applications for the following fellowships should be submitted to the units listed below:

The Fogelman College of Business and Economics

Business and Economic Alumni Chapter Scholarship: Full-time graduate student; must have minimum GPA of 3.5. Financial need is considered.

Charles Greisbeck Scholarship: Full-time student majoring in accounting. Must have a minimum GPA of 3.5. Student must have exhibited leadership skills.

Humko Doctoral Fellowship: Third-year Business Administration doctoral student concentrating in Marketing.

Kenneth & Janet Austin Accountancy Fellowship: Full-time graduate student majoring in accounting. Must have a minimum GPA of 3.25.

Morgan Keegan Scholarship: Full-time or part-time student majoring in finance. Must have a minimum GPA of 3.5.

Dr. G. P. Racz Leadership Fellowship: Full-time student majoring in accounting or international business. Must have a minimum GPA of 3.25. Must have exhibited leadership; may be a graduate assistant.

Mark Sowards Memorial Scholarship Fund: Full-time graduate student. Must have a minimum GPA of 3.5. Must have an intent to enter into the field of real estate.

Stacey Steckler Sprinkler Scholarship: Full or part-time student majoring in accounting with a minimum GPA of 3.5. Financial need is considered.

Tilson Real Estate Fellowship: Full or part-time student majoring in real estate with a minimum GPA of 3.5.

The College of Education

The Dr. R. Eugene Smith Fellowship equivalent to in-state tuition is awarded annually to a graduate student pursuing studies in higher education administration.

The George W. Etheridge Early Childhood Education Scholarship is a three-year award presented to an early childhood doctoral student who has research experience; demonstrates academic, professional, or civic leadership; and is interested in young children.

The School of Audiology and Speech-Language Pathology

The AUSP Alumni Chapter Fellowship is awarded each spring semester to a graduate student in Audiology and Speech-Language Pathology. The recipient must demonstrate outstanding clinical skills and support of student and departmental activities.

The Marion G. Evans/Exchange Club of East Memphis Fellowship is awarded annually to graduate students training to work with the hearing impaired.

The Herff College of Engineering

A number of Fellowships funded by the Herff Trust are available to graduate students in the Herff College of Engineering.

The Herff Graduate Fellowship support for an MS student for 2 years and a PhD student for 3 years. Students are paid a minimum of \$10,000 per academic year, plus tuition. The candidate must have a faculty advisor to work with prior to applying for a Fellowship. Application forms, available from each college department, should be sent to the Associate Dean for Graduate Studies and Research and must be postmarked by March 15. Awards will be announced on April 1.

Other Herff Awards are offered through the Department of Biomedical Engineering. Applications for these awards should be made directly to that department. The awards are:

- Herff Doctoral Research Fellowship
- Master's Level Research Fellowship
- Post Doctoral Research Associate

Federal Aid

Limited federal assistance, in the form of workstudy, Stafford Loans, or Perkins Loans, is also available. Contact the Office of Student Aid at (901) 678-2303 for more information.

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 or dropped a course. The instructor will report the last known date of attendance as the unofficial withdrawal date. Students who stop attending will be assigned a grade of F in courses that do not reflect an official withdrawal.

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RESEARCH FACILITIES

Library Facilities

The University Libraries includes the Ned R. McWherter Library and four branch libraries: Audiology and Speech-Language Pathology, Chemistry, Mathematical Sciences, and Music. Each branch is contiguous to the department or school it serves.

The University Libraries' collection totals over one million print volumes. The collection also contains information resources in many other formats, including 3.4 million microform pieces, over 9 million archival pieces, 90 licensed databases, 500 federal databases, and a variety of other formats. The Government Publications Department, located in McWherter Library, is the Regional Depository for Federal Documents for the State of Tennessee. The department also serves as a depository for all State of Tennessee documents. The Special Collections Department houses collections of original papers, manuscripts, and rare materials that document the history and culture of the mid-south.

The University Libraries' holdings are indexed in the tomCat online catalog, which is available on over 200 workstations located throughout the libraries, on the campus network, and through the Internet. Faculty and staff of the University Libraries are available to assist library users with identifying and making the best use of library resources. The Interlibrary Loan staff will borrow resources from other libraries when they are not owned by the University Libraries. The University Libraries maintains agreements with several local academic libraries that enable direct borrowing by students, faculty, and staff of the University of Memphis. For more information on library services or resources, contact the Reference Department or visit the libraries web site at <http://www.lib.memphis.edu/>.

Information Technology

The University of Memphis is committed to providing campus-wide information technology in support of research and instruction for students and faculty. The Division of Information Technology (IT) provides the infrastructure and support necessary for academic activities, networking, telecommunications, and administrative computing. The division provides education and training for widely used software and applications, maintains the campus information technology infrastructure, provides the leadership to involve students, faculty, and staff in technology decision-making, and leads the strategic planning process for the use of information technologies.

The IT HelpDesk (678-8888) is the first area of contact for students, staff, and faculty to establish accounts and report problems. The HelpDesk staff is the primary contact on questions related to software, telecommunications, network, and lab support. In addition they route and track questions to the most appropriate university personnel for resolution. Since the University operates on a Local Support Provider (LSP) model (i.e., schools and colleges as well as administrative units have departmental computer experts to assist them with technology), calls to the HelpDesk are frequently assigned to an LSP for resolution. However, the knowledge management system of the HelpDesk tracks the problem and its resolution for future reference. The HelpDesk also makes available desktop and server software for faculty computers and departmental servers.

Students can access two IT-supported 24-hour computer labs (one of which is a Super Lab and Smart Classroom) and over 65 other departmental labs located in various buildings and residence halls throughout the University. Over 30 smart classrooms with a full range of multimedia equipment are available for use by all faculty members and each classroom building is equipped with EduCarts (SmartCarts) that can turn almost any classroom into a smart room. Many departmental labs have extended evening and weekend hours and students have access to the Internet, e-mail, Microsoft software, and a host of academic-related

applications in a variety of computing environments. All labs are equipped with printers and other peripheral devices.

Information Technology provides a variety of technology support services to faculty, staff, and students including software training, software distribution, and web consulting. The Advanced Learning Center (ALC) provides consulting assistance for on-line and web-assisted course development. Students and faculty can attend free training seminars at the Training Center in Smith 412. The center is equipped with PCs, Macs, and smart presentation equipment. Faculty may reserve this facility as well as any of the smart classrooms for their instructional needs. Training courses and workshops are offered on all supported software. The Faculty Resource area in the Advanced Learning Center contains the latest multimedia and computer equipment for faculty and instructors to learn technologies or create course material. Online CBT (Computer-Based Training) is available free to all students, faculty, and staff either over the web or through downloadable tutorials. There are currently over 200 courses available to choose from.

Information Technology supports and maintains the University's fiber network that connects all offices, computer labs, classrooms and auditoriums, and selected residence halls. IT is committed to advancing the use of technology to assist the University in education and research. As part of this effort, The University of Memphis is a full partner and an Early Adopter of Internet-2 technology for research and instruction.

IT provides all telecommunication services (such as FAX and long distance service), cable TV, and calling number ID. Most of these services are also available in the dormitories.

More information on the services provided by Information Technology can be found at the web address: <http://is.memphis.edu>.

Benjamin Hooks Institute for Social Change

The Institute pursues a broad programmatic agenda of research and outreach that builds upon Dr. Hooks' lifetime of work to achieve a more just society. The Hooks Institute is committed to advancing the goals of the American Civil Rights Movement, and making Memphis a national center for the study of the Civil Rights Movement and its legacy.

Bureau of Business and Economic Research

The Bureau of Business and Economic Research is the organized research and public service unit of the Fogelman College of Business and Economics. The programs of the Bureau include public service to government agencies (state and local) and the business community, continuing education, and applied general research.

Center for Applied Psychological Research

The Center for Applied Psychological Research supports research on problems concerning health, mental health, education, schools, crime, the environment, and children and their families. The Center also supports basic scientific research in cognitive psychology, biopsychology, social psychology, developmental psychology, and research design and statistics.

Center for Earthquake Research and Information

The Center for Earthquake Research and Information was established in 1977 by the Tennessee Legislature to provide: (1) prompt reports and background information on regional earthquakes; (2) scientific research on the causes and effects of earthquakes and on the possibility of earthquake prediction; (3) studies related to the desirability of earthquake resistant construction; (4) advice to business, government, and the public on the methods, means, and feasibility of mitigating earthquake hazards. The Center operates as a research organization of The University of Memphis and was designated as a Tennessee Center of Excellence in 1985. It supports graduate research in geophysics, active tectonics, and earthquake engineering. It cooperates with the Department of Earth Sciences in offering a Bachelor's and Master's degree concentration in geophysics, and a Ph.D. degree in earth sciences.

Center for Health Services Research

The Center for Health Services Research is housed in the Division of Health Administration. The Center emphasizes collaborative, multi-disciplinary research focusing on issues in health care management, leadership, financing, economics, and administration. The Center's goal is to serve as a strong partner and resource for health care organizations, both public and private, in the Mid-South region.

Center for Manpower Studies

The Center for Manpower Studies, located in the Fogelman College of Business and Economics, conducts research on employment and training-related topics and provides technical assistance to federal, state, and local agencies. It also offers a variety of training programs for human resource development agencies throughout the southeast.

Center for Research in Educational Policy

The Center for Research in Educational Policy is funded by the State of Tennessee as one of five Centers of Excellence located at The University of Memphis. CREP's mission is to implement a research agenda associated with educational policies and practices in the preK-12 public schools of Tennessee and the nation and to provide a knowledge base for use by educational practitioners and policymakers. Research outcomes are intended not only to describe the complexities of educational phenomena, but also to offer recommendations for action.

Since 1989, the Center has served as a mechanism for mobilizing community and university resources to address educational problems and to meet the University's commitment to primary and secondary schools. The Center's research agenda is developed through analysis of persistent or emerging issues in schools and their communities, changes occurring in teacher education programs, and recommendations from educational authorities. In the past decade, CREP has gained national recognition for its contribution to discussions of issues such as reform of teacher education, educational equity, educational technology, school reform and restructuring, urban and multicultural education, interventions for at-risk students, and using formative evaluation methods for school improvement decision-making.

Center for Research on Women

Founded in 1982, the Center for Research on Women (CROW), located in the College of Arts and Sciences, is nationally recognized for its pioneering work on race, class, and gender. CROW's mission is to conduct, promote, and disseminate scholarship on women and social inequality. Its approach to research, theory, and programming emphasizes the structural relationships among race, class, gender, and sexual identity, particularly in the U.S. South and among women of color. CROW-affiliated faculty span the University. They are currently engaged in action-oriented, community-based research on women in Memphis and the U.S. South; in historically grounded research that makes visible global processes affecting the persistence of inequalities in the U.S. South; and in the development of feminist theories and methods. CROW offers postdoctoral fellowships to scholars studying race and gender in the U.S. South and provides graduate assistantships to students enrolled in the MA program in sociology.

Center for the Study of Higher Education

The Center for the Study of Higher Education, located in the College of Education, conducts research and sponsors workshops and conferences in higher and adult education. The Community College Student Experiences Questionnaire is located in the Center, as is the Leadership Institute in Judicial Education.

Center for Urban Research and Extension

The Center for Urban Research and Extension provides technical assistance, research and other services for neighborhood improvement in three Memphis Enterprise Neighborhoods. The Center supports the City of Memphis's Enterprise Community program, and collaborates with neighborhood residents as they embark upon various efforts in revitalizing their neighborhood.

Chucalissa Indian Village and Museum (C. H. Nash Museum)

This partly reconstructed prehistoric Indian village on its original site and the museum are operated by the Department of Anthropology as an educational and research facility. The indoor and outdoor exhibits are designed to reconstruct prehistoric Indian life in the Mid-South. Students are trained in the techniques of excavation, restoration and museum operations. The courses taught are listed in the Department of Anthropology offerings. Chucalissa is located 17 miles southwest of the main campus along the Mississippi River.

DNA Laboratory

The DNA Laboratory is a university facility providing access to resources required for modern molecular biology research. Custom nucleic acid synthesis and automated DNA sequencing are available on a fee basis to researchers both inside and outside the University. The Laboratory also houses a high-performance gel documentation system and a workstation with the GCG Wisconsin Package for nucleic acid and protein analysis.

Ecological Research Center

The Ecological Research Center (ERC) of the Department of Biology was established in 1974 on the South Campus of the University to conduct and coordinate research, teaching, and service activities in ecology and related areas.

Major areas of research include: fish culture, wildlife biology, endangered and threatened species, systematics, reproductive physiology, and physiological responses to the environment. The ERC has formal research agreements with private, state, and federal organizations to jointly pursue biological problems of mutual interest. The US Fish and Wildlife Service, Wildlife and Habitat Management Office, has offices in the ERC.

The teaching program of the ERC provides training for students interested in pursuing careers in various fields and affords an opportunity for students to participate in activities involving contemporary environmental problems.

Public service activities are directed toward promoting environmental awareness and providing information and consultation services to those concerned with the environment.

Edward J. Meeman Biological Station

The Edward J. Meeman Biological Station was established in 1967 to encourage and foster scientific pursuits in natural history, ecology, and environmental biology. Situated on two sites, the main research area encompasses over 600 acres adjacent to Meeman-Shelby Forest State Park. The second site sits on over 300 acres along the Loosahatchie River in Bartlett. The research sites provide laboratory, classroom, and small conference facilities to faculty and students from The University of Memphis and visiting researchers. Meeman Station is an integral part of the Department of Biology and a unique site dedicated to research, teaching, and community service.

Institute of Egyptian Art and Archaeology

The Institute, founded in 1984 and designated a Tennessee Center of Excellence in 1985, is a component of the Art Department at The University of Memphis. The Institute is dedicated to the study of the art and culture of ancient Egypt through teaching, research, exhibition, and excavation. It is staffed by Egyptologists who are faculty members of the Art Department and the History Department. Its research library consists of more than 6000 Egyptological books and periodicals including rare and out-of-print volumes. Supporting the Institute's programs is the Art Museum at the University of Memphis, which houses the Institute's growing collection of Egyptian antiquities, the largest in the Mid-South. The Institute also sponsors an epigraphic project at the Great Hypostyle Hall of Karnak Temple and the archeological excavation of the Tomb of Amenmesse in the Valley of the Kings, both in Luxor, Egypt.

Institute for Intelligent Systems

The mission of the Institute for Intelligent Systems is to explore intelligent systems in humans, animals, computers, and abstract information technologies. It is widely recognized that there are substantial limitations with the conventional systems in computer science, telecommunications, business, management, and science. Conventional systems are static, linear, brittle, inflexible, slow, or not adaptive to changes in the world. Scientists, engineers and scholars throughout the world have therefore been developing intelligent systems that are considerably more powerful. These systems are hybrids of intelligence in machines, biology, and the human mind. The research in the IIS explores new, cutting edge areas of cognitive science, artificial intelligence, complex dynamical systems, educational technologies, neural networks, evolutionary modeling, massively parallel systems, and biological systems.

Integrated Microscopy Center

The Integrated Microscopy Center (IMC) houses microscopes, including light and fluorescent microscopes, a confocal laser scanning microscope, scanning and transmission electron microscopes, and ancillary equipment used to prepare samples. The Center is a resource facility of The University of Memphis, designed to provide expertise in the use of microscopy to graduate students, faculty, and researchers at The University of Memphis and throughout the immediate area.

Marcus W. Orr Center for the Humanities

The Marcus W. Orr Center for the Humanities promotes interdisciplinary research and teaching in the humanities at The University of Memphis. Its various programs including several lecture series and the sponsorship of visiting scholars, faculty seminars, and symposia are designed to encourage scholarly collaboration across departmental and college boundaries. It also seeks to promote the University's scholarly resources in the Memphis community, by offering a variety of public programs. The Center was founded in 1987 and renamed in 1991 in memory of former history professor Dr. Marcus W. Orr.

Regional Economic Development Center

The Center represents the University in its outreach function in the field of economic development planning. In providing technical and management assistance to the public and private sectors, the Center also serves as a laboratory for interdisciplinary research and service by faculty and graduate students in solving problems of urban and regional development. The Center's professional planning staff have academic appointments and teach courses in the Division of City and Regional Planning.

Speech and Hearing Center

Located in the medical center of Memphis, this facility became affiliated with the University in 1967. An additional site is located on the South Campus. Both locations serve children and adults with communication disorders. Students at the University may receive services at no charge, while faculty and staff are seen at 50% of normal charges. The University administers and operates the Center in cooperation with the Board of Directors of the Memphis Speech and Hearing Center, Inc.

Other Research Units

In addition to the units described above, The University of Memphis also recognizes a wide array of other research-oriented units:

- Anthropological Research Center
- Barbara K. Lipman Early Childhood Center and Research Institute
- Center for Community Health (formerly the Prevention Center)
- Center for River Studies
- Center for Health Services Research
- Center for Rehabilitative and Employment Research
- Center for Voluntary Action Research

Computational Research on Materials Institute at U of M (CROMIUM)

- FedEx Center for Cycle Time Research
- Groundwater Institute
- Industry/University Cooperative Research Center for Biosurfaces
- Institute for Gambling Education and Research
- Memphis Alliance for Public Health Research
- Neuropsychology Research Laboratory
- Oral History Research Office
- Robert Wang Center for International Business
- Southern Music Archive
- Transportation Studies Institute
- W. Harry Feinstone Center for Genomic Research

Recognized Centers and Chairs of Excellence

The University of Memphis has been designated by the Tennessee Higher Education Commission as a location for centers and chairs of excellence. The units listed below receive special funding by the state in recognition of their status.

Centers of Excellence

- Center for Applied Psychological Research
- Center for Earthquake Research and Information
- Center for Research in Educational Policy
- Center for Research Initiatives and Strategies for the Communicatively Impaired
- Center of Excellence in Egyptian Art and Archaeology

Chairs of Excellence

- Arthur Andersen and Company Alumni Chair in Accounting
- Bornblum Chair in Judaic Studies
- Federal Express Chair in Management Information Systems
- W. Harry Feinstone Chair in Molecular Biology
- W. Harry Feinstone Chair in Functional Genomics
- Morris S. Fogelman Chair in Real Estate
- Helen and Jabie Hardin Chair of Economics/Managerial Journalism
- Jabie Sanford Hardin III Chair in Combinatorics
- Herbert Herff Chairs in Biomedical Engineering
- Herbert Herff Chair in Law
- Dorothy K. Hohenberg Chair in Art History
- William A. and Ruth F. Loewenberg Chair in Nursing
- Plough Chair of Excellence in Audiology and Speech-Language Pathology
- William M. Morris Chair in International Economics
- Lillian and Morrie Moss Chair in English
- Lillian and Morrie Moss Chair in Philosophy
- Lillian and Morrie Moss Chair in Psychology
- Lillian and Morrie Moss Chair in Urban Education
- Sales and Marketing Executives, Inc. Chair in Sales
- Sparks Family Chair in International Business
- Thompson-Hill Chair in Accounting
- University of Memphis Chair in Free Enterprise Management
- Robert Wang Chair in International Business
- Wunderlich Chair in Finance

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MINIMUM DEGREE REQUIREMENTS

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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](#), and the [Herff College of Engineering](#) have additional college degree requirements. Please see [Degree Programs and Courses](#) 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.

The master's programs are: Master of Arts (MA), Master of Arts in Liberal Studies (MALS), Master of Arts in Teaching (MAT), Master of Architecture (MArch), Master of Business Administration (MBA), International Masters of Business Administration (IMBA), Master of City and Regional Planning (MCRP), RODP Master of Education (MED), Master of Fine Arts (MFA), Master of Health Administration (MHA), Master of Music (MMu), Master of Science in Nursing (MSN), Master of Public Administration (MPA), Master of Public Health (MPH), Master of Science (MS).

The post-master's degrees of Education Specialist (EdS), Doctor of Audiology (AuD), Doctor of Education (EdD), and Doctor of Musical Arts (DMA) are also offered. The Doctor of Philosophy (PhD) is awarded in audiology and speech pathology, biology, business administration, chemistry, communication, computer science, counseling psychology, educational psychology and research, earth sciences, engineering, English, history, mathematics, music, philosophy, and psychology.

Graduate Certificates are offered in African American Literature, College Teaching, Community College Teaching and Leadership, Geographic Information Systems, Information Assurance, Instructional Computing Applications, Local Government Management, Museum Studies, Teaching English as a Second Language, Women's Studies, and a post-Master's Family Nurse Practitioner certificate.

Graduate Certificate in African American Literature: This 15-hour program provides official recognition of preparation to help students qualify for jobs teaching African American Literature both within and outside the United States. Contact the [Department of English](#) for details.

Graduate Certificate in Applied Lean Leadership: This 12-hour program provides students with competitive knowledge and skills for jobs in which Lean is practiced, and a cost-effective way to upgrade technical skills in Lean techniques. The certificate is intended for the student who has a bachelor's degree and who is currently working full-time in a production or service industry, and is specifically interested in learning about Lean principles and practices. Based on the Society of Manufacturing Engineers' "Lean Certification Body of Knowledge," a student who completes the certificate program will be expected to be able to pass the SME/AME/Shingo prize, Lean Certification Exam at the Bronze level. Contact the [Department of Engineering](#)

[Technology](#) for details.

Graduate Certificate in College Teaching: This program provides specific training in college teaching for graduate teaching assistants. The 12-hour program equips TAs with knowledge and skill in effective college teaching methods. Only fully admitted graduate students who are graduate teaching assistants are eligible to enroll in the program. Contact the Graduate School for details.

Graduate Certificate in Community College Teaching and Leadership: This 18-hour program offers a certificate for individuals interested in either a teaching or an administrative position in a community college. Contact the [Department of Leadership](#) for details.

Graduate Certificate in Geographic Information Systems: The GIS Certificate gives students an interdisciplinary perspective that allows them to integrate GIS skills into knowledge acquired in other disciplines, and competitive skills and training for jobs in which GIS skills are essential. Contact the [Department of Earth Sciences](#) for details about this 18-hour program.

Graduate Certificate in Information Assurance: This 12-hour 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. Contact the [Department of Computer Science](#) for details.

Graduate Certificate in Instructional Computing Applications : This certificate program is designed for educators who want to integrate the use of computers in the classroom. The certificate requires the completion of 12 hours from a designated core of courses. The focus of these courses is to develop the technological competencies needed for the development, utilization, and integration of instructional computing technology in the classroom. Contact the [College of Education](#) for details.

Graduate Certificate in Local Government Management: This 15-hour program will allow local government professionals and other individuals who may not have the time and financial resources that are required for completion of the Master's of Public Administration degree to obtain valuable knowledge and insight concerning the complex legal and political environment that today's municipalities operate within. Contact the [Division of Public and Nonprofit Administration](#) for details.

Interdisciplinary Graduate Certificate in Museum Studies: This 18-hour certificate program is jointly administered by the departments of Anthropology and Art. The program includes two three-hour internships and provides training in all aspects of museum administration. Contact the [Director of the Art Museum](#) or the [Associate Dean of the College of Arts and Sciences](#) for details.

Graduate Certificate in Teaching English as a Second/Foreign Language: This 15-hour program provides training to those interested in teaching English as a Second/ Foreign Language both within and outside the United States to post-secondary students and adults. Contact the [Department of English](#) for details.

Graduate Certificate in Women's Studies: This 12-hour certificate program is administered by the [Women's Studies](#) program in the College of Arts and Sciences and is open to any MA or PhD student in the university.

Post-Masters Family Nurse Practitioner Certificate: This 21-hour program provides a formal program of study for students who already have the Master of Science in Nursing degree and are interested in taking the national certification exam to practice as a Family Nurse Practitioner without requiring them to complete a second masters degree. Contact the [Loewenberg School of Nursing](#) for details.

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 three ways. (1) The student achieves a score on the

Graduate School Foreign Language Test (GSFLT) acceptable to the academic unit granting the degree. (2) The student earns a grade of "B" (3.0) or better in designated courses. (3) The student demonstrates a reading knowledge of a foreign language at a level acceptable to the Coordinator of Graduate Studies and the chair of the Department of Foreign Languages and Literatures. For additional information consult the academic unit directly.

MINIMUM REQUIREMENTS FOR MASTER'S DEGREES

Course Requirements

The 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 units may allow fewer workshop or independent study hours in their programs.

Additional Program Requirements

Each graduate program listed in this Bulletin 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.

Time Limitation

All requirements for the degree must be completed in six years, or eight years in programs that require 36 hours or more. 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.

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.

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.

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.

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 the Graduate Bulletin.

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 unit 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 can not 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 "Application for Admission to Candidacy" for the Master's Degree and an "Intent to Graduate Card" must be filed by the deadline published in the Graduate Bulletin, posted on academic unit bulletin boards on campus, and available on-line. No exceptions will be made if both the intent card and 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. Grades earned in the final semester may not be used to correct GPA deficiencies. The student must have at least a 3.0 average in all graduate work at the time the Intent to Graduate Card 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 unit 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, unit head and/or director of graduate studies in the student's college, and the Vice Provost for Graduate Studies.

It is the responsibility of each graduate student to notify the Graduate School Academic Advisor at mstout@memphis.edu of any changes in name or address. Students who are graduating will receive a postcard from the Commencement Office regarding graduation ceremony requirements 6 to 8 weeks prior to graduation.

Enrollment Requirements

Students must be enrolled during the semester in which they defend the thesis as well as the semester in which they intend to graduate, regardless of when the comprehensive exam was taken or the culminating experience was finished and approved. Individual 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 units 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 at <http://academics.memphis.edu/gradschool/tdinfo.html> 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.

Defense of 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. Students must be enrolled in the semester during which they defend the thesis.

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 and the Vice Provost for Graduate Studies for final acceptance. A copy of that final draft along with an original committee approval page, with signatures in black ink, must be submitted to the Graduate School after the successful defense.

The Graduate School requires three copies of the master's thesis. The thesis must be accompanied by an abstract of not more than 150 words. The student should consult with the unit head and/or thesis advisor as to the number of additional copies required.

Continuous Enrollment

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 Vice Provost for Graduate Studies 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 Studies. Retroactive approval will not be granted. A leave of absence does not extend time limit to degree.

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 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. No more than six (6) semester hours of the first degree may be applied toward the second degree (see exceptions in the MFA in Creative Writing, MFA in Art, MFA in Theatre, and the MCRP). 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 be within the regular time limit requirements for the second master's degree. Two degrees may be pursued simultaneously or sequentially.

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 section of this Bulletin.

MINIMUM REQUIREMENTS FOR DOCTORAL DEGREES

Course Requirements

Doctoral degrees require at least 72 credit hours beyond the bachelor's degree; many programs require more. Specific requirements for the doctoral degree vary with the academic unit; see the appropriate section in this Bulletin. 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. The last thirty 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. No more than 15 post-baccalaureate hours of 6000 level courses may be applied to a doctoral degree. Individual units may have more restrictive requirements.

Additional Program Requirements

Each graduate program listed in this Bulletin 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.

Time Limitation

Doctoral degrees must be earned within twelve (12) consecutive years. All course work must be completed within ten (10) years of the student's original admission to a doctoral program. The student may take a further two years of dissertation credit. However, individual academic units 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

The 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. Some academic units do not count the summer term towards residency. The College of Education has an alternative residency program; refer to the appropriate section of this Bulletin 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 Vice Provost for Graduate Studies. 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 unit 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 units 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 Bulletin. 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 "Application for Admission to Doctoral Candidacy" 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 "Application for Admission to Doctoral Candidacy" must be submitted to the Graduate School as soon as possible after the student has passed the comprehensive examination.
2. 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."
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. No more than fifteen (15) hours of 6000-level courses may be applied to a doctoral degree. Individual units may have more restrictive requirements.
5. Grades earned on courses taken during the student's final semester may not be used to correct GPA deficiencies. The student must have at least a 3.0 average in all graduate work at the time the candidacy form is filed.
6. 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 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 dissertation must meet the specific regulations of the academic unit in which the student is majoring and the Graduate School. Consult the academic unit for the acceptable format. Students should also familiarize themselves with the Thesis/Dissertation Preparation Guide <http://academics.memphis.edu/gradschool/tdinfo.html> before starting to write.

The final draft must be approved by all members of the dissertation committee and by the Vice Provost for Graduate Studies. This final draft of the dissertation must be submitted to the Graduate School after the defense along with an original committee approval page, with signatures in black ink.

A minimum of three copies of the dissertation must be submitted for binding. The dissertation, which will be microfilmed, must be accompanied by an unnumbered abstract of not more than 350 words. The abstract will be published. 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.

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 Studies 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 Studies. 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.

Dissertation Credit

Credit will be posted upon the completion and acceptance of the dissertation. No more than the maximum number of semester hours for dissertation accepted by the academic unit 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, unit head and/or director of graduate studies in the student's college, and the Vice Provost for Graduate Studies. 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. An "Intent to Graduate Card," by the deadline published in the Graduate Bulletin, posted on academic unit bulletin boards, and available on-line. No exceptions will be made if the Intent to Graduate Card is not submitted by the stated deadlines.
2. The Dissertation Defense Results form, as soon as the defense has concluded.

It is the responsibility of each graduate student to notify the Graduate School Academic Advisor at mstout@memphis.edu of any changes in name or address. Students who are graduating will receive a postcard explaining graduation ceremony requirements 6 to 8 weeks prior to graduation.

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.

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RESIDENCY CLASSIFICATION

All determinations concerning the classification of students as in-state or out-of-state for fee purposes are made in the Admissions Office. The determinations are based on regulations and guidelines of the Tennessee Board of Regents (see below). If, for any reason, there is a question about a student's state residency classification for fee payment purposes, the student is responsible for requesting a review of his/her residency status before classes begin. Requests for review should be made to the Admissions Office.

Intent

The public institutions of higher education in the State of Tennessee shall apply uniform rules, as described in these regulations, in determining whether students shall be classified "in-state" or "out-of-state" for fees and tuition purposes and for admission purposes.

Definitions

- (1) "Public higher educational institution" shall mean a university or community college supported by appropriations made by the Legislature of this State.
- (2) "Residence" shall mean continuous physical presence and maintenance of a dwelling within this State, provided that absence from the State for short periods of time shall not affect the establishment of a residence.
- (3) "Domicile" shall mean a person's true, fixed, and permanent home and place of habitation; it is the place where he or she intends to remain, and to which he or she expects to return when he or she leaves without intending to establish a new domicile elsewhere.
- (4) "Emancipated person" shall mean a person who has attained the age of eighteen years, and whose parents have entirely surrendered the right to the care, custody, and earnings of such person and who no longer are under any legal obligation to support or maintain such deemed "emancipated" person.
- (5) "Parent" shall mean a person's father or mother. If there is a non-parental guardian or legal custodian of an unemancipated person, "parent" shall mean such guardian or legal custodian; provided, that there are not circumstances indicating that such guardianship or custodianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person.
- (6) "Continuous enrollment" shall mean enrollment at a public higher educational institution or institutions of this State as a full-time student, as such term is defined by the governing body of said public higher educational institution or institutions, for a normal academic year or years of the appropriate portion or portions thereof since the beginning of the period for which continuous enrollment is claimed. Such person need not enroll in summer sessions or other such inter-sessions beyond the normal academic year for his or her enrollment to be deemed "continuous." Enrollment shall be deemed continuous notwithstanding lapses in enrollment occasioned solely by the scheduling of commencement and/or termination of the academic years, or appropriate portion thereof, of the public higher educational institutions in which such person enrolls.

Rules for Determination of Status

- (1) Every person having his or her domicile in this State shall be classified "in-state" for fee and tuition purposes and for admission purposes.

(2) Every person not having his or her domicile in this State shall be classified "out-of-state" for said purposes.

(3) The domicile of an unemancipated person is that of his or her parent. Unemancipated students of divorced parents shall be classified **◆in-state◆** when one parent, regardless of custodial status, is domiciled in Tennessee.

(4) The spouse of a student classified **◆in-state◆** shall also be classified as **◆in-state.◆**

Out-of-State Students Who Are Not Required to Pay Out-of-State Tuition

(1) An unemancipated, currently enrolled student shall be reclassified out-of-state should his or her parent, having theretofore been domiciled in the State, remove from the State. However, such student shall not be required to pay out-of-state tuition nor be treated as an out-of-state student for admission purposes so long as his or her enrollment at a public higher educational institution or institutions is continuous.

(2) An unemancipated person whose parent is not domiciled in this State but is a member of the armed forces and stationed in this State or at Fort Campbell pursuant to military orders shall be classified out-of-state, but shall not be required to pay out-of-state tuition. Such a person, while in continuous attendance toward the degree for which he or she is currently enrolled, is not required to pay out-of-state tuition if his or her parent thereafter is transferred on military orders.

(3) A person whose domicile is in a county of another state lying immediately adjacent to Montgomery County, or whose place of residence is within thirty (30) miles of Austin Peay State University shall be classified out-of-state but shall not be required to pay out-of-state tuition at Austin Peay State University. Provided, however, that there be no teacher college or normal school within the non-resident's bona fide place of residence.

(4) A person whose domicile is in Mississippi County, Arkansas, or either Dunlin County or Pemiscot County, Missouri, and who is admitted to Dyersburg State Community College shall not be required to pay out-of-state tuition.

(5) A person, who is not domiciled in Tennessee, but has a bona fide place of residence in a county which is adjacent to the Tennessee state line and which is also within a 30-mile radius (as determined by THEC) of a city containing a two-year TBR institution, shall be classified out-of-state, but admitted without tuition. The two-year institution may admit only up to three percent (3%) of the full-time equivalent attendance of the institution without tuition. (THEC may adjust the number of the non-residents admitted pursuant to this section every three (3) years.) (See TCA 49-8-102.)

(6) Part-time students who are not domiciled in this State but who are employed full-time in the State, or who are stationed at Fort Campbell pursuant to military orders, shall be classified out-of-state but shall not be required to pay out-of-state tuition. This shall apply to part-time students who are employed in the State by more than one employer, resulting in the equivalent of full-time employment. These students must supply proper documentation of employment each semester.

(7) Military personnel and their spouses stationed in the State of Tennessee who would be classified out-of-state in accordance with other provisions of these regulations will be classified out-of-state but shall not be required to pay out-of-state tuition. This provision shall not apply to military personnel and their spouses who are stationed in this State primarily for educational purposes.

(8) Dependent children who qualify and are selected to receive a scholarship under the Dependent Children Scholarship Act (TCA 49-4-704) because their parent is a law enforcement officer, fireman, or emergency medical service technician who was killed or totally and permanently disabled while performing duties within the scope of their employment shall not be required to pay out-of-state tuition.

(9) Students who are selected to participate in the institution's Honors programs.

(10) Active-duty military personnel who begin working on a college degree at a TBR institution while stationed in Tennessee or at Fort Campbell, Kentucky, and who are transferred or deployed prior to completing their degrees, can continue to completion of the degrees at that same institution without being required to pay out-of-state tuition, as long as he/she completes at least one (1) course for credit each twelve (12) month period after the transfer or deployment. Exceptions may be made in cases where the service member is deployed to an area of armed conflict for periods exceeding twelve (12) months.

(11) Students who participate in a study abroad program, when the course/courses in the study abroad program is/are the only course/courses for which the student is registered during that term, shall not be required to pay out-of-state tuition.

(12) Students who are awarded tuition waiver scholarships for participation in bona fide campus performance-based programs, according to established guidelines, shall not be required to pay out-of-state tuition.

Presumption

Unless the contrary appears from clear and convincing evidence, it shall be presumed that an emancipated person does not acquire domicile in this State while enrolled as a full-time student at any public or private higher educational institution in this State, as such status is defined by such institution.

Evidence To Be Considered for Establishment of Domicile

If a person asserts that he or she has established domicile in this State he or she has the burden of proving that he or she has done so. Such a person is entitled to provide to the public higher educational institution by which he or she seeks to be classified or reclassified in-state, any and all evidence that he or she believes will sustain his or her burden of proof. Said institution will consider any and all evidence provided to it concerning such claim of domicile but will not treat any particular type or item of such evidence as conclusive evidence that domicile has or has not been established.

Appeal

The classification officer of each public higher educational institution shall be responsible for initially classifying students "in-state" or "out-of-state." Appropriate procedures shall be established by each such institution by which a student may appeal his or her initial classification. If, for any reason, there is a question about a student's residency classification for fee paying purposes, it is his or her responsibility to check with the Admissions Office. Application for reclassification must be made to the classification officer on or before the last day of regular registration of that semester.

Effective Date for Reclassification

If a student classified out-of-state applies for in-state classification and is subsequently so classified, his or her in-state classification shall be effective as of the date on which reclassification was sought. However, out-of-state tuition will be charged for any semester during which reclassification is sought and obtained unless application for reclassification is made to the classification officer on or before the last day of regular registration of that semester.

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2008-2009

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THOMAS J. NENON, PhD, Vice Provost for Assessment, Institutional Research, and Reporting
JENNIFER WAGNER-LAWLOR, PhD, Interim Vice Provost for Undergraduate Programs
KAREN WEDDLE-WEST, PhD, Vice Provost for Graduate Studies
WILLIAM L. AKEY, EdD, Assistant Vice Provost for Enrollment Services
DANIEL J. POJE, EdD, Assistant Vice Provost for Academic Programs and Assessment

HENRY C. KURTZ, PhD, Dean of the College of Arts and Sciences
RAJIV GROVER, PhD, Dean of the Fogelman College of Business and Economics
RICHARD R. RANTA, PhD, Dean of the College of Communication and Fine Arts
MICHAEL HAMRICK, EdD, Interim Dean of the College of Education
RICHARD C. WARDER, Jr, PhD, Dean of the Herff College of Engineering
SYLVERNA V. FORD, PhD, Dean of Libraries
MAURICE I. MENDEL, PhD, Dean, School of Audiology and Speech-Language Pathology
KEVIN H. SMITH, JD, PhD, Interim Dean of the Cecil C. Humphreys School of Law
MARJORIE LUTTRELL, PhD, Dean, Loewenberg School of Nursing

CENTERS AND INSTITUTES

JERRY L. ANDERSON, PhD, Director, Groundwater Institute
ROBERT P. CONNOLLY, Director, Chucalissa Indian Village and Museum
LEWIS B. COONS, PhD, Director, Integrated Microscopy Center
LORELEI H. CORCORAN, PhD, Director, Institute of Egyptian Art and Archaeology
DAVID COX, PhD, and STANLEY HYLAND, PhD, Co-Directors, Center for Urban Research and Extension
CHARLES W. CRAWFORD, PhD, Director, Oral History Research Office
JOHN E. GNUSCHKE, PhD, Director, Center for Manpower Studies; Bureau of Business and Economic Research
ARTHUR C. GRAESSER, PhD, Director, Center for Applied Psychological Research; Director, Institute for Intelligent Systems
ARCH JOHNSTON, PhD, Executive Director, Center for Earthquake Research and Information
JONATHAN JUDAKEN, PhD, Director, Marcus W. Orr Center for the Humanities
BENWARI L. KEDIA, PhD, Director, Wang Center for International Business
MICHAEL L. KENNEDY, PhD, Director, Edward J. Meeman Biological Field Station
HSIANG-TE KUNG, PhD, Director, Confucius Institute
MARTIN E. LIPINSKI, PhD, Director, Transportation Studies Institute; Director, Center for River Studies
CHARLES J. LONG, PhD, Director, U of M-UT Center for Neuropsychology
DAPHENE MCFARREN, PhD, Director, Benjamin Hooks Center for Social Change
MAURICE I. MENDEL, PhD, Director, Memphis Speech and Hearing Center
PATRICIA H. MURRELL, EdD, Director, Center for the Study of Higher Education
GENE PEARSON, MURP, Director, Regional Economic Development Center
STEVEN M. ROSS, PhD, Director, Center for Research on Educational Policy
LYNDA SAGRESTANO, PhD, Director, Center for Research on Women
JENNIFER WAGNER-LAWLOR, PhD, Associate Dean for Interdisciplinary Studies, College of Arts & Sciences
KENNETH D. WARD, PhD, Director, Center for Community Health

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2008-2009 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)

A more detailed calendar can be found on the Web at:

<http://academics2.memphis.edu/registrar/calendars/semester.htm>

REGISTRATION INFORMATION: www.enrollment.memphis.edu/registrar/

GRADUATION INFORMATION

FALL SEMESTER 2008

AUGUST 21: New faculty orientation, 8:30 A.M.
AUGUST 21: General Faculty meeting, 2:00 P.M.
AUGUST 23: Classes begin, full and first sessions
SEPTEMBER 1: Holiday: Labor Day
OCTOBER 10: Last day of classes/exams, first session
OCTOBER 11-14: Fall Break
OCTOBER 15: First day of classes, second session
NOVEMBER 27-30: Holiday: Thanksgiving
DECEMBER 3: Classes end, full and second sessions
DECEMBER 3: Second session exams
DECEMBER 4: Study Day
DECEMBER 5-11: [Final examinations](#)
DECEMBER 13: Commencement (tentative)

SPRING SEMESTER 2009

JANUARY 15: Classes begin, full and first sessions
JANUARY 19: Holiday: M. L. King, Jr.
MARCH 6: Last day of classes/exams, first session
MARCH 9-15: Spring Break
MARCH 16: First day of classes, second session
APRIL 29: Classes end, full and second sessions
APRIL 29: Second session exams
APRIL 30: Study Day
May 1-7: Final examinations
MAY 9: Commencement (tentative)

PRE-SUMMER SESSION 2009

MAY 18: Classes begin
MAY 25: Holiday: Memorial Day
JUNE 4: Classes end
JUNE 5: Final examinations

FULL SUMMER SESSION 2009

JUNE 8: Classes begin
JULY 2-5: Holiday: Independence Day and Summer Break
AUGUST 13: Classes end
AUGUST 14: Final examinations
AUGUST 16: Commencement (tentative)

FIRST SUMMER SESSION 2009

JUNE 8: Classes begin
JULY 3: Holiday: Independence Day
JULY 9: Classes end
JULY 10: Final examinations

SECOND SUMMER SESSION 2009

JULY 14: Classes begin
AUGUST 13: Classes end
AUGUST 14: Final examinations

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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COLLEGE OF ARTS AND SCIENCES

HENRY KURTZ, PhD,
Dean

LINDA A. BENNETT, PhD,
*Associate Dean for Graduate Studies & Research
and Director of Graduate Programs*

JENNIFER WAGNER-LAWLOR, PhD,
Associate Dean for Interdisciplinary Programs

Department or Division	Major	Concentration Within Major	Degree Offered
Anthropology	Anthropology	(1) Urban Anthropology (2) Medical Anthropology	Master of Arts (MA)
Biology	Biology		Master of Science (MS) Doctor of Philosophy (PhD)
Chemistry	Chemistry	(1) Analytical Chemistry (2) Computational Chemistry (3) Inorganic (4) Organic (5) Physical Chemistry	Master of Science (MS) Doctor of Philosophy (PhD)
City and Regional Planning*	City and Regional Planning		Master of City and Regional Planning (MCRP)
Computer Science	Computer Science Applied Computer Science		Master of Science (MS)
	Computer Science		Doctor of Philosophy (PhD)
	Information Assurance		Graduate Certificate
Criminology and Criminal Justice*	Criminal Justice		Master of Arts (MA)
Earth Sciences	Earth Sciences	Geography	Master of Arts (MA)
	Earth Sciences	(1) Archaeology (2) Geography (3) Geology (4) Geophysics (5) Interdisciplinary Studies	Master of Science (MS)

	Earth Sciences		Doctor of Philosophy (PhD)
	Geographic Information Systems		Graduate Certificate
English	English	(1) Composition Studies (2) English as a Second Language (3) Language and Linguistics (4) Literature (5) Professional Writing	Master of Arts (MA)
	Creative Writing		Master of Fine Arts (MFA)
	English	(1) Applied Linguistics (2) Composition Studies (3) Professional Writing (4) Textual Studies	Doctor of Philosophy (PhD)
	African American Literature		Graduate Certificate
	Teaching English as a Second Language		Graduate Certificate
Foreign Languages and Literatures	Romance Languages	(1) French (2) Spanish	Master of Arts (MA)
Health Administration*	Health Administration		Master of Health Administration (MHA)
History	History		Master of Arts (MA) Doctor of Philosophy (PhD)
		Ancient Egyptian History	Master of Arts (MA) Doctor of Philosophy (PhD)
Mathematical Sciences	Mathematical Sciences	(1) Applied Mathematics (2) Mathematics (3) Statistics (4) Teaching of Mathematics	Master of Science (MS)
		(1) Mathematics (2) Applied Statistics	Doctor of Philosophy (PhD)
Philosophy	Philosophy		Master of Arts (MA) Doctor of Philosophy (PhD)
Physics	Physics	(1) Computational Physics (2) General Physics	Master of Science (MS)
Political Science	Political Science		Master of Arts (MA)
Psychology	Psychology	General Psychology	Master of Science (MS)
	School		Master of Arts (MA)

	Psychology			
	Psychology	(1) Clinical Psychology (2) Experimental Psychology (3) School Psychology	Doctor of Philosophy (PhD)	
Public & Nonprofit Administration*	Public Administration	(1) General Public Administration (2) Nonprofit Administration	Master of Public Administration (MPA)	
	Local Government Management		Graduate Certificate	
Sociology	Sociology		Master of Arts (MA)	
Interdisciplinary (Art and Anthropology)	Museum Studies		Graduate Certificate	
Interdisciplinary Programs	Bioinformatics		Master of Science	
	Public Health		Master of Public Health (MPH)	
	Women's and Gender Studies	(1) Cultural Studies (2) Inequality & Social Policy		Master of Arts (MA)
				Graduate Certificate

*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 sixteen departments and three divisions, each of which offers graduate degrees. 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. 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 or divisional listings in this section).

Individual program requirements described in the Graduate School Issue of the 2008-2009 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 website at: <http://academics.memphis.edu/gradschool/index.html> for annual updates.

MASTER OF ARTS 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, Sociology, and Women's and Gender Studies (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 **MASTER OF HEALTH ADMINISTRATION** is a 48-semester-hour program for those interested in managerial and administrative careers in the health care community.

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 inter-disciplinary 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 **MASTER OF PUBLIC HEALTH (MPH)** is an interdisciplinary program that integrates the academic study of public health theory with principles of public health practice. A strong partnership with the Memphis and Shelby County Health Department facilitates the exchange of ideas and translation of research to practice.

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: Biology, 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.

DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy Degree is offered in the following departments within the College of Arts and Sciences: Biology, 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), 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), Teaching English as a Second Language (Department of English), and Women's and Gender Studies (Center for Interdisciplinary Studies).

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ANTHROPOLOGY
Room 316, Manning Hall
(901) 678-2080

RUTHBETH FINERMAN, PhD
Chair

CHARLES WILLIAMS, JR., PhD
Coordinator of Graduate Studies
E-mail: cwilliams@memphis.edu
<http://anthropology.memphis.edu/>

Program objectives are: (1) competence in experimental design and data analysis related to anthropological research; (2) competence in oral and written communication; and (3) ability to compete successfully for professional positions in anthropology and related fields.

I. The Department of Anthropology offers a Master of Arts degree with a major in Anthropology with the purpose of training students as competent practicing anthropologists in the fields of multiethnic community organization, health care delivery systems, cultural resource management and service in archaeology.

II. Concentrations are available in Urban Anthropology and Medical Anthropology. Each student will plan his or her program in consultation with his or her major advisor.

III. M.A. 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. In addition to their undergraduate academic record, applicants will be considered on the basis of their GRE scores, work experience and career plans as described in the letter of intent. Except in exceptional circumstances, students should have a 3.0 undergraduate record and at least 450 scores on each of the verbal and quantitative GRE subtests.

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 April 1 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. Field school admissions (only) will be accepted until May 15. 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) for a total of 36 semester hours.
2. Satisfactory completion of the core curriculum (14 hours).
3. Satisfactory completion of track-specific requirements (6 hours).
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.
7. Intensive Writing Option. Some students may choose to pursue an intensive writing option. Students who choose this option must complete all of the requirements listed above and satisfactorily complete

the requirements for ANTH 7995 (3 hours) for a total of 39 semester hours.

IV. Interdisciplinary Graduate Certificate Program in Museum Studies (administered jointly by the Department 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:
 - a. transcript of undergraduate degree program and transcripts of prior and current graduate study;
 - b. three letters of recommendation; and
 - c. 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 (lluebbers@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.

ANTHROPOLOGY (ANTH)

6051. Anthropology and 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: Permission of instructor.

6065. Contemporary Anthropological Theory. (3). Contemporary growth of theories and methods in anthropology. PREREQUISITES: ANTH 1100 and 1200; or permission of instructor.

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. PREREQUISITE: ANTH 1100, 1200 or permission of instructor.

6120. Africa's New World Communities. (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.

6220. Cultural Perspectives on the 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. PREREQUISITE: ANTH 1100, 1200, or permission of instructor.

6251. Psychological Anthropology. (3). (6751). Examines the relationship between culture and personality; cross-cultural comparison of perspectives on cognition, mental illness, ethnopsychiatry, and ethnotherapies.

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.

6301. Archaeology of North America. (3). (Same as ESCI 6301). Intensive study of various prehistoric cultures from earliest times until historic contact. PREREQUISITE: ANTH 1100, 1200, 1300, or permission of instructor.

6302. Native Peoples of North America. (3). Intensive ethnological study of various prehistoric cultures from earliest times until historic contact. PREREQUISITE: ANTH 1100, 1200, 1300, or permission of instructor.

6325. Archaeological Field Techniques. (3-6). (Same as ESCI 6325). Field excavation, specimen preparation, use of survey instruments and photography, map making and archaeological record keeping; methods and techniques in archaeological laboratory analysis; emphasis on organization and supervision of laboratory procedures. May be repeated for maximum of 6 credit hours.

6336. Native Peoples of the Southeast. (3). Intensive ethnological study of various Native American cultures in the Southeast during the post-contact period. PREREQUISITE: ANTH 1100, 1200, 1300, or permission of instructor.

6352. Old World Archaeology. (3). (Same as ESCI 6352). Old World cultures from first humans to early civilizations.

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.

6412. Neighborhood Development and Social Entrepreneurship. (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.

6413. Anthropology of Tourism. (3). Cultural dynamics and dilemmas of tourism and tourist development; tourism assessed in terms of impacts on the host culture, tourists, and the environment; also assessed as development alternative, driver of cultural change, and form of local, regional, national, international, and intercultural relations.

6414. Cultures of Capitalism. (3). Changes in culture and economic systems from early industrial capitalism to current restructuring of a global system; focus on flexible mass production, regional connections, workplace innovation, and human resources with emphasis on cultural dimensions of contemporary business environments, role of anthropology in corporations, and ethics in business anthropology. PREREQUISITES: ANTH 1200 or ANTH 3282, or permission of instructor.

6420. American Folklore. (3). Selected genres of American folklore, including folk religion and belief,

folk medicine, folksong and music, narrative and humor (jokes and riddles). Comparisons to other cultures. Emphasis on role of folklore in maintenance of tradition, in social change, and in concept of culture.

6511. Medical Anthropology. (3). Cross-cultural analysis of bio-behavioral components of infectious, nutritional, genetic, chronic and psychiatric diseases. Individual and cultural reactions to medical care, professionals, and health care delivery systems.

6512. Complementary and Alternative Medicine. (3). Focuses on complementary and alternative medicine (CAM) practiced in the United State and across the world.

6531. Alcohol, Drugs, and 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.

6541. Nutritional Anthropology. (3). Cross-cultural comparison of human diet; assessment; cultural and health value of foods; hunger and malnutrition; acculturation and dietary change.

6551. Culture, Sex, and 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.

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.

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.

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.

6840. Israel: Antiquity in Modernity. (3). (Same as JDST 6840). Interdisciplinary examination of relationship between ancient traditions and modern issues in Israel; emphasis on relationship between historical conditions, conflicts, and interconnections, as well as new choices facing Israel.

6841. Biblical Archaeology. (3). (Same as JDST 6841 and ESCI 6841). Relationship between historical texts in Hebrew Bible and historical evidence from archaeological research in Israel and surrounding area; emphasis on how archaeological evidence and Biblical narratives illuminate each other.

6880. The Social Life of Things. (3). Advanced study of material culture that examines the ways in which the things people make, acquire, use, and discard can inform our understanding of society and culture. PREREQUISITE: Permission of instructor.

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.

◆7001. Internship for Graduate Assistants. (1-3). Supervision of and consultation with anthropology graduate assistants. May be repeated. PREREQUISITE: Limited to anthropology majors; approval of graduate coordinator.

◆7002. Reading for Comprehensives. (1-3). Arranged on individual basis for anthropology graduate students only. May be repeated. PREREQUISITE: Limited to anthropology majors; approval of graduate coordinator.

◆7004. Teaching Skills for Graduate Assistants. (1-3). Overview and practical demonstrations of art

of teaching anthropology. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Limited to anthropology majors; permission of graduate coordinator.

7075-8075. 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.

7076-8076. Techniques of Anthropological Data Analyses. (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: Knowledge of college-level statistics plus ANTH 7075 or permission of instructor.

7100-8100. Seminar in Biocultural Anthropology. (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.

7200-8200. History of Anthropological 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.

7250. Community, Culture, and Program 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.

7255. Applied Anthropology and Development. (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.

7390-99. Special Topics in Museology. (1-3). Topics in site interpretation/museology. No more than six hours may be counted toward degree requirements in Anthropology.

7410. Contemporary Urban Anthropology. (3). Covers pre-industrial and industrial cities; urbanization, movements of social transformation, and other processes of adjustment to urban milieu; urban slums, ethnic enclaves, and housing developments in cross-cultural perspective; urban kinship and social organization; urban community development; and urban research techniques.

7411. Urban Anthropology in the 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.

7490-99. Special Topics in Urban Anthropology. (3). Topics of special interest in Urban Anthropology. No more than six hours may be counted toward a degree in Anthropology. PREREQUISITE: Non-majors must have permission of instructor.

7511. Anthropology of Health Care. (3). Roles of the various health professions in the delivery of medical care with emphasis on the perception of these roles by racial or ethnic groups in the Mid-South. Lectures by medical professionals and administrators. PREREQUISITE: Non-majors must have permission of instructor.

7521-8521. 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.

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.

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.

7662. Museums and Communities. (3). (Same as ARTH 7662). History and theory of museums, governance, audiences, and current topics in the profession. PREREQUISITE: Permission of instructor.

◆**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.

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.

◆**7970. Directed Individual 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.

◆**7975-8975. Directed Individual Readings. (1-3).** Intensive guided study in areas selected by advanced students and accepted by the staff. PREREQUISITE: Permission of staff.

◆**7980-8980. Directed Individual 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.

◆**7985. Anthropological Applications. (3, 6).** Supervised practical experience in the application of anthropological principles in an agency or facility appropriate to urban, medical, and nutritional anthropology, mental health or archaeology.

◆**7995. Professional Paper. (3).** Preparation and presentation of a professional writing assignment. PREREQUISITE: Permission of instructor.

◆**7996. Thesis. (1, 3, 6).** The student must research, write, and defend a thesis on a subject approved by the major professor and advisory committee. PREREQUISITE: Permission of instructor.

◆**Grades of S, U, or IP will be given**

◆**Grades of A-F, or IP will be given**

BIOINFORMATICS
Room 107, Scates Hall
(901) 678-3550

Ramin Homayouni, PhD
Program Director

Email: rhomayon@memphis.edu
<http://cas.memphis.edu/binf/>

I. Master of Science in Bioinformatics

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. Admission to the Graduate School;
2. GRE scores are required and are an important factor for admission;
3. Two letters of recommendation;
4. A minimum score of 550 on the paper-based TOEFL, 210 on the computer-based TOEFL, or 80 on the internet-based TOEFL (for students whose native language is not English), passing scores on the IELTS will be accepted in lieu of TOEFL scores;
5. Undergraduate degree in biology, computer science, or related field with a minimum GPA of 3.0 on a 4.0 scale.

B. Prerequisites

1. Satisfactory completion of the following courses (or their equivalents) as determined by the Program Director:
 - a. Computer Science
 1. Computer Programming (COMP 4001)
 2. Advanced Data Structures and Algorithms (COMP 3160)
 - b. Mathematics
 1. Calculus I and II (MATH 1321 and 2321)
 2. Introduction to Statistical Reasoning and Application (MATH 1601)
 3. Discrete Structures (MATH 2701)
 - c. Biology
 1. Biochemistry I (BIOL 4511-6511; same as CHEM 4511)
 2. Cell Biology (BIOL 3130)

C. Program Requirements:

1. Candidates must satisfactorily complete 37 credit hours of graduate course work (27 of which must be 7000 level or higher) as approved by the Program Advisor and distributed as follows:
 - a. Major Field Core (13 credit hours):
 - BINF 7980 Research Seminar in Bioinformatics
 - 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 7221 Statistical Methods for Analyzing Gene Expression Data
 - b. Biology: 6 credit hours chosen from:
 - BIOL 7131 Cell and Molecular Biology
 - BIOL 7470 Advanced Bacterial Genetics

- BINF 7701 Introduction to Genomics, Proteomics & Bioinformatics
 BIOL 7703 Molecular Biology of Cancer
 BIOM 7004 Life Sciences for Biomedical Engineering I
- c. Electives: 9-15 credit hours chosen from:
- BIOL 6480 Cellular and Molecular Pharmacology
 CHEM 6415 Computational Chemistry
 CHEM 7711 Approximate Chemical Modeling Methods
 COMP 6081 Software Development
 COMP 6262 Programming in UNIX
 COMP 6601 Models of Computation
 COMP 7115 Database Systems
 COMP 7116 Advanced Database Systems
 COMP 7117 Topics in Database Management Systems
 COMP 7118 Data Mining
 COMP 7282 Evolutionary Computations
 COMP 7290 Molecular Computing
 COMP 7717 Topics in Algorithm
 COMP 7740 Neural Networks
 MATH 6607 Introduction to SAS Programming
 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
 MATH 7695 Bootstrap and Other Resampling Methods
- d. Thesis: 3 credit hours
 BINF 7996 Thesis or BINF 7992 Bioinformatics Project

BIOINFORMATICS (BINF)

7701. Introduction to Genomics, Proteomics & 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 proteomics. PREREQUISITE: Permission of Instructor.

7980. Research Seminar in Bioinformatics. (1). Current research topics in Bioinformatics.

◆**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. May be repeated for a total of 12 semester hours. NOTE: Credit is not applicable toward Bioinformatics Master's Degree.

◆**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.

◆**7996. Bioinformatics Thesis. (1-3).** 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.**

BIOLOGY

Room 103, Ellington Biology Building
(901)-678-2581

RANDALL BAYER, PhD
Chair

MICHAEL KENNEDY, PhD
Coordinator of Graduate Studies
(901) 678-2597

E-mail: grad_studies_coordinator@memphis.edu
<http://biology.memphis.edu>

I. The Department of Biology offers programs that lead to the Master of Science (thesis and non-thesis) and the Doctor of Philosophy. 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 below:

II. MS Degree Program

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

A. Program Admission

1. An overall minimum grade point average of 2.75 (on a 4.0 scale) at the undergraduate level.
2. Two letters of recommendation.
3. Scores for the Graduate Record Examination. A minimum of 500 on both the verbal and quantitative portions of the general component of the GRE is usually competitive.
4. Applicants must have satisfactorily completed ("C" or better) three of the following six upper division courses or their equivalents: BIOL 3050 (Ecology), BIOL 3072 (Genetics), BIOL 3130 (Cell Biology), BIOL 3500 (Microbiology), BIOL 3730 (Vertebrate Physiology), BIOL 4100 (Evolution).
5. Student must have satisfactorily completed ("C" or better) five of the following nine courses or their equivalents: CHEM 1110 (General Chemistry I), CHEM 1120 (General Chemistry II), CHEM 3311 (Organic Chemistry I), CHEM 3312 (Organic Chemistry II), CHEM 4511 (Biochemistry), PHYS 2010 (Physics I), PHYS 2020 (Physics II), MATH 1910 (Calculus), MATH 1601 (Statistics). Other courses in the sciences may substitute for these requirements.
6. 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 and 210 for computer-based exams. Applicants desiring departmental support via a Graduate Teaching Assistantship must also take the Test of Spoken English (TSE); a score of 50 is the minimum accepted. Both exams are available from the Educational Testing Service at <http://www.ets.org>.

B. Program Requirements (Thesis)

1. A minimum of 30 semester hours beyond the baccalaureate degree is required.
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, 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 standardized written Comprehensive Examination before the end of their fifth semester in residence. The scope of this examination is broad and includes a

review of general biological principles in the following disciplines: Cell Biology, Genetics, Evolution, Biochemistry, Microbiology, Ecology, and Physiology.

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.

C. Program Requirements (Non-thesis)

1. A minimum of 36 semester hours of graduate courses is required. 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 7092. BIOL 7000 must be completed during the first year of residence. Attendance at departmental seminars is mandatory. Though students will not present in BIOL 7092, 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 standardized written Comprehensive Examination before the end of their fifth semester in residence. The scope of this examination is broad and includes a review of general biological principles in the following disciplines: Cell Biology, Genetics, Evolution, Biochemistry, Microbiology, Ecology, and Physiology.

III. PhD Degree Program

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

A. Program Admission

1. Prospective doctoral student must either hold a MS or a BS degree from a recognized institution.
2. All students will be required to submit satisfactory scores for the General Placement Test of the Graduate Record Examination with application to enter the Graduate School . A score of 550 in both the verbal and quantitative portions of the GRE is usually competitive.
3. Two letters of recommendation.
4. A potential major professor must be identified prior to acceptance.
5. A personal interview with departmental personnel is recommended but is not required.
6. Students applying with a BS must have at least a 3.0 GPA.
7. All applicants must have satisfactorily completed ("C" or better) four of the following six upper division courses or their equivalents: BIOL 3050 (Ecology), BIOL 3072 (Genetics), BIOL 3130 (Cell Biology), BIOL 3500 (Microbiology), BIOL 3730 (Vertebrate Physiology), BIOL 4100 (Evolution).
8. All applicants must have satisfactorily completed ("C" or better) seven of the following nine courses or their equivalents: CHEM1110 (General Chemistry I), CHEM1120 (General Chemistry II), CHEM3311 (Organic Chemistry I), CHEM3312 (Organic Chemistry II), CHEM4511 (Biochemistry), PHYS2010 (Physics I), PHYS2020 (Physics II), MATH11910 (Calculus), MATH1601 (Statistics). Other courses in the sciences may substitute for these requirements.
9. International students for which 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 and 210 for computer-based exams. Applicants desiring departmental support via a Graduate Teaching Assistantship must also take the Test of Spoken English (TSE); a score of 50 is the minimum accepted. Both exams are available from the Educational Testing Service at <http://www.ets.org>.

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 will 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, 8200, 8092, 8103, 8200, 8600, and 9000. BIOL 8000 must be completed during the first year of residence. Attendance at departmental seminar is mandatory. BIOL 8000 or an equivalent must have been completed by the end of first year of residence. Up to nine hours of BIOL 8092, five hours of BIOL 8200, and 18 hours of BIOL 9000 can be counted toward the degree requirements.
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 three-step process that must be completed by the end of the third year.
 - a. Successful completion of a General Knowledge Examination of broad scope that includes a review of general biological principles in the following disciplines: Cell Biology, Genetics, Evolution, Biochemistry, Microbiology, Ecology, and Physiology.
 - b. A written and oral presentation of the student's Research Prospectus that details the plan of research must be approved by the Advisory Committee prior to collection of data.
 - c. A Comprehensive Examination will be administered by the student's Advisory Committee following completion of the above two requirements. The examination will consist of both a written and an oral component.
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. 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 chair of 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.

BIOLOGY (BIOL)

6050. Field Technique in Ecology. (4). Applied ecology covering practical training in forest, field, aquatic, and atmospheric sampling and analysis. Extended field trips. *Two lecture, four laboratory hours per week; \$20 material fee.* PREREQUISITE: Consent of instructor.

6052. Flora of Tennessee. (3). Field course in identifying native and nonnative species, including key morphological factors necessary to identify plant species, typical habitats of the species identified, and proper procedures for collecting and mounting specimens. PREREQUISITE: BIOL 1120 and 1121.

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.

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; \$20 material fee.* PREREQUISITES: BIOL 3050 and consent of instructor.

6055. Ecological and Environmental Issues. (3). Ecological perspective on current environmental issues such as conservation and biodiversity, global climatic change, and regulation of chemicals in the environment. PREREQUISITE: BIOL 1120 and 1121.

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 3050.

6057. Large River Ecology. (3). Investigates physical and biological processes of large river systems, concentrating on Mississippi River channel and floodplain ecology; includes key factors controlling flooding regime, physical processes of rivers, and communities associated with floodplain and in-channel habitats. *Offered alternate summers at Edward J. Meeman Biology Station.*

6060. Limnology. (4). Physical and chemical attributes of lakes, ponds and streams; organisms of fresh water; problems of production; laboratory work emphasizes Tennessee lakes, and practical training in limnological methods and identification of organisms. *Two lecture, four laboratory hours per week; \$25 material fee.* PREREQUISITE: BIOL 1120 and 1121.

6071. Human Genetics. (3). Genetic principles as they apply to humans, including pedigree analysis, genetic counseling, cancer, and genomics. PREREQUISITE: BIOL 3072.

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.

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. PREREQUISITE: BIOL 1120 and 1121.

6150. Developmental Biology. (3). (MMCS 6150). Introduction to study of developing biological systems at cellular and molecular level. PREREQUISITES: BIOL 3072 and CHEM 3312.

6350. Microbial Biotechnology. (3). (MMCS 6350). Principles underlying practical applications of microorganisms, including synthesis of commercial products, vaccines and antibodies, bioremediation and biomass utilization, plant biotechnology, and food production. PREREQUISITES: BIOL 3550 and CHEM 3312.

6375. Molecular Biology of Parasites and Their Vectors. (3). (MMCS 6375). Emphasis on molecular and immunological aspects of parasites of humans, companion animals, and livestock; biology, treatment, and prevention of parasitic diseases. PREREQUISITE: BIOL 3130 or 3550.

6380. Histology: Tissue and Organ Biology (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.

6401. Plant Cell and Molecular Biology. (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. PREREQUISITES: BIOL 3130 and BIOL 3072.

6440. Pathogenic Bacteriology. (3). (MMCS 6440). Survey of pathogenic bacteria, human and veterinary diseases they cause, and methods of diagnosis; molecular basis of pathogenesis. Introduction to immunological principles and immunity. PREREQUISITES: BIOL 3550 and CHEM 3312.

6445. Immunology. (3). (MMCS 6445, BIOL 6444). Antigens, immunoglobulin classes, cells and cytokines of immune response, complement system, hypersensitivities, blood groups, vaccines, and immunity. PREREQUISITES: BIOL 3130 or 3500 and CHEM 1120.

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. PREREQUISITE: Consent of instructor.

6461. Advanced General Microbiology Laboratory. (2). (MMCS 6460). Application of modern laboratory techniques and instrumentation to experiments in microbial physiology, genetics, ecology, and biotechnology. *Four laboratory hours per week.* PREREQUISITES: BIOL 3505 and 3550.

6465. Advanced Medical Microbiology Laboratory. (2). (MMCS 6465). Application of modern laboratory techniques and instrumentation to experiments in pathogenic bacteriology, immunology, virology, and parasitology. *Four laboratory hours per week.* PREREQUISITES: BIOL 3505 and 3550.

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.* PREREQUISITES: BIOL 3072 and BIOL 3130 or 3500.

6480. Cellular and Molecular Pharmacology. (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. PREREQUISITES: CHEM 1120 and BIOL 3130.

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. PREREQUISITE: BIOL 3550.

6503. Biochemistry Laboratory I. (2). (MMCS 6503). (Same as CHEM 6501). Survey of common biochemical techniques and the properties of biological molecules; emphasis on purification and assay of enzymes and on enzyme kinetics. *Six laboratory hours per week; \$40 material fee.* PREREQUISITES: CHEM 3301 and CHEM 3302 or 3201. PREREQUISITE OR COREQUISITE: BIOL 6511 or CHEM 6511.

6504. Biochemistry Laboratory II. (2). (MMCS 6504). (Same as CHEM 6502). Biochemical laboratory techniques; emphasis on nucleic acids and recombinant DNA techniques. *Six laboratory hours per week; \$40 material fee.* PREREQUISITES: BIOL 6511 or CHEM 6511 and BIOL 4325 or 4470 or consent of instructor.

6511. Biochemistry I. (3). (MMCS 6511). (Same as CHEM 6511). Chemistry of amino acids and proteins related to their properties in biochemical systems; enzymology, including kinetics and conformation studies; coenzymes and their functions; importance of pH; bioenergetics; chemistry of carbohydrates, lipids, and nucleotides. PREREQUISITE: CHEM 3312.

6512. Biochemistry II. (3). (MMCS 6512). (Same as CHEM 6512). Metabolism of carbohydrates, amino acids, and nucleotides, with emphasis on mammalian systems; biochemistry of RNA and DNA, including their relationship to biosynthesis of proteins, DNA and RNA. PREREQUISITE: BIOL 6511 or CHEM 6511.

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.

6630. General 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 1120 and 1121.

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; \$20 material fee. PREREQUISITE: BIOL 1120 and 1121.

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; \$20 material fee. PREREQUISITE: BIOL 1120 and 1121.*

6651. Field Techniques in Vertebrate Zoology. (4-6). Techniques in extended field study of vertebrates outside the local area. Credit hours to be determined in consultation with instructor. *\$20 material fee. PREREQUISITE: BIOL 1120 and 1121.*

6730. Urban-Wildlife Ecology and Management. (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. *PREREQUISITE: BIOL 3050 or permission of instructor.*

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; \$20 material fee. PREREQUISITE: BIOL 1120 and 1121.*

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; \$35 material fee. PREREQUISITE: BIOL 1120 and 1121.*

6745. Tropical Herpetology. (4). Lecture and field-intensive course in herpetology of the tropics; international travel required for laboratory portion of course. *PREREQUISITE: BIOL 1120 and 1121.*

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; \$20 material fee.*

6900. Entomology. (4). Morphology, physiology, behavior, and ecology of insects. *Three lecture, two laboratory hours per week; \$20 material fee. PREREQUISITE: BIOL 1120 and 1121.*

◆7000-8000. Orientation to Graduate Studies. (2). Source of literature in field of biology, data presentation, graphic techniques, and manuscript preparation. *One lecture, two laboratory hours per week.*

◆7004-8004. College Biology 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.

◆7006-8006. Care and Humane Use of Laboratory 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.*

7007-8007. Experimental Cell and Molecular Biology for Teachers. (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.*

7010-8010. Principles and Methods of Systematic 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.*

7011-8011. Advanced Topics in Wetland Ecology. (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.

7012-8012. 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. PREREQUISITE: BIOL 3230 or equivalent and permission of instructor.

7014-8014. Teaching Skills for Graduate Assistants. (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.

7015-8015. Aquaculture. (3). Principles and procedures related to the culture of commercially important freshwater organisms under controlled conditions.

7016-8016. Molecular Systematics and Ecology. (3). Application of systematic and genetic theory to the understanding of part 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.*

7017-8017. Current 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.

7018-8018. Current 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.

7019-8019. Current 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.

7020-8020. Current 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.

7031-8031. Cellular 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.*

7040-8040. Light Microscopy and Image Processing. (3). (MMCS 7040-8040). Light microscope optics, theory and practice of confocal microscopy, current techniques in fluorescence microscopy, digital image acquisition and processing. Lectures occasionally supplemented with demonstrations.

7051-8051. Vertebrate Cell Culture. (3) (MMCS 7051-8051). Theory, principles, and protocols in use of vertebrate cell cultures and cell lines in biomedical research.

7080-8080. Public Health Microbiology. (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.

◆ **7092-8092. Research. (1-6).** Consultation, reading, and laboratory work investigating selected topics in biology. Formal paper with review of literature and results of investigation required. Only 4 semester hours credit may be counted toward degree requirements.

7131-8131. Cell and Molecular Biology. (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.*

7135-8135. 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. PREREQUISITES: BIOL 3130 and BIOL 4512-6512.

7140-8140. Receptors and 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.

7200-8200. Seminar. (1). Student presentations of topics in biochemistry, cell and molecular biology, or microbiology. (Open to Biology students only.)

7250-8250. Community and Landscape Ecology. (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.

7290-8290. Molecular Computing. (3). (MMCS 7290-8290). (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.

7331-8331. Photosynthesis. (2). (MMCS 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.*

7335-8335. Hormones and Behavior. (3). Examines the relationship between endocrinology and behavior in animals and humans and how this relationship underlies survival and reproduction. PREREQUISITE: Endocrinology (BIOL 4630-6630) or permission of instructor.

7340-8340. 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.

7350-8350. 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.

7360-8360. 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.

7370-8370. Current Topics in Wetland Ecology and Management. (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.

7400-8400. Comparative Immunology. (3). (MMCS 7400-8400). Phylogenesis and development of the defensive immune systems of invertebrates and the vertebrate classes. PREREQUISITE: BIOL 6445.

7440-8440. Molecular Biology of 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. PREREQUISITES: BIOL 4503-6503 or BIOL 4470-6470, or permission of instructor.

7464-8464. 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.

7470-8470. Advanced 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. PREREQUISITE: BIOL 6470 or equivalent.

7500-09↔8500-09. Special Topics in Biochemistry. (1-3). (MMCS 7500-09↔8500-09). (Same as CHEM 7500-09-8500-09). 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 hours. PREREQUISITE: Permission of instructor.

7530-8530. Bacterial Physiology. (4). (MMCS 7530-8530). Bacterial physiology including growth, nutrition, biosynthesis, biodegradation, and adaptation.

7550-8550. Food and Industrial Toxicology. (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.

↔7600-8600. Seminar in Biology. (1). Selected topics in the biological sciences. Credit is earned when the results of the student's thesis work is presented.

7610-8610. Environmental Effects on Development. (2). Environment-gene interactions and developmental plasticity; evolutionary, physiological, morphological, and ecological consequences of these interactions. *Two lecture hours per week.*

7700-40↔8700-40. Special Topics in Biology. (1-4). Current topics of special interest in biology. PREREQUISITE: Permission of instructor.

7750-8750. Population Ecology. (4). Examination and quantification of the processes that influence population dynamics. PREREQUISITE: BIOL 3050 or equivalent.

7751-8751. 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.

↔7996. Thesis. (1-6).

↔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.

↔8200. Seminar in Biology. (1). Selected topics in biological sciences. Credit is earned when a seminar on the dissertation problem and research is presented to the department during the second year of the doctoral program.

↔9000. Doctoral Research and Dissertation. (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. Minimum total of 18 hours is required.

The courses listed below are taught at the Gulf Coast Research Lab, Ocean Springs, Mississippi. The University of Memphis residence credit is given through affiliation with the laboratory.

6010. Aquaculture. (6). Technology, principles, and problems relating to the science of aquaculture; emphasis on culture of marine species. PREREQUISITES: 16 hours of zoology including invertebrate and vertebrate zoology or ichthyology.

6020. Comparative Histology of Marine Organisms. (1-6). Histological organization of representative marine organisms; fixation, processing, and study of tissues using light microscopy, transmission and scanning electron microscopy; structural changes and physiological changes during life cycle of organism including histopathology. PREREQUISITES: Permission of instructor.

6051. Marine Ecology. (5). 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. PREREQUISITES: 16 hours of biology including general zoology, general botany, and invertebrate zoology.

6057. Salt Marsh Plant Ecology. (4). Botanical aspects of local marshes; plant identification, composition, structure, distribution, and development of coastal marshes; biological and physical interrelationships; primary productivity and relation of marshes to estuaries and associated fauna. PREREQUISITES: General botany, plant taxonomy, plant physiology, and general ecology or consent of instructor.

6200. Marine Botany. (4). Local examples of the principal groups of marine algae and maritime flowering plants, treating structure, reproduction, distribution, identification and ecology. PREREQUISITE: Ten hours of biology, including introductory botany, or consent of instructor.

6300. Coastal Vegetation. (3). General and specific aspects of coastal vegetation, with emphasis on local examples. PREREQUISITES: 10 hours of biology, including general botany.

6500. Marine Microbiology. (5). Role of microorganisms in the overall ecology of the oceans and estuaries. PREREQUISITES: General microbiology and environmental microbiology or consent of instructor.

6600. Marine Vertebrate Zoology and Ichthyology. (6). Marine Chordata, including lower groups and the mammals and birds, with most emphasis on the fishes. PREREQUISITES: 16 hours of zoology including comparative anatomy or consent of the instructor.

6610. Early Life History of Marine Fishes. (4). Reproductive strategies and developmental processes of marine fishes; temporal and spatial distribution patterns, population dynamics, and ecological interactions of fish eggs and larvae; methods of sampling and identifying eggs and larvae. PREREQUISITES: Ichthyology, fisheries biology, ecology, and/or consent of instructor.

6646. Marine Fisheries Management. (4). Overview of practical marine fishery management problems. PREREQUISITES: Consent of instructor.

6700. Behavior and Neurobiology of Marine Animals. (4). Behavior, neuroanatomy, and neurophysiology of marine animals; emphasis on the neural mechanisms underlying behavior of selected invertebrates, fishes, birds, and mammals. PREREQUISITES: 16 hours of zoology and or psychology or consent of instructor.

6800. Marine Invertebrate Zoology. (6). 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. PREREQUISITES: 16 hours of zoology including introductory invertebrate zoology.

6844. Parasites of Marine Animals. (6). Parasites of marine animals with emphasis on morphology, taxonomy, life histories, and host parasite relationships. Lecture, laboratory and field work.

PREREQUISITES: General parasitology or consent of the instructor.

6850. Fauna and Faunistic Ecology of Tidal Marshes. (4). Taxonomy, distribution, trophic relationships, reproductive strategies, and adaptation of tidal marsh animals; emphasis on those occurring in northern Gulf marshes. PREREQUISITES: 16 hours of biology and junior standing or consent of instructor.

◆**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.**

CHEMISTRY

Room 210, J.M. Smith Building

PETER K. BRIDSON, PhD
Chair

GARY EMMERT, PhD
Coordinator of Graduate Studies
(901)-678-2636

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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.

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, and physical chemistry. 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 four standardized examinations, chosen from 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), 3211 (analytical), 3312 (organic), 3412 (physical), and 4512 (biochemistry). 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:
 - a. No more than nine hours of credit at the 6000 level may be counted towards the Master of Science degree. At least nine hours must be in courses numbered CHEM 7100-7899, with at least two areas of chemistry represented.
 - b. A maximum of six semester hours of Chemistry 7996 (Thesis) can be applied to the thirty semester-hour requirement.
 - c. A maximum of three semester hours of CHEM 7910/8910 (Special Problems in Chemistry) may be counted toward the thirty semester-hour requirement.
 - d. Presentation (CHEM 7911) is required of all graduate students. A maximum of four semester-hours from some combination of CHEM 7911, and 7/8913 (Seminar) may be used to meet the thirty semester-hours required.
 - e. A maximum of six 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.

- f. No more than six semester-hours of CHEM 7001 (Directed Research) and CHEM 7996 (Thesis) combined may be counted toward the thirty 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 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.
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 second semester following enrollment. The major professor, in consultation with the student, will recommend to the department chair faculty members to be appointed to the student's advisory committee. This committee, which is appointed as soon as the student has selected a major professor, 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.
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 prepare a detailed report in the form of a review or proposal, based on literature research. Three hours credit for CHEM 7910 will be earned.
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:
 - a. 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 Assistant Vice Provost for Graduate Studies. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies and Research.
 - b. Failure to accumulate the requisite number of points on the departmental comprehensive examinations (See Section 3).
 - c. Failure to complete the degree requirements within six years of initial enrollment in the graduate program.
 - d. 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 four standardized examinations, chosen from 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), 3211 (analytical), 3312 (organic), 3412 (physical), and 4512 (biochemistry). A doctoral candidate must make at least 50th percentile on the analytical, organic, and physical tests, plus either the biochemistry or inorganic test or must 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 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:
 - a. No more than fifteen hours of credit at the 6000 level may be counted towards the doctoral degree. At least twelve hours must be in courses numbered CHEM 7100-7899 (8100-8899), with at least two areas of chemistry represented.
 - b. A maximum of 30 hours credit for CHEM 8001 (Directed Research) and CHEM 9000 (Dissertation) combined can be applied toward the 72-hour total.
 - c. A maximum of 12 hours of CHEM 7/8910 (Special Problems in Chemistry) may be credited toward the total hour requirement.
 - d. 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.
 - e. Presentation (CHEM 7911) and Advanced Presentation (CHEM 8911) are required. A maximum of four semester-hours from some combination of CHEM 7911, 8911, and 7/8913 may be used to meet the 72 semester-hour requirement.
 - f. 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. A minimum of 18 hours in graduate courses other than CHEM 7/8910, 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 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 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 six months of obtaining the required twelve 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. 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 must 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 second semester following enrollment. The major professor, in consultation with the student, will recommend to the department chair faculty members to be appointed to the student's advisory committee. This committee, which is appointed as soon as the student has selected a major professor, 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.

A student who enters the PhD program and already holds the MS degree in chemistry must select a major professor during the first semester in residence, or upon completion of the diagnostic examinations.

In the 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 department chair, will be forwarded to the Graduate School.
9. Doctoral Research and Dissertation 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:
 - a. 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 and Research.
 - b. Accumulation of more than six hours of graduate credit with grades of C or below.
 - c. Failure to accumulate the requisite number of points on the departmental comprehensive examinations. (See Section 4).
 - d. Failure to satisfy the advisory committee on the final oral examination. (See Section 9).

CHEMISTRY (CHEM)

6001. Environmental Chemistry. (3). Chemical phenomena occurring in soil, atmospheric, and aquatic environments; consideration of natural resources and environment. PREREQUISITE: CHEM 3311.

6101. Inorganic Chemistry Laboratory. (1). Experimental techniques of inorganic synthesis and physical methods for characterization of inorganic and organometallic compounds. *Three laboratory hours per week; \$25 material fee.* PREREQUISITE or COREQUISITE: CHEM 6111.

6111. Inorganic Chemistry. (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 3412, or permission of the instructor

6180-99. Special Topics in Inorganic Chemistry. (1-3). Topics are varied and announced in online list of classes.

6211. Advanced Instrumental Analysis. (3). Study of topics in analytical instrumental analysis, including atomic spectroscopy, x-ray spectroscopy, UV-visible, luminescence, infrared, Raman, and nuclear magnetic resonance spectroscopy. PREREQUISITE: CHEM 3211 and CHEM 3412.

6280-99. Special Topics in Analytical Chemistry. (1-3). Topics are varied and announced in online course listings.

6311. Intermediate Organic Chemistry. (3). Further study of physical organic chemistry, spectrometric methods of identification of organic compounds, modern methods for organic synthesis, and natural products chemistry. PREREQUISITE: CHEM 3312 or permission of instructor.

6315. Organic Medicinal Chemistry. (3). Introduction to principles of medicinal chemistry; structure, synthesis, and biochemical mechanism of action of major drug classes. PREREQUISITE: CHEM 3312.

6380-99. Special Topics in Organic Chemistry. (1-3). Topics are varied and announced in online course listings.

6411. Advanced Physical Chemistry. (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 3412 or permission of instructor.

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.

6480-99. Special Topics in Physical Chemistry. (1-3). Topics are varied and announced in online course listings.

6501. Laboratory Techniques in Biochemistry. (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 3302; PREREQUISITE OR COREQUISITE: CHEM 6511.

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 3312 or equivalent.

6512. Biochemistry II. (3). (Same as BIOL 6512). A 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. PREREQUISITE: CHEM 6511.

6580-99. Special Topics in Biochemistry. (1-3). Topics are varied and announced in online course listings.

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.

7001-8001. 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.

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.

7111-8111. Systematic Inorganic Chemistry. (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.

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.

7211-8211. Advanced Analytical Chemistry I. (3). Advanced treatment of topics in atomic and molecular spectroscopy, mass spectrometry, and surface analysis techniques. PREREQUISITE: CHEM 6211 or permission of instructor.

7212-8212. Advanced Analytical Chemistry II. (3). Advanced treatment of topics in electrochemical methods and separation techniques. PREREQUISITE: CHEM 6211 or permission of instructor.

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.

7311-8311. Advanced 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.

7312-8312. Synthetic Organic Chemistry. (3). Principles of synthesis of complex organic molecules. PREREQUISITE: CHEM 6311 or permission of instructor.

7314-8314. Heterocyclic Chemistry. (3). Reactions, synthesis, uses, and physical properties of heterocyclic compounds.

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.

7411-8411. Electronic Structure and Symmetry. (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.

7414-8414. Advanced Quantum Chemistry. (3). Advanced treatment of topics in quantum chemistry with emphasis on electronic structure theories.

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.

◆**7600. Introduction to Graduate Study in Chemistry. (2).** Laboratory instruction emphasizing communication skills, laboratory conduct and safety, and evaluation of performance. *Two laboratory hours per week.*

7711-8711. Approximate Chemical Modeling Methods. (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.

7713-8713. Advanced Solid State Physics and Chemistry. (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.

◆**7910-8910. Special Problems in Chemistry. (1-12).** Individual investigation and report under the guidance of the student's major advisor.

◆**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.

◆**7913-8913. 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.

◆**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.

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 for a maximum of 12 credit hours. PREREQUISITE: Permission of instructor.

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.

◆**8911. Advanced Presentation. (1).** Preparation and presentation of one-hour lecture as regularly scheduled department seminar. Topic chosen in consultation with advisor.

◆**9000. Dissertation. (1-10).**

◆**Grades of S, U, or IP will be given.**

COMPUTER SCIENCE

Room 209, Dunn Hall

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Chair

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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.

II. Master of Science in Computer Science

A. 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 on one of the following: 550 on the paper-based TOEFL, or 210 on the computer-based TOEFL, 80 on the internet-based TOEFL, or 6.5 on the IELTS (for students whose native language is not English).

B. Prerequisites

1. One year (8 semester hours) of calculus and one semester (3 semester 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, 3160, 3410, 4030, 4040, 4270; MATH 2701. (None of these courses may be used to fulfill degree requirements.) The Graduate Admissions committee may, under exceptional circumstances, waive certain prerequisites based on the overall qualifications of the applicant.

C. Program Requirements

1. Satisfactory completion of 34 semester hours of graduate course work approved by the department, as follows:
 - a. At least 28 credit hours must be from the 7/8000 level, including:
 - i. 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.
 - ii. CS Seminar: COMP 7950, to be completed by the end of the second semester
 - iii. Project/Thesis: COMP 7996 or COMP 7980
 - iv. Area Requirement: At least one course each from two of the following areas:
 - a. Foundations and Algorithms: COMP 7295, 7601, 7713, 7717, 7719, 7771, 7820
 - b. Systems, Networks, and Security: COMP 7120, 7125, 7272, 7274, 7311, 7313, 7327, 7900
 - c. Software, Languages, and Databases: COMP 7041, 7081, 7083, 7085, 7087, 7115, 7116, 7117, 7118, 7130, 7780

- d. Intelligent and Bio-inspired Computing: COMP 7282, 7290, 7514, 7515, 7517, 7711, 7720, 7740, 7745, 7747, 7750, 7760, 7770
- b. At most 6 hours of any combination of COMP 6901, 6911, 7/8901, 7980 and/or 7996 can be used toward the 34 hours of course work.

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

III. Master of Science in Applied Computer Science

A. Admission Requirements

Admission into this program is competitive. Candidates must submit scores from either the GMAT or the GRE exams, and two letters of recommendation. A minimum undergraduate GPA of 2.7 on a 4.0 scale is required for consideration. International students whose native language is not English must attain a minimum score on one of the following: 550 on the paper-based TOEFL, 210 on the computer-based TOEFL, 80 on the internet-based TOEFL, or 6.5 on the IELTS.

B. Prerequisites

1. An undergraduate BS degree in the sciences or BA in the arts
2. A working familiarity with computers, as exemplified by knowledge of a high-level programming language, preferably object-oriented, and experience working with computers in at least one area of application
3. An undergraduate GPA of at least 2.7

C. Program Requirements

Satisfactory completion of 33 semester hours of course work, divided into three parts: (a) the merger, (b) the specialty core, and (c) the technical electives, as follows:

1. *The merger*: Six (6) hours of courses not in the student's undergraduate area:
 - a. For students without an approved bachelor degree in Computer Science: COMP 7100 and COMP 7105
 - b. For students with an approved bachelor degree in Computer Science: An introductory course in a recognized area, for example Marketing, Management, Chemistry, or Molecular Biology
2. *The specialty core* : Twenty-one (21) hours in a well-recognized focus area approved by the computer science faculty or their designees. Two examples follow, one in E-Commerce, another in cybersecurity.
 - a. E-commerce:
 - i. E-commerce core: COMP 7110, 7970
 - ii. Computer science component: COMP 6310, 7517, 7118
 - iii. Business component: MGMT 7030, 7130
 - b. Cybersecurity
 - i. Cybersecurity core: COMP 7120, 7327
 - ii. Computer science component: COMP 7125, 7270
 - iii. Societal component: COMP 7900, MIS 7650, PHIL 7551
3. The electives: Six (6) hours from a technical and a specialty elective selected from the following list and consistent with the chosen focus area.

ACCT 7420 - Advanced Accounting Systems
 ACCT 7421 - Multi-user Accounting Systems
 ACCT 7422 - Accounting System Development
 COMP6081 - Software Development
 COMP 6720 - Introduction to Artificial Intelligence
 COMP 6730 - Expert Systems
 COMP 7116 - Advanced Database Systems
 COMP 7282 - Evolutionary Computation

COMP 7311 - Advanced Computer Networks

COMP 7313 - Network Design and Performance Analysis

COMP 7515 - Complex Systems

MIS 7610 - Systems Analysis and Design

MIS 7620 - Decision Support Systems and Expert Systems

MIS 7640 - Information Systems Management and Planning

MIS 7650 - Global Information Technology and Systems Management

MIS 7655 - Advanced Systems Analysis and Design

MIS 7660 - Advanced Networking and Database Management

MIS 7665 - Advanced Business Computing Environments

MATH 7660 - Applied Time Series Analysis

Or another course approved by the program coordinators in consultation with faculty in the selected focus area.

IV. PhD Degree in Computer Science

A. 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 minimum score on one of the following: 550 on the paper-based TOEFL, 210 on the computer-based TOEFL, 80 on the internet-based TOEFL, or 6.5 on the IELTS (for students whose native language is not English).

B. Program Requirements

1. Satisfactory completion of a minimum of 72 semester hours of graduate coursework approved by the department. The coursework must include:
 - a. either the coursework requirement of the M.S. degree in Computer Science, or a Masters degree approved by the department.
 - b. Additional coursework must be taken subject to the following rules:
 - i. all coursework must be at 8000 level;
 - ii. at least 6 hours must belong to one of the areas listed in the M.S. degree in Computer Science requirements;
 - iii. at most 15 hours of COMP 8901 (Independent Studies);
 - iv. at least 9, but not more than 15, hours of COMP 9000 (Dissertation)
2. Satisfactory completion and approval of additional requirements, including :
 - a. a qualifying examination. All parts of the qualifying exam must be attempted upon completion of 18 hours of credit in the program. Furthermore, students must pass all parts of the qualifying exam by the completion of 27 hours of credit in the program;
 - b. a comprehensive examination. This includes the presentation and approval of a dissertation proposal ;
 - c. a final dissertation defense given by a committee composed of departmental and university representatives on 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>).

V. 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.

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

A. 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.cs.memphis.edu/IA_application/ 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.

B. 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
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.

COMPUTER SCIENCE (COMP)

6001. Computer Programming. (3). Basic concepts using Visual Basic, incorporating object-oriented concepts (objects, properties, events, methods), user-interface design, data types, assignment statements, flow control statements, arrays and collections, file processing, timers, debugging and testing, to create windows applications ranging from business forms and reports to games. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: MATH 1710.

6004. Modern Computer Programming. (3). Investigation of a currently widely used computer programming language; covers basic programming concepts; design and documentation; language constructs: control flow, functions, recursion, modularity; data and class structures: objects, classes, methods and encapsulation; programming of basic data structures and algorithms. Familiarity with a high-level programming language recommended. NOTE: Computer Science majors may not use this course to fulfill degree requirements.

6005. Web Design and 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: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 6001, one course in computer programming, or permission of instructor.

6011. Advanced Visual Basic. (3). Introduces advanced topics such as Visual Basic for Applications (VBA), .NET graphics, design and creation of classes, XML processing, web applications and web services, and advanced database processing. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 4001-6001 or permission of instructor.

6014. Introduction to Java Programming. (3). Basic structured programming syntax; internet features; client/server environments and applets/servlets; advanced JAVA features including user interface, JFC widgets and events, SWING; database applications; security; introduction to threading. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 4001-6001 or permission of instructor.

6030. Introduction to 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 3160.

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 3160.

6041. Introduction 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. PREREQUISITES: COMP 3410, 6040 and 6030.

6081. Software Development. (3-6). Advanced programming methods: testing, generic libraries, documentation methods; program analysis and design methodologies such as object-oriented, life cycles, metrics, process

improvement strategies, personal software process; software quality. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 3160, or permission of instructor.

6115. Database Processing and Design. (3). Database processing and architecture; conceptual data modeling and data design; logical data models; relational models, operations and algebra; query languages and SQL; normalization and schema refinement; basic indexing techniques (hashing and B+ trees). PREREQUISITE: COMP 3160, or permission of instructor.

6242. Introduction to Computer Graphics. (3). Characteristics of graphics I/O devices; 2D pictures, scaling, translation, rotation, windowing; drawing histograms, simple maps, block diagrams and flowcharts; curved lines, precision, quantization, interpolation, plotting equations; 3D pictures, scaling, translation, rotation, projections, hidden line problem, non-Euclidean geometry, animation. PREREQUISITE: COMP 3410.

6262. Programming in UNIX. (3). Fundamentals of UNIX system and environment including: file system, shell concepts and programming, editors (VI and EMACS), filters (SED, AWK, GREP, SORT), utilities (MAKE, YACC, LEX), mail facility, communication software, C programming and its UNIX interface, X window system. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 2150 or permission of instructor.

6270. Introduction to 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. PREREQUISITES: COMP 3160 and either COMP 3410 or EECE 4278.

6272. System Administration. (3). Review of UNIX and operating systems principles; 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. PREREQUISITES: COMP 6262 and COMP 6270, or permission of instructor.

6302. Web Services and the 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 3160 or permission of instructor.

6310. Wireless Mobile Computing. (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.

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.

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 2150, MATH 2701.

6720. Introduction to Artificial Intelligence. (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.

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. PREREQUISITES: MATH 2701 and COMP 4030, or permission of instructor.

6731. Introduction to 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.

6740. Soft Computing. (3). Foundations of intelligent and soft computing methods, including approximate reasoning, fuzzy sets and rough sets, neurocomputing and cellular automata, evolutionary computing, and quantum computing; basic principles of software implementation of soft computing. PREREQUISITES: COMP 3160 and MATH 2701, or permission of instructor.

6901. Individual Studies in Computer Science. (1-3). Directed individual study of selected areas of computer science. Repeatable by permission to 6 semester hours. PREREQUISITE: Permission of instructor.

6911. Internship in Computer 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.

6990-6999. Topics in Computer Science. (1-3). Topics are varied and announced in the online course listing. PREREQUISITE: Permission of instructor.

7012-8012. Foundations of Software Engineering. (3). (Same as EECE 7012-8012). Covers 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. PREREQUISITE: COMP 3160 or permission of instructor.

7041-8041. 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.

7081-8081. Software Development Process Models. (3). Development processes; maturity models; process improvement, metrics (process and product), estimation, management, maintenance; quality assurance; personal and team software process models. PREREQUISITE: COMP 7012 or permission of instructor.

7083-8083. Software Development Methodologies. (3). Description methods for support of process models; advanced object-oriented analysis and design methods; reuse, testing, adaptive software, software comprehension, understanding, and environments. PREREQUISITE: COMP 7012 or permission of instructor.

7085-8085. Program Comprehension. (3). Cognitive and mental models of how people learn to program and 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.

7087-8087. Topics in Software Engineering. (3-6). Recent theoretical and practical issues in software development. May be repeated for a maximum of 6 credit hours with permission of the department. PREREQUISITE: COMP 7012 or permission of instructor.

7100. Computers in the Information Society. (3). Basic information technology concepts, products, and applications, including internet, cybersecurity, legal and ethical issues, software development, and middleware, in context of

specific applications in various areas of practical importance. NOTE: Majors, or those holding a BS in Computer Science, may not use this course to fulfill degree requirements. PREREQUISITE: Familiarity with computer use in an area of application, COMP 4001-6001, or permission of instructor.

7105. Contemporary Electronic Commerce. (3). (Same as BA 7105.) Survey of concepts critical to typical applications in various areas of practical importance; topics of contemporary interest include algorithms, complexity, operating systems, networks, neural nets, and evolutionary algorithms. NOTE: Majors, or those holding a BS in Computer Science, may not use this course to fulfill degree requirements. PREREQUISITE: Familiarity with computer use in an area of application, COMP 7100, or permission of instructor.

7110. Advanced Electronic Commerce. (3). (Same as BA 7110.) Advanced concepts and strategies for EC, including implementation platforms, multimedia integration, human-computer interaction, and ethical issues; impact of EC as a force in technology advances, consumer behavior, and changing the nature of the business world. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITE: COMP 7105 or permission of instructor.

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 6115 or permission of instructor.

7116-8116. Advanced 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.

7117-8117. Topics in Database Management Systems. (3). Advanced current research topics in database and information management, with emphasis on nontraditional data and applications. PREREQUISITE: COMP 7116 or permission of instructor.

7118-8118. 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 3160 or permission of instructor.

7120-8120. Cryptography and 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; MATH 2701 recommended.

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.

7130-8130. Information Retrieval and 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.

7150. Methods for Computer Applications. (3). Models and methods to handle data analysis and management, statistical methods, hypothesis testing, experimental design; data collection, cleaning, organization, and mining; software tools such as statistical packages, databases, and computer simulations. NOTE: Computer Science majors may not use this course to fulfill degree requirements. PREREQUISITES: Undergraduate descriptive statistics or permission of instructor.

7212-8212. Operating and Distributed Systems. (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 3160 or permission of instructor.

7270-8270. Operating Systems. (3). (COMP 7271). Function, structure, and design parameters of computer operating systems; time-sharing, multiprogramming, and multiprocessing considerations; actual operating systems; design methodology and evaluation techniques. PREREQUISITE: COMP 7212.

7272-8272. 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 3160 and 7212 or permission of instructor.

7274-8274. Topics in Distributed Computing. (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.

7282-8282. 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.

7290-8290. 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.

7295-8295. Introduction to Bioinformatics. (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.

7311-8311. Advanced 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 6310.

7313-8313. Network Modeling and Performance 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

7327-8327. Topics in Network and Internet Security. (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.

7514-8514. Cognitive Science Seminar. (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.

7515-8515. Seminar in Complex Systems. (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.

7517-8517. Topics in Human-Computer Interaction. (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.

7601-8601. Topics in Discrete Modeling. (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.

7612-8612. 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 4030 or permission of instructor.

7712-8712. Algorithms Implementation and Problem Solving. (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 3160 or permission of instructor.

7713-8713. Advanced 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.

7717-8717. Topics in Algorithms. (3). Recent developments and practical issues in algorithms and data structures. PREREQUISITE: COMP 7713 or permission of instructor.

7719-8719. Combinatorial Optimization. (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.

7720-8720. 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.

7740-8740. 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 4030 or permission of instructor.

7745-8745. Computational Intelligence. (3). A dynamics systems perspective on intelligence in computational systems; analysis is strongly biological motivated, including hybrid fuzzy-neuro systems, emergence, and chaos computing; how these components are used for automatic generation of knowledge in computational systems. PREREQUISITES: COMP 6001 or 6002 or permission of instructor.

7747-8747. Topics in Neurocomputing and Neural Networks. (3). Introduces advanced concepts such as: feed-forward models, recurrent architecture, hierarchical models with massive reentrant connections; fixed-point convergence, limit cycles, and chaotic attractors, including spatio-temporal encoding in the style of brains; design principles of goal-oriented adaptive systems. PREREQUISITE: COMP 7740 or permission of instructor.

7760-8760. Control of Autonomous 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 6002 or permission of instructor.

7770-8770. Knowledge Representation and Reasoning. (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.

7780-8780. Natural Language Processing. (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.

7820-8820. Pictorial Algorithms and Machine Vision (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.

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.

7901-8901. Individual Studies in Computer Science. (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.

7950. Research Methods in Computer Science. (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.

7960-8960. Seminars in Teaching, Research, and Consulting. (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.

7970-8970. Capstone Project. (3). Research and development for specific application projects under the joint supervision of faculty and liaison(s) in commerce, industry, or professional/societal organizations. PREREQUISITE: Completion of at least 21 hours of requirements in a graduate program.

7980-8980. Research Seminar. (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.

7990-99-8990-99. Advanced Topics in Computer Science. (1-3). Advanced topics and recent developments in computer science. Repeatable by permission. PREREQUISITE: Permission of instructor.

◆ **7996. Thesis. (1-6).**

◆ **9000. Dissertation. (1-12).** Independent research for the PhD degree.

◆ *Grades of S, U, or IP will be given*

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DEPARTMENT OF EARTH SCIENCES

M. JERRY BARTHOLOMEW, PhD
Chair

DANIEL LARSEN, PhD
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I. The Department of Earth Sciences offers graduate programs leading to the Master of Arts degree with a major in Earth Sciences and concentration in Geography; the Master of Science degree 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 is 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 31 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 master's 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 master's 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.

II. MA Degree Program in Earth Sciences (Geography concentration only)

Program objectives are: development of geographic knowledge of the following areas and ability to apply this knowledge to their career development: (1) human, economic & regional geography; (2) weather & climate, landforms, soil, biogeography, water resources; (3) environmental issues and natural hazards; and (4) geographic techniques, computer cartography, remote sensing, geographic information systems, global positioning system, quantitative and spatial analysis.

A. Program Requirements

1. Students may be required to make up deficiencies as determined by the student's graduate committee.
2. Completion of a minimum of 36 graduate credit hours (non thesis) or 32 graduate credit hours (thesis).
3. Satisfactory completion of ESCI 7900 (professional paper) or completion and successful defense of a

- thesis (ESCI 7996) for at least six semester hours. The professional paper option, if chosen, requires preparation of one paper of professional quality, suitable for publication in a professional journal.
4. Completion of ESCI 7000 and at least 1 of the following courses: ESCI 7310, ESCI 6515, ESCI 7801, ESCI 7305, or ESCI 6101.
 5. Completion of one three-credit-hour graduate course (6000- or 7000-level) from each of the following core areas:
 - a. Environmental and earth sciences,
 - b. Human-economic geography;
 - c. Geographic techniques;
 - d. students not submitting acceptable undergraduate credit in quantitative methods or statistics will be required to take a quantitative methods or statistics course.
 6. Preparation of an acceptable written thesis proposal (thesis option) and oral presentation of thesis proposal or research progress (♦brown bag♦ presentation).
 7. 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.

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 earth sciences 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.
4. Completion of ESCI 7000 and at least 1 of the following courses: ESCI 7310, ESCI 6515, ESCI 7801, ESCI 7305, or ESCI 6101.
5. At least 22 hours of coursework at or above the 7000-level (including thesis). NOTE: Students electing to write a thesis should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
6. Preparation of an acceptable written thesis proposal (thesis option) and oral presentation of thesis proposal or research progress (♦brown bag♦ presentation).
7. 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.
8. Concentration requirements:
 - a. 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.
 - b. 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.
- c. 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.
- d. 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.
- e. 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 of important principles and concepts in at least one of the major disciplines of earth science with a more in-depth knowledge in a 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 of 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 archaeology, 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 master's 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. Preparation of an acceptable written dissertation proposal and oral presentation of dissertation proposal or research progress (◆brown bag◆ presentation).
4. 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.

5. Submission of two manuscripts for publication in peer-reviewed journals or books.
6. 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. Please visit our [website](#) for more information.

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:
 - a. transcript of undergraduate degree program and transcripts of prior and current graduate study;
 - b. two letters of recommendation;
 - c. 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.
 - d. GRE scores are required and are an important factor in admission.
 - e. 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 18 semester credit hours.
2. Nine of the 18 hours must be met by satisfactory completion of three core courses:
 - a. ESCI 4515-6515 Geographic Information Science,
 - b. ESCI 4525-6525 Analytical Geographic Information Science,
 - c. ESCI 7504-8504 Seminar in Geographic Information Science
3. Nine credit hours of electives, selected in consultation with the Certificate Program Committee
4. In order to continue in the program, students must maintain at least a 3.0 GPA.

EARTH SCIENCES (ESCI)

6101. Introduction to Global Geophysics. (3). (GEOP 6101). Covers the origin, evolution, and structure of planet earth from the geophysical perspective; accretion and composition of the earth, isotopic determination of ages, differentiation of oceanic and continental crust, mechanism of plate tectonics, seismic structure, gravity and magnetic fields of the earth. PREREQUISITES: Permission of the instructor.

6120. Geomorphometry. (3). (GEOG 6120). Quantitative analysis of the morphology of landforms,

integrating data acquisition from field work, topographic maps, and digital terrain models; GPS and GIS are used to derive, store, manipulate, and analyze morphometric data. The course may not be repeated. PREREQUISITES: ESCI (GEOG) 1020, 1021, or ESCI (GEOL) 1040.

6122. Soils and 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; \$25 materials fee.*

6201. Urbanization and the 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.

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 materials fee.* PREREQUISITE: ESCI (GEOL) 1103.

6203. Environmental Geophysics. (4). (GEOG 6203). Survey of shallow geophysical prospecting methods, seismic reflection and refraction techniques, and electrical, magnetic and gravity field measurements; emphasis on practical measurements and fundamental principles governing acquisition and interpretation of geophysical data for shallow subsurface investigation. *Three lectures, two laboratory hours per week.* PREREQUISITE: Permission of the instructor.

6211. Physical Hydrogeology. (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 materials fee.* PREREQUISITES: ESCI (GEOL) 1103 and one semester of calculus.

6213. Field Methods in Hydrology. (3). (GEOG 6213). Introduction to and practice of field methods in solving hydrologic problems. PREREQUISITE: ESCI (GEOL) 4211 or 6211 or permission of instructor.

6214. Climatology. (3). (GEOG 6214). Study of climatic elements and methods of data analysis; application of climatology in agriculture, health, economics, and architecture. PREREQUISITE: ESCI (GEOG) 1010 and PHYS 2011 and 2110.

6215. Physical Climatology. (3). (GEOG 6215). Components of earth's energy balance; emphasis on solar radiation, heat transfer, and evapotranspiration. PREREQUISITES: ESCI (GEOG) 1010, PHYS 2011 and 2111.

6220. Geology and the Hazards of Earthquakes. (3). (GEOG 6220). Estimation of geological aspects and hazards associated with individual earthquakes and earthquakes on specific faults; covers earthquake rupture patterns, topographic expressions, estimating ages of prehistoric earthquakes, triggering, and associated landslide and debris flows. PREREQUISITE: Permission of the instructor.

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.

6241. Biogeography. (3). (GEOG 6241). Principles underlying spatial distribution of plants, including physical, biotic, and historical controls; vegetation dynamics; survey of patterns and processes of North American vegetation.

6251. Environmental Hazards. (3). (GEOG 6251). Interrelationships between human beings and natural hazards; importance of policy decisions; planet-wide climatic changes, potential changes in earth-sun relations, inadequate food production, local disasters, and nuclear contamination.

- 6252. Global Environmental 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.
- 6301. Archaeology of North America. (3). Same as ANTH 6301).** Intensive study of various prehistoric cultures from earliest times until historic contact. PREREQUISITE: ANTH 1100, 1200, 1300, or permission of instructor.
- 6307. Thematic Studies in 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.
- 6308-12. Special Topics in Regional Geography. (3)** Geographic analysis of physical, cultural, and economic characteristics of selected regions of the world.
- 6325. Archaeological Field Techniques. (3-6). (Same as ANTH 6325).** Field excavation, specimen preparation, use of survey instruments and photography, map making and archaeological record keeping; methods and techniques in archaeological laboratory analysis; emphasis on organization and supervision of laboratory procedures. May be repeated for maximum of 6 credit hours.
- 6332. Introduction 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: CHEM 1110.
- 6341. Aqueous Geochemistry. (3). (GEOL 6341).** Physical chemistry of aqueous solutions as it applies to geochemical processes on earth's surface. PREREQUISITE: CHEM 1110.
- 6351. Advanced Structural Geology. (3).** (GEOL 6351). Analysis of crustal structures: stress and strain in rocks, mechanical behavior of earth materials, mechanical interpretation of crustal structures. PREREQUISITE: ESCI (GEOL) 3512, MATH 1910.
- 6352. Old World Archaeology. (3). (Same as ANTH 6352).** Old World cultures from first humans to early civilizations.
- 6361. Tectonics. (3). (GEOL 6361).** 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.
- 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.
- 6401. Introduction to Seismology. (4). (GEOP 6401).** Lays the groundwork for understanding seismic wave propagation within the earth, explores the historical context of earthquakes and the earthquake source, and gives an overview of common seismological techniques used to understand earth structure and source parameters. *Three lectures and two laboratory hours per week.* PREREQUISITE: Calculus through vector calculus, or permission of instructor.
- 6431. Urban Geography. (3). (GEOG 6431).** Allocation of land for urban uses; adjustments and adaptations to existing physical phenomena; patterns, functions, and forms of specific urban land areas; and some of the continuous problems of urban development and growth.
- 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.
- 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.

6511. Remote Sensing of the Environment. (4). (GEOG 6511, GEOL 6512). Survey of theory and application of using color, infrared, thermal, and radar images generated from satellites and aerial photographs for geographic, geologic, environmental, and planning purposes. *Three lecture, two laboratory hours per week; \$25 material fee.*

6515. Geographic Information 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.

6521. Quantitative Methods. (3). (GEOG 6521; same as PLAN 6521). Introduction to quantitative methods in spatial analysis. PREREQUISITE: Permission of instructor.

6525. Advanced Geographic Information Science. (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.

6531. Field Methods in 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.*

6610-19. Special Topics in Geography. (3). (GEOG 6610-19). Topics are varied and announced in online course listings.

◆6700. Earth Sciences Internship. (1-9). (GEOG 6700). Provides opportunity to gain experience working with an agency in which geographic knowledge 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.

6701. Earth Sciences 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-Ar buckle-Wichita mountains of Oklahoma; Ouachita and adjacent mineral districts; central and southern Appalachians; and Gulf Coastal Plain. Check Online course listings for specific location. *\$25 materials fee.* NOTE: May be repeated for a maximum of 8 credit hours.
PREREQUISITE: Permission of instructor.

6841. Biblical Archaeology. (3). (Same as JDST 6841 and ANTH 6841). Relationship between historical texts in Hebrew Bible and historical evidence from archaeological research in Israel and surrounding area; emphasis on how archaeological evidence and Biblical narratives illuminate each other.

7000. Art of Earth Sciences. (3). Introduction to earth science research; includes project design, abstract and proposal preparation, and presentation skills.

7010-19◆8010-19. Special Topics in Geology. (3). (GEOL 7010-19--8010-19). PREREQUISITE: Permission of Instructor.

7020-29--8020-29. Special Topics in Geophysics. (3). (GEOG 7020-29--8010-19).

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.

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.

7112. Regional Geophysical Synthesis. (3). (GEOP 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: ESCI (GEOP) 6101 or permission of instructor.

7120-8120. Seminar in 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.

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.

7190. Igneous and Metamorphic Petrology. (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) 3312 or equivalent.

7195. Ground Water 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.

7197. Ground Water Quality and Control. (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.

7201-8201. Geographic Environmental Analysis. (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.

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.

7204. Probability and Earthquake Hazard Analysis. (3). 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.

7205. Data Analysis in Geophysics. (3). 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.

7220. Geochronology. (3). (GEOL 7220). Synthesis of geomorphologic, stratigraphic, and geochronologic methods used to understand global glacial and interglacial climate fluctuations during the last two million years. PREREQUISITE: Permission of instructor.

7221-8221. 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.

7231-8231. Seminar in Water Resources. (3). (GEOG 7231-8231). Issues, problems, and research on selected topics of surface and groundwater, water uses, and fluvial process.

7250. Hazard and 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.

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.

7301-8301. 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.

7305. Geologic Data Analysis. (3). (GEOL 7301). Use of the computer in data file construction and management, use of file with various programs, and use of statistical tests, regression lines, maps, and a classification of data sets with the aid of the computer. *Two lecture and two laboratory hours per week.*
PREREQUISITE: COMP 1200 and permission of instructor.

7310. Archaeological Theory and 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.

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.

7312-8312. 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.

7315-8315. Introduction to Modeling in the Earth Sciences. (3).(GEOL 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.

7325. Quaternary Paleoecology and Environmental Reconstruction. (4). Advanced study of cultural ecology in past environmental regimes; emphasis on interdisciplinary approach to extinct social systems and their relationship with the quaternary environment. *Two lecture, four laboratory hours per week.*

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.

7333. Advanced Archaeological Field Techniques. (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.

7345. Geoarchaeological Material Science. (4). Review of issues, problems, and research on selected topics of geoarchaeological material science. *Two lecture, four laboratory hours per week.*

7353. Geodynamics. (3). (GEOP 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 mantle convection. PREREQUISITE: Permission of instructor.

7355. Earth Science Applications of Space-Based Geodesy. (3). (GEOP 7355). Introduces surveying using artificial satellites with emphasis on detecting, quantifying, and modeling changes in the geoid and earth's shape associated with geodynamic processes; concentrates on techniques such as VLBI, GPS, and INSAR; relationship to traditional geodesy and surveying also developed.

7357. Archaeology of the Southeast. (4). Intensive study of various prehistoric cultures from earliest times until historic contact. *Two lecture, four laboratory hours per week.*

7375. Methods of Mathematical Physics I. (3). (GEOP 7376; 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.

7376. Methods of Mathematical Physics II. (3). (GEOP 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.

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.

7400. Advanced Field Methods in Geology. (3). (GEOL 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.

7401. Global Seismology. (3). 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.

7402. Intermediate Seismology. (3). (GEOP 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.

7403-8403. Advanced Topics in Geophysics. (3). (GEOP 7403). 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.

7404-8404. Exploration Seismology. (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.

7405-8405. Structural Interpretation of Seismic Reflection Data. (3). 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.

7430-8430. Advanced Economic Geography. (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.

7434-8434. Studies in Land Use. (3). (GEOG 7434-8434). Systematic analysis of suburban and rural land use characteristics, patterns, and problems; focus on US.

7440. Tectonic Geomorphology. (3). (GEOG 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: GEOG 6401 or permission of instructor.

7471-8471. 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.

7504-8504. Seminar in Geographic Information 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.

◆7541-8541. Field Studies in Geography. (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.

7602. Signal Processing for the Earth Sciences. (3). (GEOG 7602; GEOL 7358). Fundamentals of digital processing of geophysical data, both purely mathematical and applied aspects with attention to digital seismograms and gravity and magnetic data.

7603. Inverse Methods in Geophysics. (3). (GEOG 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: Mathematics in earth sciences.

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.

◆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.

7701. Seminar in Geophysics. (3). (GEOL 7641, GEOG 7701).

7702-8702. Seminar in Seismology. (3). (GEOG 7702-8702).

7703-8703. Seminar in Geology. (3). (GEOL 7701-8701).

7704-8704. Seminar in Tectonics. (3). (GEOG 7704-8704).

7800-8800. Seminar in Archaeology. (3). May be repeated for a maximum of 6 credit hours.

7801. Geographic Thought and Methodology. (3). (GEOG 7801). Introduces student to major philosophies of geography and to methods of geographic research.

◆ **7900. Professional Paper. (1). (GEOG 7900).** Preparation and presentation of research paper.

◆ **7990. Research in 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.

◆ **7996. Thesis. (1-6).** Student must research, write, and defend a thesis on a topic approved by major professor and advisory committee.

◆ **9000. Dissertation (1-9).**

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

ENGLISH

Room 467, Patterson Hall
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Chair

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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 Textual 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.

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 satisfactory score on the Graduate Record Examination; typically a score of 450 on the verbal section is competitive.
3. An official undergraduate and if applicable graduate transcript to Graduate Admissions.

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. Two graduate courses (six semester hours) in literature, excluding ENGL 7100.
3. Students must complete the following minimum course work, beyond the requirement in section 2, in at least one of these concentrations:
 - a. Composition Studies ♦ 18 hours;
 1. M.A. students pursuing an emphasis in Composition Studies must complete a 9-hour core consisting of ENGL 7/8003, 7/8801, and 7/8822.
 - b. Language and Linguistics ♦ 18 hours including ENGL 7511 or equivalent graduate or

undergraduate introduction to linguistics approved by student's advisor;

c. 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: 7806 and 7809, and four courses selected from the following: 7805, 7807, 7808, 7810, 7816, 7818, and 7862.

d. 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. For a comprehensive course listing, see the English Graduate website: <http://cas.memphis.edu/english/graduate.htm>. Literature students should take ENGL 7000 in the first year of graduate study.

e. 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.
6. Thesis (ENGL 7996) Optional, except for the concentration in Professional Writing. 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. 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 a

cover letter and two letters of recommendation. 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. 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.
5. Graduate Record General Examination (minimum verbal score: 450).
6. 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, or the Cross-Disciplinary Option.

1. Core Requirements
 - a. 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: (7470, 7471, 7601, or 7602 for poets), (7472 or 7603 for fiction writers and creative nonfiction writers).
 - b. Creative Writing Colloquium ENGL 7900. At least two sections of 7900 must be taken, each for at least 3 hours.
 - c. Thesis (ENGL 7996), three (3) semester hours. NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
 - d. A Comprehensive Exam based on a reading list formed by the student and the student's thesis director.
 - e. Oral review of thesis.

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:
 - a. **Studio Option:** twenty-one (21) hours chosen from the following:
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).
 - b. **Literary Studies Option:** twenty-one (21) hours made up of the following:
at least 9 hours of Literature Courses (selected from ENGL 7000, 7020-39 (literature or criticism

topics and approval of the Director of Creative Writing and the Coordinator of Graduate Studies), 7211, 7230, 7232, 7233, 7242, 7244, 7254, 7256, 7264, 7265, 7276, 7278, 7280, 7291, 7292, 7293, 7323, 7324, 7327, 7328, 7391, 7392, 7393, 7411, 7412, 7441, 7442, 7451, 7452, 7462, 7464, 7465, 7466, 7467, 7468, 7473, 7474, 7476, 7477, 7478, 7479, 7480, 7481, 7701, 7702); 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, 7805, and 7810);

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 7470, 7471, 7472.

- c. **Creative/Professional Writing Option:** twenty-one (21) hours selected from the following: Professional Writing Courses (7013, 7014, 7805, 7806, 7807, 7808, 7809, 7810, 7816, 7818, 7862, 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.
- d. **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.

IV. 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, Textual 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 minimum score of 600 generally is expected on the verbal portion of the GRE. In addition, international students for whom English is not their first language must submit a minimum score of 575 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. Two 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
 - a. 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.
 - b. Students entering the PhD program without 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.
 - c. 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.
 - d. 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 a core of 12 hours in textual studies; 6 hours in linguistics; 6 hours in composition studies or professional writing; and 3 hours in English Studies Colloquium.
 - a. PhD students pursuing an emphasis in Composition Studies must complete a 12-hour core consisting of ENGL 7/8003, 78801, 7/8806, and 7/8822.
4. Concentration Requirements (beyond Core Requirements)
 - a. Composition Studies—21 hours in composition studies.
 - b. Professional Writing—21 hours in professional writing.
 - c. Applied Linguistics—21 hours in linguistics or ESL.
 - d. Textual Studies—9 hours in theory/methodology, and an additional 12 hours in textual studies. The following courses will count as theory/methodology:

- ◆ ENGL 8477 Textuality: History, Culture, Form
- ◆ ENGL 8478 Textuality and Identity
- ◆ ENGL 8480 Cultural Theories
- ◆ ENGL 8701 History of Criticism & Theory
- ◆ ENGL 8702 Contemporary Criticism & Theory

5. Electives

Fifteen (15) hours approved by the advisory committee; six (6) may be taken outside the department.

6. Examination Requirements

- a. 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 qualifying 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.
- b. 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. In consultation with the advisor, the student will choose two other members from the concentration and at least one faculty member from outside the concentration.

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 (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

- a. Students in Applied Linguistics and Textual 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.
- b. Students in Composition and Professional Writing must demonstrate competency with two research tools or analytic specialities, both of which must be directly relevant to the individual student's dissertation work and projected short-term professional goals. These tools or analytical specialities 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

- a. **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.
- b. **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.
- c. **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 on-line.

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 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 all courses 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:
 - a. ENGL 7531 Theory and History of ESL (3 hours)
 - b. ENGL 7532 Principles of Skills Assessment (3 hours)
 - c. ENGL 7535 ESL Grammar (3 hours)
 - d. ENGL 7530 Field Experience and Practicum in ESL (3 hours)
3. Three (3) elective hours may be selected from:
 - a. ENGL 7533 Method/Techniques of ESL in K-12 (3 hours)
 - b. ENGL 7536 Issues in Second Language Writing (3 hours)
 - c. ENGL 7537 Issues in Second Language Reading (3 hours)
 - d. ENGL 7538 Cultural Issues in ESL (3 hours)
 - e. 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 Intent 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 six hours from the certificate program may count toward the M.A. or M.F.A. degrees, it is expected that many already-admitted students will earn the certificate on their way to the M.A. or M.F.A. 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:
 - a. ENGL 7325 African American Literature, 1930-1960 (3 hours)

- b. ENGL 7326 African American Literature of Memphis and the Mid-South (3 hours)
 - c. ENGL 7327 Studies in Form and Genre: African American Literature (3 hours)
 - d. ENGL 7328 Studies in Major Authors: African American Prose and Fiction (3 hours)
 - e. ENGL 7465 African American Literature 1960 to the Present (3 hours)
 - f. ENGL 7467 African American Literature, Beginnings to 1900 (3 hours)
 - g. ENGL 7468 Literature of the Harlem Renaissance (3 hours)
 - h. 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:
- a. ENGL 7323 American Literature to 1865 (3 hours)
 - b. ENGL 7324 American Literature, 1865-1914 (3 hours)
 - c. ENGL 7391 Modern American Novel (3 hours)
 - d. ENGL 7392 American Poetry (3 hours)
 - e. ENGL 7393 American Drama (3 hours)
 - f. 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 Intent to Graduate Card with the Graduate School and a Candidacy form with the Graduate Coordinator for English.

ENGLISH (ENGL)

◆6500. Language Skills for Internationals. (3).

6533. Issues and Techniques in English as a Foreign Language. (3). Skills, background, and approaches needed to teach English outside the United States.

7000-8000. 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.

7001-8001. Language and Composition. (3). Studies in the craft of composition, with focus upon sound editorial practice and the writing and analysis of the varieties of expository prose.

7003-8003. Theory and Practice in Teaching Composition. (3). Designed for graduate assistants teaching English 1101. Emphasis on the ways and techniques of teaching rudiments of English composition on college level. Required of and restricted to graduate teaching assistants.

◆**7004-8004. Internship for Graduate Teaching Assistants. (3).** Supervision of and consultation with English teaching assistants. PREREQUISITES: ENGL 7003 or equivalent plus appointment as graduate teaching assistant in English.

◆**7005-8005. Reading for Comprehensives. (3).** Arranged on an individual basis for English graduate students only. PREREQUISITE: Student must have completed required course work toward degree or be in the last semester of required course work.


◆**7006-8006. The English Profession. (3).** Presentations relating to the profession of college teaching, including methods and means of research and publication in different fields of English.


◆**7007-8007. Teaching Skills for Graduate Assistants. (3).** Overview and practical demonstrations of the art of teaching for graduate assistants. May be repeated for a maximum of 12 credit hours.

7012-8012. Seminar in Health Communication. (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.

7013-8013. Workshop for Health 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.

7014-8014. Workshop for Public Health 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.

7020-49  **8020-49. Special Topics in English. (3).** Topics are announced in online course listings.

 **7100-8100. 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.

7211-8211. Medieval Literature. (3).

7230-8230. Chaucer. (3).

7232-8232. Shakespeare's Tragedies. (3).

7233-8233. Shakespeare's Comedies and Histories. (3).

7242-8242. English Renaissance Literature. (3).

7244-8244. Elizabethan and Jacobean Drama. (3).

7254-8254. English Literature of the Seventeenth Century. (3).

7256-8256. Milton. (3).

7264-8264. English Poetry and Prose, 1660-1800. (3).

7265-8265. Eighteenth Century British Novel. (3).

7276-8276. English Literature of the Romantic Period. (3).

7278-8278. Victorian Literature. (3).

7280-8280. Nineteenth Century British Novel. (3).

7291-8291. Modern British Novel. (3).

7292-8292. Modern British Poetry. (3).

7293-8293. Modern British Drama. (3).

7323-8323. American Literature to 1865. (3).

7324-8324. American Literature, 1865-1914. (3).

7325-8325. African American Literature, 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.

7326-8326. African American Literature of Memphis and the Mid-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.

7327-8327. Studies in Form and Genre: African American Literature. (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.

7328-8328. Studies in Major Authors: African American Prose and Fiction. (3). Examination of selected writers or cultural figures with emphasis on biography, bibliography, and the shape of the writer's or figure's career. May be repeated for a maximum of 6 credit hours when topic changes.

7350-8350. 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.

7371-8371. 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.

7391-8391. Modern American Novel. (3).

7392-8392. Modern American Poetry. (3).

7393-8393. Modern American Drama. (3).

7411-8411. European Literature to the Renaissance. (3).

7412-8412. European Literature since the Renaissance. (3).

7432-8432. Quantitative Research Methods. (3). (Same as COMM 7432-8432). Survey of quantitative research in communication; practical experience in collecting and analyzing quantitative information.

7441-8441. European Fiction. (3). Movements and writers important to development of Continental Europe in the late eighteenth century to present.

7442-8442. Modern European Drama. (3).

7451-8451. Women and Literature. (3). Literature and criticism by and about women.

7452-8452. Biography: Process and Text. (3).

7462-8462. Contemporary British and/or Commonwealth Literature. (3). Authors, works, genres, and literary styles in development of contemporary British and Commonwealth literatures.

7464-8464. Contemporary American Literature. (3). Authors, works, genres, and literary styles in development of contemporary American literature.

7465-8465. African American Literature 1960 to the Present. (3). Major African American writers and/or movements from the 1960s up to the present.

7466-8466. Contemporary World Literatures in Translation. (3). Contemporary non-English fiction in translation, primarily from non-Western European cultures; focus on major movements and writers.

7467-8467. African American Literature, Beginnings to 1900. (3). Survey of African American literature from its beginnings up to and including the first works of the twentieth century.

7468-8468. Literature of the 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.

7469-8469. African American 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.

7470-8470. Forms of Creative Nonfiction. (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.

7471-8471. 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.

7472-8472. 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.

7473-8473. Verbal/Visual Texts. (3). May be repeated up to 6 hours with change of topic.

7474-8474. Cultural Texts. (3). May be repeated up to 6 hours with change of topic.

7475-8475. 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.

7476-8476. Modern Popular and Literary 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.

7477-8477. Textuality: History, Culture, Form. (3). Historical examination of ways in which texts are produced. May be repeated for a maximum of 6 credit hours.

7478-8478. Textuality and Identity. (3). Relationship between textuality and social groups. May be repeated for a maximum of 6 credit hours.

7479-8479. Studies in Cultural Figures. (3). Examination of selected writers or cultural figures with emphasis on biography, bibliography, and the shape of the writer's or figure's career. May be repeated for a maximum of 6 credit hours.

7480-8480. Cultural 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.

7481-8481. Early Popular and Literary Traditions. (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.

7485-8485. Literary 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.

7501-8501. History of the English Language. (3).

7511-8511. Introduction to Modern English. (3). An introduction to the nature of language with emphasis on basic principles of English phonology and morphology with special attention to syntax; emphasis on collecting and handling of linguistic data for research purposes.

7512-8512. English Syntax. (3). Study of structures of Modern English from perspective of various contemporary theories to see how form and meaning are integrally related; emphasis on methods of investigating questions that need to be asked in exploring new territory.

7513-8513. Dialectology. (3). Dialects and varieties of American English; emphasis on methods of analyzing data and techniques of eliciting responses to gain information about word forms, syntax, and pronunciation; social implications.

7514-8514. Sociolinguistics. (3). Language use in relation to social interaction and power structures; inequality in varied environments; appraisal of methodologies used in gathering and analyzing data.

7515-8515. Language and Literature. (3). Application of linguistic theory to analysis of literature, nature of literary language, and linguistic options open to writers.

7516-8516. Phonetics and 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.

7517-8517. Studies in 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.

◆ **7530-8530. Field Experience and Practicum in ESL. (3, 6).** Experience in observing and teaching, peer teaching, and work with an English as a Second Language (ESL) specialist.

7531-8531. Theory and History of ESL. (3). Survey of relation of linguistic principles to second language acquisition.

7532-8532. Principles of Skills Assessment in ESL. (3). Application of theories of teaching second language skills with emphasis on testing in a second language.

7533-8533. Methods and Techniques of ESL in K-12. (3). Techniques and resources for working with children and adolescents for whom English is a second language.

7534-8534. Second Language Acquisition, Bilingualism, and Bidialectalism. (3). Theories of second language acquisition, development of second language proficiency, and research in bilingualism.

7535-8535. ESL Grammar. (3). Grammatical systems and strategies of Modern English; analysis of English structures that tend to cause difficulty for ESL/SESD speakers.

7536-8536. Issues in 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.

7537-8537. Issues in 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.

7538-8538. Cultural Issues in English as a Second Language. (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.

7590-8590. Applied and Theoretical Linguistics. (3). Intensive study of specialized areas in English linguistics. Maybe repeated up to 9 hours with change of topic.

7601-8601. Creative Nonfiction Workshop. (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.

7602-8602. 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.

7603-8603. 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.

7604-8604. Creative Writing Workshops Abroad. (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.

7605-8605. Advanced Fiction Workshop. (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.

7606-8606. Advanced Creative Non-Fiction Workshop. (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.

7607-8607. 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.

7621-8621. Seminar in 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.

7701-8701. History of Criticism and Theory. (3). History of literary criticism and theory, classical to modern.

7702-8702. Contemporary Criticism and Theory. (3). Examination of major movements in contemporary literary criticism and theory.

7801-8801. History of 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.

7805-8805. Foundations of Technical Writing. (3). Introduction to fields of scientific, and corporate writing; relevant theories in the fields, including classical rhetoric, modern discourse theory, cognitive psychology, and semiotics; extensive practice in writing and analyzing technical documents.

7806-8806. Research Methods in Technical Writing. (3). Bibliographic techniques and an introduction to empirical methodologies for the study of the writing process and the testing of written documents.

7807-8807. Workshop: Government and Corporate Writing. (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.

7808-8808. Workshop: Scientific and Technical Writing. (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.

7809-8809. 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.

7810-8810. Document Design. (3). Theory of visual and written communication, focusing on the problem of how to integrate graphics and written text; practice in design and desktop publishing.

◆**7811-8811. Internship in Professional Writing. (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.

7812-8812. Memphis Urban Writing Institute 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.

7813-8813. Memphis Urban Writing Institute 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.

7815-8815. Seminar in the History of 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.

7816-8816. Seminar in Theorists in Professional Writing. (3). A study of the works of major modern writing theorists in areas such as document design, collaboration, science, persuasion, editing, and writing process.

7817-8817. Seminar in Composition Theorists. (3). Readings from and study of major modern theorists in invention, argumentation, literacy, writing, and discourse.

7818-8818. Collaborative Writing. (3). Theoretical and research-based focus on managing and developing collaborative writing projects and processes.

7819-8819. Rhetoric of Science. (3). (Same as COMM 7819-8819). Examines the traditional equation of science with knowledge and the process by which historically based case studies of science writing and studies of technology can yield insight into the rhetorical dimensions of science.

7820-8820. 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.

7822-8822. Contemporary Composition Theory. (3). Examines relationship between rhetorical and composition theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.

7823-8823. 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.

7862-8862. Writing Technical Manuals. (3). Focus on theories of manual writing, including minimal

and cognitive approaches, with discussion of learning strategies and usability studies.

7890-8890. Topics in Technical Writing. (3). Intensive study of specialized areas in technical writing. May be repeated for a maximum of 9 credit hours when topics change.

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.

◆ **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.

◆ **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.

8900. English Studies 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. NOTE: Student must pass PhD comprehensive exam before taking this course.

◆ **9000. Dissertation. (1-9).** No more than 9 hours may be applied toward the degree.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

FOREIGN LANGUAGES AND LITERATURES

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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. In conjunction with the College of Education, the Department of Foreign Languages and Literatures also offers coursework for students interested in pursuing teaching licensure.

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, or enhancing the student's skills for a career in law or business as well as in government agencies.

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 for full-time students are available 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 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. Students who are awarded a teaching assistantship receive a stipend and tuition remission. Applicants are encouraged to visit the department web site at www.fl.memphis.edu for a detailed description of the program.

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 2.5 quality point average on a scale of 4.0. Students with less than a 2.5 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, Spanish or a combination of the two. 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. A verbal and quantitative GRE score acceptable to the Department.
 10. International students must:
 - a. score a minimum of **79-80** on the web-based TOEFL;
 - b. convert their educational credentials, grades and diploma into their US equivalents with World Education Services (WES www.wes.org);
 - c. submit an official transcript and diploma along with their respective translation to Graduate Admissions, University of Memphis.

B. Program Requirements

1. A total of thirty-three (33) semester hours, or thirty (30) semester hours for candidates writing a thesis.
2. Up to twelve (12) hours may be taken in a collateral area with prior approval of the respective graduate coordinator in French or Spanish.
3. Students interested in pursuing teaching licensure must complete additional hours. Detailed information for students pursuing teaching licensure is provided at <http://fl.memphis.edu>.
 - a. ICL/LING 7174 Methods of Foreign Language (3 credit hours) is mandatory for students pursuing teaching licensure.
 - b. These students should take courses from the following options: SPED 7000, ICL 7050, ICL 7709, IDT 7061, ICL 7080, RDNG 7545, ICL 7030, EDPR 7112, ICL 7806, ICL 7993. NOTE: EDPR 7112 Adolescent Psychology can be eliminated if the student took Developmental Psychology or Adolescent Psychology as an undergraduate. ICL 7806 Student Teaching and ICL 7993 may be waived if the student is currently teaching in a public high school.
4. At least 23 hours must be taken in 7000 level courses (eight [8] courses in all).
5. Satisfactory completion of a minimum of six (6) courses in the areas of literature, linguistics, grammar, stylistics, and culture taught in the department in the language of concentration.
6. A reading knowledge of a foreign language other than that of the concentration. This may be demonstrated in the following ways:
 - a. achieving the forty-fifth (45th) percentile on the Graduate School Foreign Language Test (ETS),
 - b. achieving a grade of B ("3.0") or better in a fourth-semester language course (e.g. FREN/GERM/SPAN 2020 or equivalent),
 - c. achieving a grade of "S" or better in a reading course (FREN/ GERM 0701 or equivalent), or
 - d. another option approved by the coordinator of graduate studies.
7. 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 www.fl.memphis.edu.
8. If a thesis is presented, both an oral examination in the area of the thesis and the written and oral comprehensive examination are required. The thesis requires 6 hours. The maximum number of thesis hours that will count toward the degree is 6, although a student may have to enroll in more hours in

order to maintain continuous enrollment. Students electing to write a thesis should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.

LINGUISTICS (LING)

7101. Introduction to Linguistics I. (3). Nature of language; history of linguistic theory; morphology and syntax, concentrating on languages other than English.

7174. Specialized Methods in Foreign Language. (3). (Same 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.

7201. Introduction 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.

FRENCH (FREN)

6301. French Phonetics. (3). The theory and practice of French sounds; especially recommended for teachers of French.

6302. Advanced French Grammar. (3). Practical, syntactical, and lexical usage of contemporary French.

6412. Seventeenth and Eighteenth Century French Literature. (3). Classical theater and critical theories; essay, nouvelle, and conte in the eighteenth century. PREREQUISITE: FREN 3301; RECOMMENDED: FREN 3411.

6413. Nineteenth Century French Literature. (3). Survey of literary movements and major authors with readings in all the major genres. PREREQUISITE: FREN 3301. RECOMMENDED: FREN 3411.

6414. Twentieth Century French Literature. (3). Survey of literary movements and major authors with readings in the novel, poetry, and theater. PREREQUISITE: FREN 3301 RECOMMENDED: FREN 3411.

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.

7101. French for Business and Economy. (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.

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.

7305. French Stylistics. (3). (6305). 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.

7401. History of the Language and 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.

7402. Medieval French Literature. (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.

7421. The 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.

7425. Classicism prior to 1600. (3). Aesthetics and poetics of the baroque and preclassical periods: selections from the writings of the précieux and baroque poets, Mairet, Rotrou, Saint-Sorlin, Scarron, Sorel, Cyrano de Bergerac; the theater of Corneille; early comedies of Moliere.

7426. Classicism after 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.

7470-7479. Special Topics in French Literature. (3). Literary movements, individual authors, or groups of authors of the nineteenth and twentieth centuries.

◆**7492. Research in French Studies. (1-6).** May be repeated for credit toward the concentration in French up to a maximum of 6 hours.

7531. The Age of the 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.

7691. Bibliography and Methods of Research. (1). Examination of bibliographical aids for the study of French literature; problems involved in various types of research; and study of the presentation and documentation of scholarly writing. Required of all graduate students.

◆**7791. The Teaching of French. (1).** Required of all graduate assistants in French.

◆**7792. Practicum in Teaching (1-3).** Professional development in teaching of French, including classroom experience, tests and measurement, language proficiency, computer-assisted instruction, and use of audio-visual resources in the classroom. May be repeated. Limited to graduate students in French. PREREQUISITE: Permission of graduate coordinator.

◆**7793. Reading for Comprehensives. (1-6).** Directed readings of required lists as preparation for comprehensive written and oral examination. Arranged on an individual basis. May be repeated for a maximum of 6 credit hours. Limited to graduate students in French. PREREQUISITES: Permission of graduate coordinator.

◆**7996. Thesis. (1-6).** The thesis in French carries 6 semester hours and must be approved by the candidate◆s thesis committee.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

GERMAN (GERM)

7101. Advanced Business 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.

7102. Advanced Business 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)

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)

7101. Advanced Business Japanese 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.

7102. Advanced Business Japanese 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)

6024. Portuguese for Spanish Majors: Introduction to Brazilian Short Stories. (3). Accelerated introduction to Portuguese 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)

6306. Applied Spanish Linguistics. (3). (6501). Current research in linguistics, psycholinguistics, and sociolinguistics and their contribution to second language teaching and second language learning.

6307. Advanced Grammar and 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 all MA candidates.

6308. Advanced Grammar and 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 all MA candidates.

6410. Spanish Literature and Civilization. (3). Survey of literary movements and major figures with readings in literature and civilization. Required for all MA candidates.

6510. Spanish American Literature and Civilization. (3). Survey of literary movements and major figures with readings in literature and civilization. Required for all MA candidates.

6563. Introduction to Spanish Literary Genres. (3). Study of literary genres with concentration on Spanish Peninsular literature; selections from origins to present time; emphasis on textual analysis.

7101. Introduction to Hispanic Culture and Business. (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.

7102. Commerce in the 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.

7103. Spanish Commercial Correspondence and Documents I (3). Various letters and documents

for conducting business among Hispanic nations. Conducted in Spanish. PREREQUISITE: SPAN 7102 or equivalent.

7201. Workshop on Spanish Language. (3). Idiomatic construction, word formation, culturally connotated vocabulary and modern style techniques through intensive text analysis and writing.

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.

7302. Spanish Syntax and Semantics. (3). Spanish syntax and compositional semantics: constituent structure, syntactic categories and grammatical relations, prepositional semantics, quantification, modality, and tense.

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.

7305. Spanish American 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.

7420. Medieval Spanish Literature. (3). (6420). Reading of Old Spanish; Medieval Spanish literature from Mozarabic lyric through La Celestina.

7421. The Golden Age. (3). Don Quixote and other classic works of the sixteenth and seventeenth centuries.

7430. Eighteenth and Nineteenth Century Spanish Literature. (3). (6430). Romantic and post-romantic poetry and drama; costumbrismo and rise of regional novel, realistic novel, and naturalistic novel.

7431. Studies in 20th Century Peninsular Literature. (3). Spanish drama, prose, and poetry of the twentieth century. Particular attention given to generations of 1898 and 1927 as well as the post-civil war period.

7451. Studies on 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.

7452. Studies in 19th and 20th Century Hispanic Culture and Literature. (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.

7453. Studies on Latin American 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.

7532. Spanish American Drama. (3). (6532). Development of the drama in Spanish America, with an emphasis on the twentieth century. PREREQUISITES: Permission of instructor.

7561. Pre-Contemporary Spanish American Prose Fiction. (3). Evolution of the Spanish American novel and short story from their beginnings through early twentieth century.

7562. Contemporary Spanish American Prose Fiction. (3). Representative Spanish American novels and short stories of the twentieth century since 1940.

7591. Seminar in Spanish American Literature. (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.

7691. Research in Hispanic Studies. (1-6). May be repeated for credit toward the concentration in Spanish up to 12 hours.

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.

◆**7891. Teaching of Spanish. (3).** Methodology, theory, practice of teaching a foreign language. Credit not applicable to major. Limited to graduate students in Spanish. PREREQUISITE: Permission of graduate coordinator.

◆**7892. Bibliography and Methods of Research. (3).** Examination of bibliographical aids for study of Hispanic literature or Spanish linguistics, or both; problems involved in various types of research and study of the presentation and documentation of scholarly writing. Limited to graduate students in Romance Languages. PREREQUISITE: Permission of graduate coordinator.

◆**7893. Professional Development Seminar for Romance Language Majors. (3).** Presentation of scholarly work by faculty, graduate students, and visiting professors, writers. Limited to graduate students in Romance Languages. PREREQUISITE: Permission of graduate coordinator.

◆**7894. Reading for Comprehensives. (1-6).** Directed readings of the required lists as preparation for the comprehensive written and oral examination. Arranged on an individual basis. May be repeated for a maximum of 6 credit hours. Limited to graduate students in Romance Languages. PREREQUISITE: Permission of graduate coordinator.

◆**7996. Thesis. (1-6).** The thesis in Spanish carries 6 semester hours and must be approved by the candidate's thesis committee.

◆**Grades of S, U, or IP will be given.**

LANGUAGES AND LITERATURES (LALI)

6010-29. Special Topics in Foreign Literatures. (3). Topics are varied and announced in online course listings.

6441. Dante. (3). Vita Nuova and Divina Commedia; presented in English.

6493. Contemporary French Literature. (3). Emphasis on widely translated, well-known works by major French writers; presented in English translation.

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.

7780. Individual Studies in Business Foreign Language. (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.**

HISTORY

Room 219, Mitchell Hall
(901) 678-2515

JANANN SHERMAN, PhD
Chair

JAMES BLYTHE, PhD
Coordinator of Graduate Studies
Email: jmblythe@memphis.edu
<http://history.memphis.edu/>

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, and African history; we also offer an interdisciplinary 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 Studies Committee considers applications for admission throughout the year, but applications for an assistantship (a separate application) are due by February 15 for the following Fall.

For a full description of our graduate program, its requirements, and our faculty, see the History Department's [Guide for Graduate Students](#).

II. MA Degree Program

The MA program of study in history is a flexible one that prepares students for a variety of careers. 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

Following are the requirements for admission. In unusual circumstances we may admit a promising student who does not fully meet all of the requirements.

1. A minimum of 18 hours in history from an accredited institution with at least a 3.0 GPA (on a 4.0 scale) in all undergraduate history courses.
2. Typically a GRE verbal score above 450, or an MAT scaled score of at least 405 or a raw score of at least 45.
3. Two letters of recommendation evaluating the applicant's academic ability.
4. A writing sample, such as a paper from a course, that demonstrates the applicant's ability to write and think about history.

B. Program Requirements

1. A total of 33 hours for the student who elects not to write a thesis.

2. A total of 30 hours for the student who elects to write a thesis, including 6 hours of thesis credit. No more than 6 hours of thesis credit may count toward the degree.
3. No more than 6 hours at the 6000 level.
4. At least one 7000-level historiography course in any field and at least one HIST 7070 seminar. Only 3 hours can be History 7012, although we may accept 6 hours in special circumstances by petition to the Coordinator of Graduate Studies. All students who do not write an MA thesis must complete at least one additional 7070 seminar in their 15-hour requirement. The following courses do not count toward the degree: HIST 7020, 7021, 7022, 7990, and 7991.
5. At most 6 hours may be taken in a field outside history, with the approval of the student's advisor and the Coordinator of Graduate Studies. Under special circumstances students may petition for up to an additional 6 hours.
6. At most 21 hours may be taken in United States History, European History, or any one field of history, such as Ancient History.
7. A comprehensive examination over course work given by a committee chosen by the Graduate Advisor and the student.
8. For those who elect to write a thesis, approval by a department committee headed by the faculty member who directed the thesis. 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.)

Students choosing this concentration must take twelve (12) hours (if writing a thesis) or eighteen (18) hours (if not writing a thesis) of MA level courses with a focus on ancient Egypt. Students must also take two semesters of basic Middle Egyptian (ARTH 7115 and 7116, which are required but will not count toward the degree), plus two more semesters of readings from ancient Middle Egyptian texts. Courses in ancient art, anthropology, and language (taught in the Art, Anthropology, and/or Foreign Language Departments) may count as being in field(s) separate from the field of ancient history.

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

Following are the requirements for admission. Satisfaction of these criteria does not guarantee admission, and in unusual circumstances we may admit a promising student who does not fully meet all of the requirements.

1. A minimum of 24 graduate hours in history or a related field with at least a 3.25 GPA (on a 4.0 scale) from an accredited institution. We strongly recommend an MA in history.
2. A GRE verbal score above 500 with quantitative and writing scores acceptable to the department.
3. A 750-1000 word Statement of Purpose, in which the applicant states educational goals, anticipated fields of study, and general research interests. In this statement, we expect the candidate to demonstrate some familiarity with the department's program and faculty.
4. Three letters of recommendation commenting on the applicant's academic ability and suitability for PhD work.
5. A writing sample, consisting either of a MA thesis or a paper written for a graduate course in history or a related field.

As part of the admission process, Graduate Studies 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

The student 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 may be required to demonstrate reading knowledge in two or more foreign languages.

D. Fields of Study

1. The student will choose, in consultation with the major professor, three fields of study.
2.
 - a. One will be designated the dissertation field. As determined by the advisory committee, a student must complete a minimum of 18 semester hours of credit in the major field, plus 12 hours of dissertation.
 - b. In each of the two minor fields, the student must complete a minimum of 12 hours of credit.
 - c. In addition to the courses required in III.D.2.a-b, the student must take near the end of coursework 3 credit hours of ◆Reading for Comprehensives◆ (HIST 8990) in each minor field and 6 credit hours in the major 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, and gaining familiarity with the key debates.
3. Dissertation Fields
 - a. United States before 1877
 - b. United States after 1877
 - c. Ancient World; normally a dissertation in Ancient History must be in the area of Egyptology.
 - d. Britain
 - e. Modern Europe
 - f. African American History
4. Minor fields (in addition to the above)
 - a. Medieval-Renaissance Europe
 - b. Early Modern Europe
 - c. Latin America
 - d. Africa
 - e. China and Japan
 - f. Russia
 - g. Near East
5. 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.
6. 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).
7. With the approval of the Graduate Studies Committee, one field may be taken in an academic department other than History or may be interdisciplinary, including courses from at least three departments (two in the case of Egyptology).
8. No course may fulfill the requirement for more than one field.
9. Upon approval of a petition to the Graduate Studies Committee from both the student and a prospective dissertation director, the student may write a dissertation 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.)

Students choosing this concentration must take at least 12 hours of courses in the dissertation field of Ancient History that focus on ancient Egyptian history. We expect students 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.

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 may count toward the degree.
2. At least 30 hours of regular course work at The University of Memphis that serve to fulfill the requirements.
3. At least 9 credit hours of research seminars (HIST 7/8080) 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, HIST 7/8011 (Philosophy of History), and HIST 7/8100 (Studies in Global History), or their equivalents. We recommend historiography courses in the minor fields and 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 HIST 8012 (Directed Readings), with an additional 6 hours permitted in special circumstances by petition to the Coordinator of Graduate Studies.
6. At most 6 credits of MA courses and 6 credits of PhD courses at the 6000-level, none of which a PhD student may take in the major field. In special cases, the advisory committee may allow a total of 15 credits at the 6000-level, including ones in the major field.
7. With the approval of the advisory committee, up to 30 hours of course work from the master♦s degree, or other graduate coursework completed before admission to the PhD program, may be counted toward the 60 credits.
8. A student who makes a grade lower than B (3.0) 6 hours of course work or more will be dropped from the PhD program.
9. The following courses do not count toward the degree: HIST 7/8020, 7/8021, 7/8022, and 7/8991 (except as described above in D.2.c) nor toward the requirement in F.6.

G. Comprehensive Examination

Before scheduling the Reading for Comprehensives courses, the student must choose, in consultation with the advisor 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. No sooner than the last semester of course work, and after the student satisfies the language requirement, Comprehensive Committee will administer a Comprehensive Examination over all fields. On the written part of the examination, eight hours are allotted to the dissertation field and four hours to each of the minor fields. After a student has taken all parts of the comprehensive exam, 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 retaking of one or more written parts. After the student has retaken any required exams, the committee may choose to hold another oral examination, but it is not required to do so.

The student may not retake any written examination 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 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 attended 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. Within a reasonable period after the colloquy, the student must present a revised prospectus in written form to the Dissertation Committee and the Graduate Studies Committee for approval.

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. 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.

HISTORY (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.

6022. Oral History. (3). Applied history covering oral history theory, research, and interviewing procedures.

6050-69. Special Topics in History. (1-3). Intensive study of selected topics in History. Topics are announced in online class listings.

6126. Victorian and Edwardian England. (3). Social, political, and cultural adjustments of England to the experience of industrialization in nineteenth and early twentieth centuries.

6145. History of Modern Germany. (3). Germany from the origins of the unification movement in the Napoleonic Era through the Second World War.

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.

6162. History of the Soviet Union. (3). The 1917 Revolution and the major developments in government economy, cultural and social life, and international affairs that followed.

6213. Women and Gender in the History of Latin America. (3). Historical examination of the roles of women and gender in Latin America from colonial times to the beginning of the twentieth century.

6221. Twentieth-Century Latin American Revolutions. (3). Critical comparative examination of twentieth-century revolutionary movements in Latin America, focusing on Mexico, Guatemala, Cuba, and Chile.

6222. Race and Class in 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.

6260. The 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.

6272. Modern Middle East. (3). Political, diplomatic, social, and religious developments in the Middle East from 1800 to present.

6273. Islamic Egypt. (3). Political, economic, social, and cultural development of Egypt from Islamic conquest (640 A.D.) to the present.

6283. History of 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.



6288. History of West Africa and the African Atlantic Diaspora. 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.

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.

6292. History of Modern China, 1800 to the Present. (3).


6294. History of Modern Japan, 1800 to the Present. (3).

6295. Intellectual History of East Asia since 1800. (3). Evolution of modern Chinese and Japanese thought.

6320. Ancient Near East. (3). From the beginnings in Mesopotamia down through the great  Oriental Empires  (Assyria, Babylon, Persia).

6321. The Greek Experience. (3). Politics, society, and culture in ancient Greece to Alexander the Great.

6322. The Roman World. (3). Hellenistic kingdoms and the Roman Empire.

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  relations with the rest of Africa, and sample problems that illustrate how Egyptologists approach the past.

6361. History of the Byzantine Empire. (3). Byzantine or East Roman Empire from 330 to 1453 and its influence on the Slavic, Turkic, and Islamic peoples.

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.

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?

6390. Europe in the Age of the Reformation. (3). Characteristic political, social, economic, intellectual, and cultural developments and the religious conflicts of the late fifteenth and sixteenth centuries.

6401. Europe in the Age of the Baroque. (3). Political crises, the development of monarchical absolutism, the rise of modern science, and cultural synthesis in the seventeenth century.

6440. Era of the French Revolution. (3). Old Regime, origins and development of Enlightenment thought, and revolutionary and counter-revolutionary movements in 18th century Europe.

6453. Europe, 1815-1914. (3).

6461. Europe, 1914-1945. (3).

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.

6630. The New Nation, 1783-1815. (3).

6640. Jacksonian America, 1815-1850. (3).

6670. Civil War and Reconstruction, 1850-1877. (3).

6680. Emergence of Modern America, 1877-1914. (3).

6701. The United States, 1914 to the Second World War. (3).

6702. The United States, from the Second World War. (3).

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.

6824. Business History. (3). Historical development of business in the United States; attention to social, economic, and political trends related to American business communities.

6831. History of American Family. (3). Analysis of changes in family size and structure and relationships between family and society from colonial times to present.

6851. History of Women in America. (3). Economic, political, social, and intellectual history of women in the English American colonies and the United States.

6853. History of African American Women. (3). The social, political, economic, and cultural history of African American women from the sixteenth century to the present.

6861. Parks/People/Public Policy. (3). A comparative study of the history and administration of public land areas in the United States and of American conservation.

6863. History of Childhood in America. (3). Historical consideration of children and childhood in

American society from early 17th century to present.

6871. United States Urban History. (3). Development of American cities, including formation of local social, economic, and political institutions and impact of urbanization on US.

6879. From Africa to the Americas: African American History to 1820. (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.

6880. Slavery to Freedom to Segregation: African Americans, 1820-1920. (3). Examines social, political, and economic developments; antebellum slavery and freedom impact of 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.

6882. Civil Rights Movement: Roots, Protest, Legacies. (3). Struggle for African American equality, with emphasis on key civil rights issues, events, leaders, and strategies.

6941. History of the American Indian. (3). Role of the Indian in American history.

7011-8011. Philosophy of History. (3). Speculative philosophy of history and recent problems in analytical philosophy of history.

◆7012-8012. 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).

7020-8020. Seminar for Teaching Assistants. (3). Overview and practical demonstrations of art of teaching history. Required of all graduate assistants.

◆7021-8021. Colloquium for Graduate Assistants. (3). Supervision of and consultation with graduate assistants. For history students only. PREREQUISITES: HIST 7020-8020 and appointment as graduate assistant. May be repeated.

◆7022-8022. Teaching Skills for Graduate Assistants. (3). Develop skills in classroom teaching and assemble a teaching portfolio. May be repeated for up to 12 credits. May be restricted to graduate assistants.

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.

7070-8070. 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 7000-level historiography course in any field.

The following Studies courses consist of readings and reports to survey the important literature on a period or its principal divisions. May be repeated with departmental permission.

7100-8100. Studies in Global History. (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. May be repeated with permission when content varies.

7120-8120. Studies in English History. (3).

7160-8160. Studies in Russian History. (3).

7210-8210. Studies in Latin American History. (3).

7270-8270. Studies in Near Eastern History. (3).

7280-8280. Studies in African History. (3).

7290-8290. Studies in Asian History. (3).

7310-8310. 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.

7320-8320. Studies in Ancient History. (3).

7370-8370. Studies in Medieval-Renaissance European History. (3).

7400-8400. Studies in Early Modern European History. (3).

7430-8430. 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.

7440-8440. Studies in Modern European History. (3).

7601-8601. US Historiography to 1877. (3). Reading seminar in early US history that explore historiographical debates and in-depth examinations of major themes and periods in American history to 1877.

7602-8602. 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.

7650-8650. Studies in US History before 1877. (3).

7680-8680. Studies in US History after 1877. (3).

7880-8880. African American Historiography. (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.

7881-8881. Readings in African American History to 1865. (3). Introduces some of the most recent as well as standard scholarship in the field; discussion of assigned core readings supported by written reports.

7882-8882. Readings in African American History since 1865. (3). Introduces some of the most recent as well as standard scholarship in the field; discussion of assigned core readings supported by written reports on selected supplementary readings.

7883-8883. Studies in African American History. (3).

7980-8980. Thematic Studies in American History. (3).

7991-8991. Independent Readings. (1-12). Arranged on an individual basis for history students only. May be repeated.

◆**7996. Thesis. (1-6).** The student must write and defend satisfactorily a thesis on a subject approved by the major professor.

◆**8990. Reading for Comprehensives. (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.

◆**9000. Doctoral 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.**

◆**Grades of A-F, or IP will be given.**

MATHEMATICAL SCIENCES
Room 373, Winfield Dunn Building
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Chair

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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 semester hours in a collateral area approved by their advisor.

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

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

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

A. Program Prerequisites

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 TOEFL or 210 on the computer-based TOEFL (for students whose native language is not English).
4. An undergraduate degree with a minimum GPA of 2.5 on a 4.0 scale.

B. Program Requirements

1. At least 24 semester hours at the 7000 level
2. A passing grade on a comprehensive examination
3. Each of the concentration areas has additional program prerequisites and requirements, which are given below.
4. Mathematics Concentration
 - a. Prerequisite: An undergraduate degree with a major in mathematics or equivalent training.
 - b. Requirements
 1. Satisfactory completion of 33 semester hours of graduate course work in a program approved by the department.
 2. Satisfactory completion of at least 21 semester hours of graduate course work in mathematics (A typical program will include at least two of the following two-course sequences: MATH 7350-7351, 7261-7262, 7411-7361.)
5. Applied Mathematics Concentration
 - a. Prerequisite: An undergraduate degree with a major in mathematics or equivalent training. Students should have some background in differential equations and linear algebra. Students

whose major was in a related field but not mathematics will be considered on a case-by-case basis.

b. Requirements

1. Satisfactory completion of at least 33 semester hours of graduate course work in a program approved by the department.
2. Satisfactory completion of at least 21 semester hours of graduate course work in mathematics. This course work should include training in real and complex analysis, ordinary and partial differential equations, mathematical modeling, numerical analysis, and calculus of variations. MATH 6350-6351 or equivalent is required. In addition this program must include at least one additional two-course sequence, typically MATH 6391-6392, 7375-7376, or 7393-7395.
3. Sensible alternative programs, depending on the student's motivation and goals, may be considered.

6. Statistics Concentration

a. Prerequisites: three semesters of calculus and one semester of linear algebra.

b. Requirements

1. Satisfactory completion of 30 semester hours of graduate course work with a thesis or 33 semester hours of graduate course work without a thesis in a program approved by the department.
2. Satisfactory completion of the following courses: MATH 7642, 7643, 7647, 7654, 7685, 7762, and either MATH 7645 or MATH 7657, either MATH 7660 or MATH 7670.
3. Graduate students in the Department of Mathematical Sciences may not receive credit for both MATH 6637 and MATH 7643.

7. Teaching of Mathematics Concentration

a. Prerequisite: In addition to the general prerequisites for the MS Degree program, students will be required to have an undergraduate degree in mathematics or the equivalent.

b. Requirements

1. Satisfactory completion of at least 33 semester hours of graduate course work in a program approved by the department.
 - a. Core courses required for all students are: MATH 6151, MATH 7171, MATH 7174, MATH 7281; MATH 7282; MATH 7381; MATH 7282; MATH 7681; either ICL 7500 or ICL 7503.
 - b. Elective courses must be approved by the department. Sample electives include: MATH 6242; MATH 6361; MATH 6411; MATH 7237; MATH 7996; ICL 7500; ICL 7503; ICL 7508.
2. At least 27 hours must be at the 7000 or 8000 level and a minimum of 24 hours must be mathematics coursework (MATH 7996 does not count toward this requirement).
3. Students may choose a thesis or non-thesis option.
 - a. Thesis Option - Each student must submit a thesis acceptable to the student's advisory committee. The thesis can be based on work done for Math 7996. A student may take 3-6 credit-hours in Math 7996; however, only 3 hours may be applied to the degree requirement. Students must complete a research project, submit a written thesis describing the research, orally present and defend the thesis before a faculty committee. Students are also required to earn a passing grade on a comprehensive written examination. The oral defense of the thesis will encompass material learned during course work and will count as the comprehensive examination.
 - b. Non-thesis Option - Pass a final written and oral comprehensive examination which will be administered by the student's Advisory Committee during the final semester of residence. The content for the comprehensive written examination will be based on the core curriculum of the program.

III. PhD Degree Program

A. Admission Requirements

1. GRE scores are required and are an important factor for admission.
2. Three letters of recommendation

3. A score of at least 550 on the TOEFL, or 210 on the computer-based TOEFL (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 semester hours of graduate credit (a minimum of 36 hours for a student entering with an approved master's degree).
The 72 hours:
 - a. may include a maximum of 12 hours of 6000 level coursework, but must include at least 18 hours of 8000 level coursework;
 - b. may include between 9 and 15 hours of dissertation (9000); and
 - c. must include the satisfactory completion of one of the concentration requirements listed below.
2. Each student must:
 - a. obtain a passing grade on a qualifying examination prior to the end of the first 13 months of study in the program;
 - b. obtain a passing grade on a comprehensive examination;
 - c. complete an acceptable dissertation (Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.); and
 - d. 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
 - a. 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
 - a. 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
 - b. 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.

MATHEMATICS (MATH)

6010-19. Special Topics in Mathematics and Statistics. (1-3). Topics are varied and announced in online class listings. PREREQUISITE: Permission of instructor.

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.

6171. Special Problems in Mathematics. (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.

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.

6261. Abstract Algebra. (3). Groups, homomorphisms, rings, integral domains, fields, polynomials. PREREQUISITE: MATH 2702 and 3242, or equivalent.

6350. Introduction to 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.

6351. Introduction to Real Analysis II. (3). Integration theory; Riemann and Lebesgue integrals; partial differentiation; implicit function theorem. PREREQUISITE: MATH 6350 or permission of instructor.

6361. Complex Variables. (3). Complex numbers, analytic functions, Cauchy-Riemann conditions, Taylor and Laurent series, integration. PREREQUISITE: MATH 2110.

6391. Partial Differential Equations I. (3). Laplace transforms; Fourier series; introduction to partial differential equations. PREREQUISITE: MATH 3120.

6392. Partial Differential Equations II. (3). Methods of characteristics; Greens functions; existence and regularity of solutions of boundary value and Cauchy problems. PREREQUISITE: MATH 6391.

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.

6721. Numerical Analysis. (3). Derivation and application of computer-oriented numerical methods for functional approximation, differentiation, quadrature, and the solution of ordinary differential equations. PREREQUISITES: MATH 1920 and knowledge of some structured programming language.

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.

7020-40↔8020-40. Special Topics in Mathematics (3).

7221-8221. Statistical Methods for Analyzing Gene Expression Data. (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.

7235-8235. 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.

7237-8237. 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.

7261. Algebraic Theory I. (3). Studies in group theory and ring theory, including Sylow theory and factorization theory. PREREQUISITE: MATH 6261.

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.

7290-99↔8290-99. Topics in Algebra. (3). Topics are varied and announced in online class listings. PREREQUISITE: Permission of instructor.

7311-8311. Topics in Analysis. (1-3). Repeatable by permission. PREREQUISITE: MATH 7350.

7321. Modeling and 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.

7350. Real Variables I. (3). σ -algebra, outer measure, Lebesgue measure, measurable functions, differentiation, absolute continuity, L_p -spaces. PREREQUISITE: MATH 6351.

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.

7355-8355. Functional Analysis I. (3). Vector spaces, Banach spaces, Hilbert spaces; linear functionals and operators in such spaces; spectral theory. PREREQUISITE: MATH 7350.

7356-8356. Functional Analysis II. (3). A continuation of MATH 7355-8355. PREREQUISITE: MATH 7355-8355.

7361. Complex Analysis. (3). Analytic functions, power series, mapping properties, complex integration, Cauchy's theorem and its consequences, sequences of analytic functions. PREREQUISITE: MATH 6351.

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.

7375. Methods of Mathematical 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.

7376. Methods of Mathematical 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.

7393-8393. Differential Equations and Applications. (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.

7395-8395. Theory of Differential Equations. (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.

7411. Point Set Topology. (3). An axiomatic approach to compactness, separability, connectedness, metrizability and other topological properties. PREREQUISITE: MATH 6411.

7721. Advanced Numerical Analysis. (3). A continuation of Mathematics 6721; specialized methods and techniques in field of numerical analysis. PREREQUISITE: MATH 6721.

◆7821-8821. Special Problems in Mathematics. (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.

◆7921-8921. Special Problems in Differential Equation. (1-3). Repeatable by permission. PREREQUISITE: MATH 7393.

7922-8922. Special Problems in Applied Mathematics. (1-3). Repeatable by permission.
PREREQUISITE: Permission of the instructor.

◆**7960-8960. Seminars in Teaching, Research, and Consulting. (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.

◆**7995. Project in Applied Mathematics. (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.

◆**7996. Thesis. (3-6).**

8811. Advanced Seminar in Mathematics. (1-3). PREREQUISITE: permission of instructor.

◆**8812. Independent Studies in Mathematics or Statistics. (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.

◆**8813. Directed Research in Mathematics or Statistics. (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.

◆**9000. Dissertation. (1-12).** Independent research for the PhD degree.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

MATHEMATICS COURSES FOR TEACHERS (MATH)

6151. History of Mathematics. (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.

7171. Workshop in Middle School Mathematics. (3). This course is designed to provide in-service training, with emphasis on new course content.

7174. Workshop in Senior High Mathematics. (3). This course is designed to provide in-service training, with emphasis on transformation geometry.

7281. Linear Algebra for Teachers. (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.

7282. Abstract Algebra for Teachers. (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.

7381. Real Analysis for Teachers 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.

7382. Real Analysis for Teachers 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.

7681. Probability for Teachers. (3). Probability spaces, theory of statistical inference physical interpretations of probability. PREREQUISITE MATH 1920.

STATISTICS (MATH)

6607. Introduction to 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.

6611. Introduction to 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.

6614. Introduction to Probability and 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.

6635. Introduction to 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.

6636. Introduction to 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.

6637. Statistical Methods. (3). Basic concepts of hypothesis testing; comparisons of two population 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 6635.

6640. Introduction to Probability Models. (3). Basic concepts of discrete Markov chains; branching processes; Poisson processes; applications to modeling of the population growth; application to modeling of the spread of infectious disease. PREREQUISITE: MATH 6635.

7607. Advanced Programming in SAS. (3). Covers SAS macro language and SAS SQL; topics include macro variables, macro processing, Marco expressions, Marco quoting; Proc SQL, retrieving data from tables, creating and updating tables and views; applications in statistics. PREREQUISITE: MATH 6607.

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.

7630-7639-8630-8639. Special Topics in Statistics. (1-3). Topics are varied and announced in online class listings.

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.

7642-8642. 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.

7643. Least Squares and Regression Analysis. (3). Basic concepts of hypothesis testing and confidence intervals; simple and multiple regression analyses, model selection, Mallow's C_p , examination of residuals, Box-Cox transformation, influence diagnostics, multicollinearity, ridge-regression, probit, logit, and log-linear analyses; intensive use of SAS or other statistical packages. PREREQUISITE: MATH 6635.

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.

7647. Nonparametric Statistical Methods. (3). Use of distribution-free statistics for estimation, hypothesis testing, and correlation measures in designing and analyzing experiments. PREREQUISITE: MATH 6635; COREQUISITE: MATH 6636.

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.

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.

7656-8656. Advanced Techniques in Statistical Inference. (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.

7657-8657. Multivariate Statistical Methods. (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.

7660-8660. Applied Time Series Analysis. (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.

7670-8670. Applied 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.

◆7671-8671. Individual Studies in Statistics. (1-3). Directed individual study of recent developments in statistics. Repeatable by permission. PREREQUISITE: Permission of the instructor.

7672-8672. Special Problems in Statistics. (1-3). (6671). Recent developments in statistical methods and applications. PREREQUISITE: Permission of the instructor.

7680-8680. 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.

7685-8685. Statistical Simulation and Computing. (3). Uniform random number generation and testing, generation of non-uniform random variables, approximating tail probabilities and percentage points in common distributions, computational methods for multiple regression analysis. PREREQUISITE: MATH 6636 and knowledge of FORTRAN.

7691-8691. Seminar in Statistical Research. (1-3). Recent developments in statistical methods and their applications. Basic topics cover \blacklozenge multivariate method, \blacklozenge growth curve models, robustness and effects of departure from basic statistical assumptions on common inference procedures, multivariate contingency tables, bioassay, etc. PREREQUISITE: MATH 6636.

\blacklozenge **7692-8692. 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.

7695-8695. Bootstrap and Other Resampling 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.

7759-8759. Categorical Data 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.

7762-8762. 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.

7764-8764. Statistical Methods for Biomedical and Environmental Research. (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.

7765-8765. Advanced Stochastic Models in Biomedical Sciences. (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.

\blacklozenge **Grades of A-F, or IP will be given.**

PHILOSOPHY

Room 327, Clement Hall
(901) 678-2535

DEBORAH TOLLEFSEN, PhD
Chair

MARY BETH MADER, PhD
Coordinator of Graduate Admissions

TIMOTHY ROCHE, PhD
Coordinator of Graduate Studies

E-mail: philosophy@memphis.edu
<http://cas.memphis.edu/philosophy/>

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.

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

Students desiring admission to the graduate program in philosophy should correspond with the coordinator of graduate admissions in Philosophy as early as possible in the admission procedure, and as far in advance as they can before the semester in which they plan to enter. The Philosophy Department admits students for the fall semester of each academic year. Prospective applicants should write directly to the Department of Philosophy to request information and application forms. Application deadline (for all materials to be received) is January 15 for the MA program.

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, intermediate 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, 23 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 major areas and 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 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. Prospective applicants should contact the Department of Philosophy to request information and application forms. Application deadline (for all materials to be received) is January 15 for the PhD program.

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
 - a. 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.
 - b. 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.

- c. 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.
 - d. No more than 18 credit hours of dissertation (PHIL9000) 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
 - a. 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; and six hours in practical philosophy, three of which must be in ethics.
 - b. Additional Requirements◆Students must take the proseminar, normally during the first semester 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:
 - a. Qualifying Examinations◆Qualifying examinations are taken in August of the student's second year. They consist of two four-hour written examinations, one in the history of ancient philosophy and one in the history of modern philosophy. A general reading list is provided for each area. Only students who pass the qualifying examination may continue work for the PhD. NOTE: It is expected that the doctoral qualifying 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.
 - b. Area Examinations◆Area examinations are taken in August of the student's third year. They consist of two four-hour written examinations, one in theoretical philosophy (metaphysics/epistemology) and one in practical philosophy (ethics/social-political philosophy). A general reading list is provided for each area. Only students who pass the area examinations may continue work for the PhD.
 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
 - a. 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.
 - b. 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.
 - c. 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.
 - d. Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.

PHILOSOPHY (PHIL)

6211. Studies in Ancient Philosophy. (3). Readings from primary sources, supplemented by commentary from antiquity and modern scholarship, including Pre-Socratics, Plato, Aristotle, and the Hellenistic period. May be repeated for maximum of 9 hours credit with permission of graduate coordinator.

6311. Studies in Modern Philosophy. (3). Readings from major philosophers of 17th to early 19th centuries, supplemented by commentaries from modern and contemporary sources. May be repeated for a maximum of 9 hours credit with permission of graduate coordinator.

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.

6422. Recent Anglo-American Philosophy. (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.

6441. Recent Continental Philosophy. (3). Major figures in 20th century European thought; movements such as phenomenology, existentialism, structuralism, critical theory, and hermeneutics. May be repeated for maximum of 9 hours credit with permission of graduate coordinator.

6551. Social and Political Philosophy. (3). Theories of society, culture, institutions, government, law, power, authority, rights, and obligation.

6632. Advanced Logic. (3). The nature of axiomatic systems and foundations of mathematics.

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.

6671. Aesthetics. (3). Treatment of philosophical theories concerning the nature and role of art and the possibility of aesthetic evaluation.

6801-20. Special Topics in Philosophy. (3). Topics in areas of epistemology, metaphysics, philosophy of language, philosophy of mind, logical theory, axiology. Area to be covered will be in the online course listing. May be repeated for a maximum of 15 hours credit.

◆7001-8001. Proseminar. (3).

◆7002-8002. Teaching Skills for Graduate Assistants. (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.

Topics vary in all of the following courses. They are announced in the online course listing and described in the departmental course outline booklet. Some of these courses may be repeated for credit if not to improve a previous grade.

7020-8020. Seminar in Major Figures. (3).

7030-8030. Seminar in Continental Philosophy. (3). May be repeated for a maximum of 9 credit hours.

7040-8040. Seminar in Normative Philosophy. (3). May be repeated for a maximum of 9 credit hours.

7201-8201. Seminar in Classical Philosophy. (3). May be repeated.

7203-8203. Seminar in Contemporary Philosophy. (3). May be repeated.

7301-8301. Seminar in Modern Philosophy. (3-6). May be repeated.

7414-8414. Seminar in Metaphysics. (3).

7421-8421. Seminar in Epistemology. (3).

7442-8442. Seminar on Heidegger. (3).

7541-8541. Seminar in Social and Political Philosophy. (3).

7551-8551. Seminar in Ethical Theory. (3).

7800-7810↔8800-8810. Special Topics in Philosophy. (3).

↔7994. Reading and Research. (1-9). May be repeated for a maximum of 9 credit hours.

↔7996. Thesis. (1-9). May be repeated for a maximum of 9 credit hours.

8051. Colloquium on Philosophical Problems. (3).

↔8071. Research in Progress Seminar. (1-12). May be repeated for a maximum of 12 credit hours.

8252. Seminar on Aristotle. (3).

↔8994. Advanced Reading and Research. (1-12). May be repeated for a maximum of 12 credit hours.

↔9000. Dissertation. (1-12). May be repeated for a maximum of 12 credit hours.

↔Grades of S, U, or IP will be given.

PHYSICS

Room 216 Manning Hall
(901)-678-2410

M. SHAH JAHAN, PhD
Chair

SANJAY MISHRA, PhD
Coordinator of Graduate Studies
(901)-678-3115

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I. The Department of Physics offers a major in Physics for the Master of Science degree with concentrations in General Physics and Computational Physics. 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 Ph.D. program, enter a professional school, or enter the workforce as a technical professional.

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 (or 210 on the computer-based TOEFL).

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 Physics Department Graduate Committee, which must approve and direct their course of study.
2. Core requirements
 - a. PHYS 7100, 7200, 7300, 7386, and 7520.
 - b. Satisfactory completion of a comprehensive written examination typically taken during the second year of graduate study.
3. Concentration Requirements (Students may elect either a thesis or non-thesis program.)
 - a. *General Physics, thesis option*
 1. Sufficient additional courses, including 3-6 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). 18 semester hours must be taken in physics courses numbered 7000 or above.
 2. The student must present a research proposal to the graduate thesis committee at the end of the first semester of his/her study.
 3. 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.
 - b. *General Physics, non-thesis option*
 1. Sufficient additional courses to satisfy a minimum of 33 semester hours, in which 9 may be

in a collateral field of study. 21 semester hours must be taken in physics courses numbered 7000 or above.

2. 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*
 1. PHYS 7385
 2. PHYS 7996 Thesis; must contain a strong computational physics component
 3. Completion of at least two of the following 7 courses (for a total of 6 credit hours) CHEM 6415, CHEM 7411, CHEM 7414, MATH 6391, MATH 6721, MATH 7321, PHYS 7375
- d. *Computational Physics, non-thesis program*
 1. PHYS 7385
 2. Completion of at least two of the following 7 courses (for a total of 6 credit hours) CHEM 6415, CHEM 7411, CHEM 7414, MATH 6391, MATH 6721, MATH 7321, PHYS 7375

PHYSICS (PHYS)

6000-09. Special Topics in Physics. (3). Selected topics of current interest in physics. Topics are varied and announced in online class listings.

6020. Biophysics (3). Covers biomolecules, RASMOL program for viewing protein pdb files, ideal gas, Brownian motion, diffusion, Nernst-Planck eq., life in the low Reynold's number world, free energy, Boltzmann distribution, entropic forces, RNA folding, hair cell chemo-mechanical amplifier, water, osmotic flow, Oosawa force, electric double layer interaction, Poisson-Boltzmann eq., chemical potential, dissociation reactions, self-assembly, cooperativity, eigenvalues and eigenvectors, DNA stretching and melting, thermal ratchets, Smoluchowski eq., Michelis-Menten vs. allosteric enzymes, molecular motors, Nernst potentials, Donnan equilibrium, ion pumps, bacterial flagellar motor, ATP synthase, potassium channels. PREREQUISITE: calculus-based PHYS 2120.

6021. Applied 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.

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.

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.

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.

6060. Advanced Physics Methodology. (3). Students will perform advanced fundamental experiments in physics focusing on underlying physical principles, the scientific methodology of experimental research, and detailed error analysis. PREREQUISITE: PHYS 3010.

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.

6112. Mechanics II. (3). Advanced classical mechanics: central force motion, dynamics of a system of particles, motion in non-inertial reference frames, dynamics of rigid bodies, coupled oscillations, and continuous systems (wave motion).

6211. Optics. (3). Geometrical and physical optics including such topics as thin lenses, spherical mirrors, lens aberrations, optical instruments, waves interference, diffraction, absorption, transmission, and

scatterings. PREREQUISITE: PHYS 3011, 3211.

6410. Introduction to Quantum Theory. (3). Experimental basis of quantum theory; development of the Schrodinger equation and its solution for simple systems; selected applications in atomic and molecular structure. PREREQUISITE: PHYS 3010, 3011, 3211.

6510. Thermodynamics. (3). A mathematical treatment of thermodynamics, including such topics as work, energy, enthalpy, entropy, reversible and irreversible processes, equilibria, specific heats, and phase transitions. PREREQUISITE: PHYS 2120, 3011.

6610. Solid State Physics. (3). Consideration of such topics as lattice vibrations, specific heats, electrical and thermal conduction in solids, magnetism. PREREQUISITE: PHYS 4410 or 6610.

7010. Fundamental Concepts of Classical Physics for Teachers. (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.

◆**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.

◆**7021. Physics Practicum II. (1).** Continuation of Physics 7011 with emphasis on concepts covered in Physics 7020. *Two laboratory hours per week.* COREQUISITE: PHYS 7020.

◆**7031. Physics Practicum III. (1).** Continuation of Physics 7021 with emphasis on concepts covered in Physics 7030. *Two laboratory hours per week.* COREQUISITE: PHYS 7030.

7050-59. Special Topics in Advanced Physics. (3-6). Selected topics in advanced physics. Topics are varied and announced in online class listings.

◆**7060. Individual Study in Advanced 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.

◆**7080. Teaching Skills for Graduate Assistants. (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. PREREQUISITE: Limited to physics majors and permission of graduate coordinator.

◆**7090. Workshop in Professional Development for Graduate Students. (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. PREREQUISITE: Limited to physics majors and permission of graduate coordinator.

7100-8100. 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.

7200-8200. 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.

7201-8201. Quantum Mechanics II. (3). Continuation of PHYS 7200; scattering theory, quantum dynamics, spin, perturbation methods, and Hartree-Fock. PREREQUISITE: PHYS 7200.

7210. Relativistic Quantum Mechanics. (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.

7220. Relativistic 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.

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.

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.

7375. Methods of Mathematical Physics I. (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.

7376. Methods of Mathematical Physics II. (3). (Same as MATH 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.

7385. Methods of Computational 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.

7386. Methods of Theoretical Physics. (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.

7520-8520. Statistical Mechanics. (3). Elements of kinetic theory and applications to gases, specific heats, magnetism, etc.; partition functions, introduction to Boltzmann statistics and quantum statistics.

7710. Advanced Topics in 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.

◆**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.

◆**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.**

◆**Grades of A-F, or IP will be given.**

POLITICAL SCIENCE

Room 437, Clement Hall

(901) 678-2395

ROBERT G. BLANTON, PhD
Chair

DAVID L. RICHARDS, PhD
Coordinator of Graduate Studies

E-mail: askykndl@memphis.edu
<http://polisci.memphis.edu>

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 for assistantships are available on the department website and in Clement Hall, Room 437.

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 Government & Politics, Political Theory, International Relations, and Comparative Politics, with additional strengths in Public Law and Public Policy.

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:
 - a. An undergraduate grade point average of 3.0 on a 4.0 scale from an accredited college or university.
 - b. The strength of official GRE, GMAT, or LSAT scores. Standardized exam scores older than 5 years are not accepted. Students who already have completed an accredited graduate degree in the last 10 years do not need to retake graduate admissions exams. Miller Analogies Test (MAT) scores are not accepted for admission to the program.
 - c. Two letters of recommendation (at least one academic) from people familiar with the applicant's academic background or experience, specifying in detail the applicant's capabilities for graduate study.
 - d. 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 may choose either a non-thesis option or a thesis option for the MA degree.
2. Students who select the non-thesis option must complete 36 hours of graduate courses. These students are required to take both written and oral examinations in three fields: the Core Theory and

Methods (POLS 7401, 7101, and POLS 7100) and any two of the following fields: American Government & Politics, Political Theory, International Relations, or Comparative Politics. Students participating in the dual JD/MA program may have one field in Law.

3. 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.
4. All students must complete POLS 7100, Seminar in Scope and Methods of Political Science Research, POLS 7101, Political Statistics, and POLS 7401, Seminar in Political Theory, with grades of B or better in each course.
5. 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.
6. With the approval of the Graduate Coordinator, up to 6 graduate credit hours may be taken in a field outside of Political Science. For those in the dual JD/MA degree program, up to 16 credit hours may be taken from the Law School.
7. With the approval of the Graduate Coordinator, up to 6 semester hours of internship courses may be counted toward the 33 or 36 semester hour requirement.
8. 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 coursework.
9. Comprehensive examinations: Students may take an exam in a field if they have taken at least three courses in that field. Students may combine courses in Comparative and IR into one field or select them as separate examination fields.
 - a. Comprehensive examinations are given once in the fall semester and once in the spring semester. Students taking the exams must be in their last semester of coursework. The department's Graduate Coordinator schedules the exams. Students must notify the Graduate Coordinator of their intent to take the exams by the fifth week of the semester.
 - b. A departmental Comprehensive Examination Committee writes and evaluates the comprehensive examination. The Committee includes one expert reviewer per subject area.
 - c. Students may receive **◆Pass with Distinction,◆ ◆Pass,◆ or ◆Fail.◆** A favorable vote by a majority of the Committee is needed for the student to pass the examination. If the student fails any portion of the written exam, the student will have one opportunity to retake that exam field the following semester. A student must pass all written exams prior to taking the oral exam.
 - d. The Graduate Coordinator selects the student's Oral Examination Committee based upon the questions chosen and answered. The Oral Examination Committee includes at least one representative for each examination field.

IV. Dual MA-JD Program

A. Program Admission

Admission to the dual program will require separate application to each program. 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 remaining hours toward the MA in Political Science must be taken in Political Science. The following courses will qualify for both the JD and MA in Political Science:

a. Law Courses Required at Law School:

Constitutional Law 4 hours, Criminal Law 3 hours, Criminal Procedure I 3 hours

b. 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

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

V. Accelerated BA/MA Program in Political Science

This program allows outstanding undergraduates to begin the coursework for the Master of Arts degree in Political Science during their senior year.

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 BA degree while they also begin the coursework toward their MA.

Students may begin the program the first semester of their senior year. To apply, students must have a 3.25 grade point average, and must submit two reference letters and a copy of their transcript to the political science department. Each applicant will complete an interview with the graduate academic coordinator in political science.

Students must also apply to the Graduate School for a combination senior, allowing them to take graduate courses in political science. To continue in the program past the BA, students must make formal application to Graduate Admissions (see section III.A. Program Admission above).

POLITICAL SCIENCE (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.

6200. Environmental Law, Policy, and Regulation. (3). Survey of the principal federal laws, policies, and regulations concerning environmental use and protection.

6211. Constitutional Law and National Powers. (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.

6212. Constitutional Law: Origins and Evolution of Civil Liberties in US. (3). Background, role, and legitimate extent of civil rights and liberties in US.

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.

6223. Issues in Urban Politics. (3). Selected issues in contemporary urban politics and policy.

6230. Legislative Internship. (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.

6315. Revolution and Political Violence. (3). Comparative analysis of the forms and causes of political violence within nations, including revolutions, ethnic conflict and secessionist movements, and terrorism.

6317. Transitions to Democracy. (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.

6405. Origin and Development of American Political Thought. (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.

6504. International Law. (3). An analysis of the nature, scope, duties, rights, and evolutionary trends of international law.

6508. Theories and Concepts in International Relations. (3). Theoretical approaches to study of international politics. Consideration of various schools of thought, methods, and substantive literatures.

6510. Politics of the Global Economy. (3). Consideration of manner in which political processes affect and are affected by economic processes at global level.

6511. International Conflict. (3). Sources of conflict between nations, including characteristics of the international system, national attributes, and decision making.

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.

7100. Seminar in Scope and Methods of Political Science Research. (3). Survey of major theoretical approaches to study of politics with emphasis on both analytic and empirical aspects of political inquiry.

7101. Political Statistics. (3). Introduction to descriptive and inferential analysis of quantitative political science data.

7201-8201. Seminar in American Politics. (3). Selected topics in American government and politics. May be repeated for a maximum of 6 credit hours.

7202. Seminar in Government of the United States. (2-3). Analysis of the principal institutions of the federal government of the United States, including Congress, the Presidency, and the Supreme Court.

7302-8302. Seminar in Comparative Politics. (3). Selected topics in comparative politics. May be repeated for a maximum of 6 credit hours.

7303. Seminar in Political Development. (3). Comparative study of the process of political change in the nations of the third world.

7304. Seminar in Human Rights in World Politics. (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.

7401. Seminar in Political Theory. (3). Contribution of political philosophy to full understanding of politics is illustrated through selected topics. May be repeated for a maximum of 6 hours.

7501-8501. Seminar in International Relations. (3). Selected topics in international politics and foreign policy. May be repeated for a maximum of 6 credit hours.

7502. Seminar in International Conflict and 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.

◆7503. Reading for Comprehensives. (3). Arranged on an individual basis for graduate students in political science, public administration, or health administration only. PREREQUISITE: Completion of degree requirements or in the last two semesters of program.

7504. Seminar in Government of 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.

7505. Seminar in Latin American 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.

7506. Seminar in Foreign Policy. (3). Analysis of the conduct and formulation of foreign policy.

7508. Seminar in International Relations Theory. (3). A survey of the main theoretical approaches within the field of international relations.

7510. Seminar in the Politics of the Global Economy. (3). Analysis of the interactive relationship between global political and economic processes.

◆**7702-8702. Independent Study. (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.

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.

◆**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.**

◆**Grades of A-F, or IP will be given.**

PSYCHOLOGY

Room 202, Psychology Building
(901) 678-2145

ARTHUR C. GRAESSER, PhD
Chair

ROBERT COHEN, PhD
Coordinator of Graduate Studies

E-mail: admissions@mail.psyac.memphis.edu
www.psyac.memphis.edu

I. The Department of Psychology offers PhD programs in Clinical Psychology, Experimental Psychology, and School Psychology, an MA (terminal, 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 in General Psychology (with thesis) as part of their PhD requirements. An EdS degree with a major in Education and a concentration in School Psychology is also available (offered collaboratively with the College of Education). 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. 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.

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 Programs Handbook*.

II. MS/PhD Degree Program

There are three broad programs within the MS/PhD degree program: Clinical Psychology (APA approved), School Psychology, and Experimental Psychology. In addition to these doctoral programs, faculty and students participate in six research areas: Behavioral Medicine; Behavioral Neuroscience; Child and Family Studies; Cognitive Psychology; Industrial-Organizational Psychology; and Psychopathology and Psychotherapy. 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 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.

Program 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) competitive for professional positions in psychology.

A. Program Admission and Prerequisites

Applicants to the MS/PhD degree program are evaluated once each year only, for admission in the Fall semester; applicants for Spring admission are not considered. All application information must have been received by January 15 for a candidate to be considered for admission. The following are required:

1. Completed Department application form and 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, Written Analytic) are taken into account in the admissions process.
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 500-1000 words indicating the specific graduate program area being applied for, the applicant's present interests and career goals, research and applied interests, and prior research and applied experience. Prior undergraduate research interests and research involvement are 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 department 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; 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 program's core curriculum, listed below under II.B.9.a.
3. **Enrollment:** MS/PhD degree candidates are expected to carry a minimum of 12 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 doctoral 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 (PSYC7996) 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. Specialty Examination or Major Area Paper (MAP): After completing the requirements of the master's thesis, all PhD students will write and defend a specialty exam or write and defend a major area paper (PSYC 8620). Both tasks require a comprehensive written and oral exam in the student's major area of specialization as a demonstration of the student's ability to plan, organize, conduct, and report a research/scholarly project.
 7. Comprehensive Educational Requirements: In order that all MS/PhD candidates obtain comprehensive training in the diverse areas of psychology:
 - a. All students are required to complete PSYC 7000, 7301, 7302, 7303 during the first two years.
 - b. All MS/PhD candidates must complete at least one course in each of the following four areas (or a substituted course approved by the student's major professor and the director of graduate studies):
 1. Biological Bases of Behavior: PSYC 7441/8441, 7701/8701, 7705/8705 or, for School Psychology students, AUSP 7010/8010.
 2. Cognitive-Affective Bases of Behavior: PSYC 7208/8208, 7211/8211, 7222/8222, or 7207/8207 for School Psychology students.
 3. Social Bases of Behavior: 7206/8206, 7215/8215, 7217/8217, 7219/8219, 7220/8220, or COUN 7531 for School Psychology students.
 4. Individual Behavior: PSYC 7207/8207, 7219/8219, 7412/8412, 7416/8416, 7420/8420, 7516/8516, or 7802-8802 for School Psychology students.
 - c. All MS/PhD candidates must complete a third statistics/quantitative/methodology course from the following list (or a substitute course approved by the student's major professor and the director of graduate studies): PSYC 7304/8304, 7305/8305, 7306/8306, 7307/8307, 7308/8308, 7310/8310, 7311/8311, 7312/8312.
 8. Dissertation and Final Examination (PSYC 9000): 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 3 hours and can be taken for a maximum of 9 credit hours. 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.
 9. Clinical Psychology: Students in the clinical psychology program meet these additional requirements:
 - a. Required Courses and Activities for Clinical Students: PSYC 7000/8000, 7412/8412, 7428/8428, 7430/8430, 7432/8432, 7435/8435, 7705/8705, and 6 credit hours of PSYC 7434/8434 (two courses of 3 hours credit each under two different clinical faculty members). 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.
 - b. During their time in the graduate program, clinical 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-hour-per-week clinical agency placement in a service delivery setting before graduation.
 - c. Research Area Course Requirements for Clinical Students: Clinical students traditionally function within the Research Area held by their major professor. If they wish to have a research specialty that is not represented in the areas below, a plan for this research specialty, including coursework requirements, needs to be approved by the students' committee and the students' major professor at the time of their MAP proposal or Specialty Exam proposal defense. In addition to the general clinical requirements, clinical program students in the following Research Areas must complete the courses listed below.
 1. Clinical students in the Behavioral Medicine Research area must complete 7440/8440, 7441/8441, 9 credits of 7622/8622, and attend the Behavioral Medicine research colloquium. In addition students are required to take a course in behavior therapy/behavioral medicine as one of the two required sections of PSYC 7434/8434. Further, a major portion of clinical practice, the master's thesis, the doctoral dissertation, and the internship must pertain to behavioral medicine.
 2. Clinical students in the Child and Family Studies Research area must meet their breadth requirements by completing PSYC 7207/8207, 7219/8219, 7416/8416, and

either 7701/8701 or 7705/8705. In addition students must take 7416/8416 and one of the following: 7021/8021, 7441/8441, 7703/8703, 7804/8804, 7805/8805, 7808/8808. They must also attend the Child and Family Colloquium. Further, the requirement of two psychotherapy courses applicable to all clinical students must consist of family therapy (which may be satisfied by 7417/8417) and child behavior therapy (which may be satisfied by 7418/8418). 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 students in the Psychopathology and Psychotherapy Research area must also complete PSYC 7516/8516 and 7027/8027. In addition, students must complete a third section of PSYC7438/8438 and the student's specialty exam and dissertation must relate to psychotherapy and/or psychopathology, as approved by the student's major professor.
 - d. Clinical Internship: For students in clinical psychology, 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: In addition to the basic requirements of the PhD, students in the School Psychology doctoral program must complete a total of 102-109 graduate hours including:
 - a. PSYC 7800/8800, 7802/8802, 7803/8803, 7804/8804, 7805/8805, 7806/8806, 7807/8807, 7808/8808 and RDNG 7541/8541 or 7542/8542, COUN 7542/8542, Educational Foundations elective EDPR 7112/8112, and SPED 7000/8000.
 - b. Electives (18 hours); students may choose to take all electives in a subspecialty area to be determined with the major professor.
 - c. Practicum 7614/8614 (9-12 hours) and Internship 7812/8812 (12 hours).
 - d. School psychology students must successfully defend the dissertation proposal by March 1 of the year in which they intend to go on internship.
11. Experimental Psychology: In addition to the basic requirements of the PhD, students in the Industrial, Organizational, and Applied Psychology research area must take PSYC 7212/8212, 7213/8213, 7214/8214, 7215/8215, and 7218/8218. At some point during their training they must also complete a 20-hour placement in a field setting approved by the research area faculty.

III. MA and EdS Degree Program in School Psychology

This program is offered collaboratively with the College of Education, 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, is accredited by the National Council for Accreditation of Teacher Education (NCATE), and has met the program approval requirements of the National Association of School Psychologists (NASP)/NCATE Guidelines; 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 independent research skills, including data analysis and oral and written communication of research.

A. Program Admission and Prerequisites

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, Written Analytic) are taken into account in the admissions process.
 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, 7207, 7802, 7803, 7804, 7805, 7806.
2. Education courses (15 hours): EDPR 7121, EDPR 7511 and 7541, an Educational Foundations elective, SPED 7000 (or SPED elective if characteristics of exceptional children course was taken at the undergraduate level).
3. Oral examination.
4. Participation in service experiences in the Psychological Services Center, area school districts, or other agency placements for training purposes.

C. Program Requirements ♦ **EdS Degree (30 credits)**

1. Psychology courses (9 hours): PSYC 7614 (6 hours), 7301 or research elective.
2. Education courses (9 hours): EDPR 7112, RDNG 7541 or 7542, COUN 7542.
3. School Psychology Internship (PSYC 7812, 12 hours) is taken at or near the completion of other work.
4. Written examination (ETS Praxis Exam in School Psychology).

IV. MS Degree Program in General Psychology

A. Program Admission and Prerequisites

1. An undergraduate grade point average of 2.5/4.0 is required for admission without special permission.
2. GRE scores (Verbal, Quantitative, Written Analytic) are taken into account in the admissions process.
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.
 - a. PSYC 7301 or equivalent
 - b. PSYC 7302 or equivalent
 - c. At least two of the following: PSYC 7000, 7207, 7211, 7212, 7217, 7219, 7412, 7435, 7701,

7800

- d. Six additional credit hours of graduate work in Psychology exclusive of field practica, research practica, clinical practica, seminars, and special topics courses (unless specifically designated otherwise) and core clinical courses (7431, 7432, 7433, 7434).
2. On completion of the first 15 hours, it is expected that the student will, in consultation with the coordinator 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 Coordinator and MS in General Psychology Committee for consideration of continuance in the program. Such cases will be considered on an individual basis.
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.

PSYCHOLOGY (PSYC)

7000-8000. History and Systems in Psychology (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.

7010-298010-29. Special Topics in Psychology. (1-3). Topics are varied and announced in online class listings.

7110-8110. Ethics and the Practice of 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.

7203-8203. 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.

7207-8207. Developmental Psychology. (3). An analysis of the course of development from conception to young adolescence in the "normal" individual. Emphasis on developmental methodologies and theories in the areas of physical and motor development, and cognitive and intellectual functioning.

7208-8208. Psychology 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.

7211-8211. 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.

7212-8212. 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.

7213-8213. 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.

7214-8214. Industrial and Organizational 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.

7215-8215. Organizational Psychology. (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.

7217-8217. 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.

7218-8218. Increasing Organizational 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.

7219-8219. Social and Personality Development. (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.

7220-8220. 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.

7221-8221. 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.

7222-8222. Psychology of 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.

7223-8223. Tutoring Systems and Internet-Based Learning. (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.

7301-8301. Research Design and Methodology. (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: Permission of instructor.

7302-8302. Advanced Statistics in Psychology 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: PSYC 3001 or equivalent, or permission of instructor.

7303-8303. Advanced Statistics in Psychology 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.

7304-8304. Measurement Theory and Psychometrics. (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.

7305-8305. Quantitative Methods for Reviewing Research. (3). 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: Permission of instructor.

7306-8306. Linear Structural Modeling. (3). Path models, path analysis, cross-lagged panel studies, confirmatory factor analysis, and complete latent variable causal models, including applications of latter to experimental and non-experimental data.

7307-8307. Models of Program Evaluation. (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.

7308-8308. Applied Multivariate Statistics. (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.

7309-8309. Focus Group Research in Psychology. (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.

7310-8310. Mixed-Model Regression Analysis. (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.

7311-8311. Applied Categorical 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.

7312-8312. Qualitative Research Methods in Psychology. (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.

7411-8411. Psychotherapy 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.

7412-8412. 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.

7416-8416. 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. PREREQUISITE: Permission of instructor.

7419-8419. 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.

7420-8420. Personal Construct Theory. (3). In-depth seminar on personal construct theory, a cognitively oriented theory of personality stemming from 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.

7428-8428. Foundations of Clinical Psychology. (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. PREREQUISITE: Admission to graduate training program in clinical psychology.

7430-8430 Clinical Assessment: Abilities and Achievement. (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. PREREQUISITE: Permission of instructor.

7432-8432. Clinical Assessment: Case Conceptualization. (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.

7434-8434. Clinical 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. PREREQUISITE: Permission of instructor.

7435-8435. Introduction to Psychotherapy. (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. PREREQUISITE: Permission of instructor.

◆**7438-8438. Practicum in Clinical Treatment Approaches. (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. PREREQUISITE: Admission to graduate training program in clinical psychology.

7440-8440. Behavioral Medicine I: Psychology in Health Care Settings. (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.

7441-8441. Psychology and 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. PREREQUISITE: Permission of instructor.

The following seminars are systematic studies of current topics in the fields listed in the course titles. Only nine hours may be counted toward degree requirements.

7501-8501. Seminar: General Psychology. (3).

7503-8503. Seminar: Experimental Psychology. (3)

7506-8506. Seminar: Clinical Psychology. (3)

7507-8507. Seminar: Industrial Psychology. (3).

7509-8509. Seminar: School Psychology. (3).

7510-8510. Seminar: Organizational Psychology. (3)

7512-8512. Seminar: Developmental Psychology. (3)

7514-8514. Seminar: Cognitive Science. (3).

7515-8515. Seminar: Social Psychology. (3).

7516-8516. Issues in Psychotherapy Research. (3). Research evidence pertaining to basic questions about psychotherapy and its effectiveness; classic contributions and current research findings.

7517-8517. Grant Proposal Writing in Psychology. (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.

◆**7520-8520. Teaching Skills for Graduate Assistants. (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.

The following research practicum courses are individualized advanced laboratory or field research activities in the areas listed in the titles. Any of the practica may be repeated for up to 12 hours. The same practicum number may be repeated for up to 12 hours at the 7000 level and up to 12 hours at the 8000 level.

◆**7601-8601. Research Practicum: General Psychology. (1-3).**

◆**7602-8602. Research Practicum: Physiological Psychology. (1-3).**

◆**7603-8603. Research Practicum: Experimental Psychology. (1-3).**

◆**7604-8604. Research Practicum: Comparative Psychology. (1-3).**

◆**7605-8605. Research Practicum: Social Psychology. (1-3).**

◆**7606-8606. Research Practicum: Clinical Psychology. (1-3).**

◆**7607-8607. Research Practicum: Developmental Psychology. (1-3).**

◆**7608-8608. Research Practicum: Neuropsychology. (1-3).**

◆**7609-8609. Research Practicum: School Psychology. (1-3).**

◆**7610-8610. Field Practicum: Clinical Psychology. (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.

◆**7611-8611. Field Practicum: Social Industrial Psychology. (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.

◆**7614-8614. Practicum: School Psychology. (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.

◆**7615-8615. 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. PREREQUISITE: Permission of instructor.

◆**7616-8616. Clinical Practicum: Neuropsychology. (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.

◆**7618-8618. Research Practicum: Cognitive Psychology/Science. (1-3).** May be repeated for a maximum of 3 credits.

◆**7619-8619. Research Practicum: Child and Family Studies. (1-3).** May be repeated for a maximum of 9 credits.

◆**7621-8621. Research Practicum: Introduction to Department Research. (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.

◆**7622-8622. Research Practicum: Behavioral Medicine. (1-3).** May be repeated for a maximum of 12 credit hours.

7701-8701. 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.

7705-8705. 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.

7800-8800. Introduction to 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.

7802-8802. Children with Disabilities and their Families. (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.

7803-8803. Psychoeducational Assessment 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.

7804-8804. Psychoeducational Assessment 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.

7805-8805. Psychological 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.

7806-8806. Interventions in School Psychology. (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.

7807-8807. Advanced Interventions in School Psychology. (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.

7808-8808. Psychoeducational 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.

◆**7809-8809. Advanced School Psychology 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.

◆**7812-8812. Internship: School Psychology. (3-6).** Supervised field placement in school and/or community agency settings; requires a minimum of 1200 hours for the EdS and 1500 for the PhD, at least

half of which must be in a school setting. May be repeated for a maximum of 12 hours applied toward either degree. PREREQUISITE: Admission to the school psychology program, permission of program coordinator, grades of S in all previous practica.

◆**7996. Thesis. (1 or 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.

◆**8620. Major Area Paper. (3 or 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.

◆**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.

◆**9000. Dissertation. (1, 3, 6, or 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.**

◆**Grades of A-F, or IP will be given.**

SCHOOL OF PUBLIC HEALTH

Room 216, Scates Hall

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MARIAN C. LEVY, DrPH

Director and Coordinator of Graduate Studies

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I. Description of Program

The mission of the Master of Public Health (MPH) program at the University of Memphis 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.
5. Inform public policy, disseminate health information, and increase awareness of public health concerns through disease surveillance, needs assessments, and program evaluation.

II. Master of Public Health (MPH) Degree Program

A. Program Admission

A multidisciplinary faculty committee will determine admission to the Master of Public Health (MPH) program. Criteria for the selection process are broad because of the wide range of backgrounds from which students may come and the wide range of disciplines they may study. Prior work in health care is not necessary for admission, but may be considered in the admission process. The following is necessary for application:

1. 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) will be expected for all applicants (verbal and quantitative scores will be reviewed).
2. Applicants already holding a doctoral degree or its professional equivalent may be exempt from the GRE requirement. Professional school standardized test scores (MCAT, DAT, GMAT, and LSAT) may be substituted for the GRE by applicants who are working toward or who have already earned post-baccalaureate degrees in areas such as medicine, dentistry, management, or law.
3. Applicants whose native language is not English will be expected to submit acceptable scores on the Test of English as a Foreign Language (TOEFL).
4. 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.
5. 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 program.

B. Program Prerequisites

Applicants must hold a bachelor's or graduate degree from an accredited college or university with an undergraduate cumulative grade point average of 3.00 or higher or a graduate cumulative grade point average of 3.5 or higher in the major subject area.

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

1. Completion of a total of 42 hours, including 30 hours of core course requirements, 6 hours of electives, and 6 hours of thesis or practicum/field experience.
2. Core courses include:
 - PUBH 7100 Public Health Research Methods (3)
 - ANTH 7521/8521 Biocultural Epidemiology (3)
 - BIOE 811/BIOE 821 Biostatistics I and II, taught at the UT Health Sciences Center (6)
 - HPRO 7712 Epidemiology (3)
 - ESCI 6613 GIS Applications to Human Health (3)
 - HADM 7105/810 Government Regulation of Health Services 5 (3)
 - HPRO 7722/HLTH 7722 Intervention Theories and Applications (3)
 - ANTH 7250 Community, Culture, and Program Evaluation (3)
 - HADM 7101/8107 Health Care Ethics (3)
 - COMM 7012/8012 Seminar in Health Communication (3)
3. Electives (6 hours total) will be taken with the approval of the faculty advisor. Possible electives include:
 - HPRO 7142/8142 Seminar in Health Promotion (3)
 - NUTR 6602 Community Nutrition (3)
 - ECON 7710/8710 Health Care Economics (3)
 - ANTH/PADM 6412 Neighborhood Development and Social Entrepreneurship (3)
 - NUTR 6902 Study Tour in Foods and Nutrition (3)
 - ANTH 7511/8511 Anthropology of Health Care (3)
4. Pass comprehensive examination.
5. Satisfy completion of PUBH 7996 Thesis (1-6) or PUBH 7985 Practicum/Field Experience (3).

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:

1. 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 1 (one) grade of 2.00 or lower has been earned.
2. 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 Direction of the MPH program through the Graduate Coordinator.
3. A student who has been suspended from the MPH program will be denied enrollment in PUBH courses

subsequent to suspension.

4. Elective courses applied to the MPH program requirements must have the advisor's approval.

PUBLIC HEALTH (PUBH)

7100. Health Research Methods. (3). Introduces methods used to design and conduct health science research; emphasizes characteristics of the research process, problem conceptualization, and measurement.

7120. Environmental Health 1. (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.

7150. Biostatistics 1. (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.

7170. Epidemiology in Public Health. (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.

7180. 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.

7985. Practicum in Public Health. (3, 6).

◆ **7992. Master's Project. (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.

◆ **7996. Thesis. (1-6).**

◆ **Grades of S, U, or IP will be given.**

SOCIOLOGY

*Room 209, Clement Hall
(901)-678-3341*

MARTIN L. LEVIN, PhD
Chair

LARRY R. PETERSEN, PhD
Coordinator of Graduate Studies
(901) 678-3349
E-mail: petersn@memphis.edu

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.

II. MA Degree Program

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

A. Program Admission

To be considered for admission, the Department of Sociology recommends that applicants have a Verbal score of 450 and a Quantitative score of 450 on the GRE or a score of 40 or higher on the MAT. Admission, however, is not automatic upon meeting the recommended scores. Other factors such as, but not limited to, letters of reference, the writing sample, GPA for the last 60 hours of the undergraduate degree, and the availability of stipends, will be taken into account. Applicants with low test scores may be considered if other supporting evidence is outstanding. 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:
 - a. The thesis program requires thirty (30) semester hours of graduate level work, which includes 3-6 hours of Sociology 7996 (Thesis).
 - At least 24 semester hours of course work must be in sociology.
 1. The oral defense of the thesis counts as a comprehensive examination.
 - b. 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.
 - c. 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.
 - d. No more than 6 semester hours of SOCI 7912, Directed Individual Study, may be counted toward the degree without permission from the graduate coordinator.
 - e. A graduate student whose cumulative grade point average in sociology drops below 3.00 will be placed on departmental review. A second consecutive semester on departmental review will result in suspension. Conditions under which continuation in the program beyond two consecutive 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 and the chair, 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.

- f. 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 Assistant Vice Provost for Graduate Studies that the student's grade be changed.

SOCIOLOGY (SOCI)

- 6211. Contemporary Sociological Theories. (3).** Major frameworks of 20th century sociological thought, including theoretical schools of functionalism, exchange theory, critical theory, symbolic interactionism, phenomenological sociology, and ethnomethodology; current social and political trends
- 6312. Intermediate Social Statistics. (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.
- 6842. Sociology of Occupations and Professions. (3).** Sociological analysis of the division of labor, occupational groupings, career patterns, and professional associations in modern American society.
- 6900-09. Special Topics in Sociology. (3).** Topics are varied and announced in online class listings.
- 7210-8210. Theory Seminar. (3).** An advanced analysis of recent developments in sociological theory, including the relationship of theory to empirical research.
- 7212-8212. Multi-Racial Feminist Theory. (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.
- 7320-8320. Seminar in Methods of Social Research. (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.
- 7322. Seminar in Quantitative 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.
- 7325-8325. Seminar in Qualitative Research Methods. (3).** Examination of qualitative social science research methods, particularly rationale behind these methods, how and when they are employed, and processes of analyzing field observations, oral histories, and in-depth interviews.
- 7410-8410. 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.

7411-8411. 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.

7421. Racial and Social Inequality. (3). (7810). Comparative study of racial, ethnic, and social minorities in the United States; historical and contemporary experiences of groups such as African Americans, Latinos, Asian Americans, Native Americans, homosexuals, and political minorities, as well as current theories in American sociology used to interpret their experiences; how gender and class influence experience of oppression.

7422-8422. Race, Class, and Gender. (3). Concepts, theories, and contemporary empirical research regarding multiple intersections of race, class, and gender; implications for sociological theory and methodology.

7442-8442. 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.

7450. Seminar in 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.

7511-8511. 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.

7512-8512. Deviance and Diversity. (3). The concepts of deviance and diversity are contrasted; such topics as bigamy, multiple spouses, contemporary con games, hate crimes and hate groups, the trans-gender movement, exotic dancing, and trauma may be analyzed using a social constructionist model.

7513-8513. Sociology of Gambling. (3). Sociological examination of the role of gambling in contemporary society with special emphasis on social, economic, and political aspects of gambling behavior; agnostic vs. fatalistic gambling, gambling as social structure, gambling as superstition, gaming industry, illegal and sports gambling, legitimization of gambling, and problem gambling.

7528-8528. School, Family, and Delinquent Children. (3). Delinquency in context of children's relationships with family and school; theory of social bonding; changing social roles of children (through the life cycle and historically); family and delinquency; schools, truancy, and delinquency; endangered children; female delinquency; and treatment/ prevention/control of delinquency.

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.

7655-8655. Sociological Foundations of Community Studies. (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.

7711-8711. Seminar in Globalization and Social Change. (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.

7721-8721. Seminar in 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.

7751-8751. Seminar in Sociological Social Psychology. (3). Advanced course in social psychology, incorporating basics and emphasizing sociological approaches; symbolic interaction, non-laboratory methods, attitude measurement, socialization, self-concept, gender, attraction, personal relationships, small groups, power, and situationalism.

7811. Formal Organizations. (3). (7460). Competing theories of formal organizations and accompanying research findings on current issues of bureaucratization and centralization of modern social systems; close examination of power and functions of various large scale organizations, including economic, political, and educational institutions.

7820. Seminar in Sociology of Education. (3). Schools and school life from sociological perspective; how societal objectives are translated into school policies and practices.

7830-8830. Seminar in the 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.


7851-8851. Medical Sociology. (3). Social meaning of disease, with special emphasis on the cultural, organizational, and behavioral contexts of the occurrence and management of disease.


7852-8852. Sociology of 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.


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.


7860-8860. Seminar in the Sociology 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.



7901-7909  **8901-8909. Special Topics in Sociology. (1-3).**

 **7912-8912. Directed Individual 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.

 **7913. Teaching Skills for Graduate Assistants. (1-3).** Overview and practical demonstrations of art of teaching sociology. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Limited to sociology majors; permission of graduate coordinator.

 **7914. Workshop in Professional Development for Graduate Assistants. (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. PREREQUISITE: Limited to sociology majors; permission of graduate coordinator.

 **7915. Skills for Research and Proposal Preparation. (1-3).** Research design, practice, and methodology in professional writing in sociology; specific emphasis on thesis/dissertation proposal preparation. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Limited to sociology majors; permission of graduate coordinator.

 **7996. Thesis. (1-6).** Supervised research in preparation for advanced degree thesis. PREREQUISITE: The formal filing of a research proposal and outline of procedures acceptable to the student  graduate

committee.

⚡**Grades of S, U, or IP will be given**

⚡**Grades of A-F, or IP will be given**

WOMEN'S AND GENDER STUDIES

Room 107, Scates Hall

(901) 678-3550

WANDA RUSHING, PhD

Program Director

Email: wrushing@memphis.edu

<http://isc.memphis.edu/wmst/>

I. The Women's and Gender Studies Program offers graduate training leading to the Master of Arts degree in Women's and Gender Studies. The interdisciplinary program is designed to provide a comprehensive foundation in Women's and Gender Studies for students seeking work beyond the bachelor's level, whether for self-enrichment or in preparation for doctoral work or for a variety of careers. Students choose a concentration in either Cultural Studies or Inequality and Social Policy.

Program objectives are: (1) development of interdisciplinary understanding of the social, political, and cultural roles of gender and race in global history and contemporary U.S. society; (2) ability to write a research paper of sufficient quality to be presented at a professional meeting or conference; (3) practical experience in the application of theoretical concepts of gender and race to social and cultural phenomena in their environments; and (4) an appreciation of and the ability to synthesize theoretical perspectives on gender and race from both the humanities and the social sciences.

II. M.A. Degree Program

A. Program Admission

Students desiring admission to the graduate program in Women's and Gender Studies should contact the Director of the Women's and Gender Studies Program as early as possible in the admissions process.

1. Admission to the Graduate School is required.
2. Prospective applicants should write directly to the Women's Studies Program to request information and application forms. (Information and application forms are also available at the Women's Studies Web site, <http://cas.memphis.edu/isc/wmst/>).
3. The Program admits students for both fall and spring semesters and applications for admission to the Program are considered throughout the year.
4. All application materials from those wishing to apply for a graduate assistantship, however, must be received by February 15.

B. Program Prerequisites

1. A bachelor's degree from a recognized college or university.
2. A minimum GPA of 2.5 on a 4.0 scale.
3. Graduate Record Examination results, which will be considered within the context of the applicant's overall academic record.
4. Acceptable performance on the GRE Writing Assessment.
5. Three letters of recommendation from people qualified to judge the applicant's ability to undertake graduate work. Form letters for this purpose can be obtained from the office of the Women's and Gender Studies Program.
6. A one- to two-page Statement of Purpose from the applicant setting out reasons for seeking admission to the Women's and Gender Studies Program.
7. A 7-15-page sample of the applicant's academic or professional writing.

C. Program Requirements

1. Thirty-six hours of class work, 26 of which must be at or above the 7000 level, that must include:
 - a. Nine hours of core courses are required of students in both concentrations:

1. WMST 7300, Understanding Women's Lives
 2. WMST 7310, Women, Race, and Social Inequality
 3. WMST 7320, Women and Multi-Cultural Expressions
- b. Twelve hours in the area of concentration.
 - c. Nine to 12 hours of electives, which must be agreed upon by the student's advisor.
 - d. Three to six hours in the capstone project, WMST 7350.
2. A written comprehensive examination covering Women's and Gender Studies and the student's concentration.

III. 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 Studies Program director.

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's special emphasis on race and class as well as gender satisfies the demands of a labor market increasingly oriented toward those trained in managing and understanding 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 GPA of 2.5 is required for admission.
3. In rare instances, individuals who have completed an undergraduate degree program but who have neither completed a graduate degree nor been admitted to a graduate program may be considered for admission as Non-Degree Seeking students. Each such application will be considered on an individual basis.
4. Students must apply to both the certificate program and the Graduate School. To apply, students submit:
 - a. Transcript of undergraduate degree program and transcripts of prior and current graduate study
 - b. Two letters of recommendation
 - c. 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
 - d. GRE scores are required and are an important factor in admission
 - e. 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 certificate program requires completion of twelve (12) semester credit hours.
2. Six (6) credit hours must be met by satisfactory completion of two Women's and Gender Studies core courses: WMST 7300 Understanding Women's Lives: Multidisciplinary Theories and Methods (3 hours) **AND** WMST 7310 Women, Race, and Social Inequality (3 hours) **OR** WMST 7320 Women and Multicultural Expression (3 hours).
3. Six (6) elective hours will be selected in consultation with the Women's and Gender Studies Program director.
4. In order to continue in the program, students must maintain at least a 3.0 GPA.

WOMEN'S STUDIES (WMST)

7300. Understanding Women's Lives: Multidisciplinary Theories and Methods. (3).

Interdisciplinary overview of theoretical approaches and research methodologies used to understand women's lives; covers multiple feminist perspectives and highlights diverse racial, ethnic, and class backgrounds.

7310. Women, Race, and Social Inequality. (3). Overview of theoretical and empirical perspectives on the multiple forms of inequality experienced by women, including analysis of women's diverse efforts, from policy reform to social movements, to change their social positions.

7320. Women and Multi-Cultural Expressions. (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.

7330. Women's and Gender Studies Proseminar. (3). Speakers and group discussions of readings and issues in women's studies providing students with professional development. May be repeated for a maximum of 12 hours credit.

7340. Independent Study. (3). Readings and written assignments designed to provide additional comprehension of ideas and skills related to a student's concentration.

7350. Capstone Project. (3). Internship, artistic project, or thesis, depending on student's areas of concentration. Internship option requires written analysis of the experience and its relevance to student's course of study. May be repeated for up to 6 hours of credit.

7380-7399. Special Topics. (3). Topics of special interest in women and race studies, approached from diverse disciplinary and theoretical perspectives.

7996. Thesis. (1-6). Supervised research in preparation for advanced degree thesis. May be repeated for a maximum of 6 credit hours.

Grades of S, U, or IP will be given.

SCHOOL OF URBAN AFFAIRS AND PUBLIC POLICY

Room 138, McCord Hall

(901) 678-1635 or (901) 678-1445

STANLEY HYLAND, PhD

Director

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 Division of [City and Regional Planning](#) offers the Master of City and Regional Planning degree; the Division of [Health Administration](#) offers the Masters of Health Administration; and the Division of [Public and Nonprofit Administration](#) offers the Masters of Public Administration. Please visit the individual academic units for details.

URBAN AFFAIRS AND PUBLIC POLICY (SUAP)

7100-8100. Public Policy Statistics. (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.

DIVISION OF CITY AND REGIONAL PLANNING

Room 208, McCord Hall

(901) 678-2161

GENE PEARSON, AICP

Director and Coordinator of Graduate Studies

E-mail: gpearson@memphis.edu

<http://planning.memphis.edu>

I. The Division 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*.

II. MCRP Degree Program

A. Program Admission

Applicants must satisfy admission standards of the Graduate School and receive favorable endorsement from the planning faculty. 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.

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. Thirty (30) hours are taken in the core curriculum and 15 hours are electives that lead to a 3-hour Capstone Project. The fifteen (15) 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 and community development planning, planning law, 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.

CITY AND REGIONAL PLANNING (PLAN)

Core Curriculum

6521. Quantitative Methods. (3). (Same as ESCI 6521, GEOG 6521). An introduction to quantitative methods in spatial analysis.

7000. Introduction to Planning. (3). Planning trends in United States and abroad, including land use planning, developmental planning, social planning, transportation planning, community facilities planning, and planning as a governmental activity at the local, state, and federal levels.

7002. City Planning Principles and Theory. (3). The fundamental principles and theory of urban and regional planning with emphasis on comprehensive planning processes and appropriate theoretical foundations.

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.

7006. Comprehensive Planning Studio. (3). Individual and group practice in collection, analysis, and presentation of field data on selected planning problems.

7007. Special Projects Studio. (3). Individual and group planning for development of major public and private projects.

7008. Site Planning. (3). Principles and methods of preparing site plan for development project, including techniques of determining suitability of site resources and compatibility of land uses, site impact analysis, and site plan review procedures.

7011. Financing Community Development. (3). Introduction to and principles of municipal finance with emphasis on preparation of capital improvements program; methods of forecasting public revenues and expenditures, project selection methods, and review of financing mechanisms.

7012. Methodology and Techniques in Planning. (3). Professional practice methodology used in assessment of existing socioeconomic conditions of communities, trend analysis, and forecasts of future population and employment for purpose of developing comprehensive 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

6201. Urbanization and Environment. (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.

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.

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.

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.

6515. Geographic Information 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.

7101. Regional Planning. (3). Area and region delineation, regional planning organization, the various levels of planning, the functions and problems of regional plan preparation, and plan implementation.

7201. Community Facilities Planning. (3). Planning the location and design of community facilities in the light of changing concepts of public service and community organization.

7204. Urban Revitalization Planning. (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.

7205. Seminar in Urban Design. (3). History and theory of urban form and implications for the design of cities; survey of urban design techniques.

7206. Housing. (3). Survey of housing market characteristics, financing, development, preservation, and redevelopment from both public and private perspectives.

7208. The 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.

7302. Geographic Environmental Analysis. (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.

7504. Seminar in Geographic Information 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.

7610-7620. Special Topics in City and Regional Planning. (3). Topics vary and are announced in the online class listing.

◆**7701. Research Problems. (1-3).** Independent investigation directed toward research problems in city and regional planning May be repeated for a maximum of 3 hours credit.

7708. Planning Practice. (3). Practical skills in operating a planning office in both public and private sectors. PREREQUISITE: Approved planning experience.

◆**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.

◆ **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.**

◆ **Grades of A-F, or IP will be given**

CRIMINOLOGY AND CRIMINAL JUSTICE

Room 311 McCord Hall

(901) 678-2737

RANDOLPH DUPONT, PhD
Chair

K. B. TURNER, PhD
Coordinator of Graduate Studies

E-mail: cjus@memphis.edu
<http://cjustice.memphis.edu>

I. The graduate program of 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 interested in the criminal justice system, with a focus on those who seek careers in this area. Faculty conduct research and participate in program development relevant to the many different facets of criminology and criminal justice. A significant emphasis of the program is on developing partnerships with policymakers, program developers, and other community groups.

The graduate program provides students with a solid foundation of knowledge about criminology, victimology, and the criminal justice system. The required course work provides 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.

Objectives of the program are to provide students with an understanding of criminological principles, theories, and concepts, as well as an appreciation for the significance of social justice in public policy decisions. The program also strives to assist students in the development of critical analytical and research skills to prepare them for professional careers in the field of criminal justice.

II. MA Degree Program

A. Program Admission

Students are selected from the pool of qualified applicants who meet departmental admission requirements. The number of students admitted to the program yearly depends on availability of financial aid and adequate faculty supervision. 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.

To be considered for admission, the applicant should:

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.
3. Submit satisfactory scores on both the verbal and the quantitative sections of the GRE.
4. 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.
5. Submit two letters of recommendation.

The admissions committee reserves the right to make exceptions for candidates presenting special circumstances.

B. Program Requirements

1. A total of 33 semester hours of graduate work is required.
2. Up to 3 hours of thesis coursework will be counted toward the degree upon the completion and defense of the thesis. Students writing a thesis will have a thesis committee with no fewer than three members.

3. Satisfactory completion of the following core curriculum (15 hours):
 - SUAP 7100 Public Policy Statistics
 - CJUS 7100 Criminal Justice Administration: Programs and Policies
 - CJUS 7128 Research Methods in Criminal Justice
 - CJUS 7161 Intervention Strategies: Changing Organizations and Communities
 - CJUS 7541 Criminological Theory: Causes of Crime
4. A minimum of 27 hours of coursework at the 7000 level, including thesis hours.
5. Up to nine 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. Thesis hours will not count toward this six-hour limit.
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.

CRIMINOLOGY AND CRIMINAL JUSTICE (CJUS)

6010-19. Special Topics in Criminal Justice. (1-3). Topics are varied and announced in online course listings.

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.

6180. Corporate and White-Collar Crime. (3). Organizational and occupational crime in comparison to other types of criminality; emphasis on causes, frequency, control, and social impact.

6190. Terrorism: Social and Legal Perspectives. (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.

6520. Substantive Criminal Law. (3). Substance of the crime, including common-law sources and basic principles, types of offenses, responsibility, justification and excuse, and related areas.

6531. Issues in Constitutional 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.

6533. Juvenile Delinquency: Theory and Process. (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.

7100-8100. Criminal Justice Administration: Programs and Policies. (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.

◆**7110-8110. Individual Directed 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.

7128. Research Methods in Criminal 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.

7129. Advanced Statistical Methods in Criminal Justice. (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.

7130. Crime Analysis and Criminal Behavior. (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.

7131. Research Practicum in Criminal Justice. (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.

◆**7140. Graduate Colloquium. (3).** Presentations of scholarly activity and examination of classical and contemporary issues in criminology and criminal justice. Required of all graduate assistants. PREREQUISITE: Appointment as a graduate assistant in Criminology and Criminal Justice.

◆**7141-8141. Reading for Comprehensives. (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.

◆**7150-8150. Internship in Criminal Justice (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.

7160. Seminar in Criminal Justice 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.

7161. Intervention Strategies: Changing Organizations and Communities. (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.

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.

7460. The Criminal Justice System: Race, Ethnicity, and 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.

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.

7523. The Concept of Criminal Law. (3). Social foundation and principles on which our system of criminal law is based.

7541. Criminological Theory: Causes of Crime. (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.

7542. Victimology: Causation, Prevention, and Intervention. (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.

7570. Legal Issues in Criminal Justice Administration. (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.

◆**7996. Thesis. (1-6).**

◆**Grades of S, U, or IP will be given.**

DIVISION OF HEALTH ADMINISTRATION

Room 226, McCord Hall

(901) 678-2794

LUTCHMIE NARINE, PhD

Director

DAVID C. BURCHFIELD, PhD

Coordinator of Graduate Studies

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I. The Division of Health Administration, which is part of the School of Urban Affairs and Public Policy, offers the Master of Health Administration. The University of Memphis is proud to have one of only 70 graduate programs accredited through the Commission on Accreditation of Healthcare Management Education (CAHME). 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.

II. MHA Degree

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.

B. Program Prerequisites

Students are accepted from all undergraduate disciplines and professional areas; however, the program determines if students must 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-one (51) semester hours. Forty-five (45) hours are taken in the core curriculum (with a minimum grade of at least "3.00" in each course) and six (6) hours of directed 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, 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.

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 twelve (12) credit hours toward his/her degree requirements. The grade in each course applied must be at least a "3.00." The appropriate academic coordinator must approve all coursework taken as a non-degree-seeking student.

HEALTH ADMINISTRATION (HADM)

Core Curriculum

6101. Health Systems. (3). (HADM 7-8101). Analysis of health and medical care systems with reference to public, private, and voluntary agencies at local, state, regional, and national levels orient administrators to health and medical care systems with which they may work.

7102-8102. 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.

7103-8103. 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.

7105-8105. Health Policy and Regulation. (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.

7108-8108. 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.

7109-8109. Health Administration Information 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.

7110. Health Management 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.

7116-8116. Administration of Health Services Organizations. (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.

◆7190. Internship in Health Administration. (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 21 hours in the Health Administration program and permission of graduate coordinator.

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.

7208-8208. 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 or FIR 7070.

7209. Financial and Operational Modeling for Healthcare Using Excel. (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.

7210. Integrated Experience in Health Care Management. (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 39 credit hours.

7605-8605. Human Resources Administration. (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.

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 7010 or equivalent, or permission of instructor.

Electives

7106-8106. Health Services Research (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.

7107-8107. 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.

7111. Issues in Health Services Administration. (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.

7113-8113. Managed Health 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.

7115-8115. Public Health Systems. (3). Introduction to analysis of public health systems in the US; examines inner mechanisms of public health system; analyzes relationships between public and private healthcare delivery systems; reviews public health system's roles, themes, and paradigms to improve systems; explores future challenges.

7117-8117. Ambulatory Practice Management. (3). Examines environmental context, financial management, operations management, human resources management, planning and marketing, and strategic management within the variety of ambulatory settings.

◆7120-8120. Independent Study. (3). Independent investigation of research problems or directed readings in selected area of health administration. PREREQUISITE: Permission of graduate coordinator.

◆ **7703. Reading for Comprehensives. (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.

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.

7718-8718. Medical Technology and 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.

◆ **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.**

◆ **Grades of A-F, or IP will be given.**

DIVISION OF PUBLIC AND NONPROFIT ADMINISTRATION

Room 124, McCord Hall

(901) 678-3360

DOROTHY NORRIS-TIRRELL, PhD
Director

JOY A. CLAY, PhD
*Coordinator of Graduate Studies and
Internship Coordinator*

CHARLES MENIFIELD, PhD
Graduate Admissions Coordinator

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<http://padm.memphis.edu/>

I. The Division 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.

II. Master of Public Administration (MPA) Degree Program has concentrations in nonprofit administration and public policy and 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 applicable test scores (Graduate Record Examination [GRE], Graduate Management Aptitude Test [GMAT], or Miller Analogy Test [MAT]); undergraduate grade point average; previous education and/or experience demonstrated via a resumé and two letters of reference; and ability to articulate career goals and education objectives via a personal statement. Applicants with a professional degree (eg: MD, JD, DDS), doctoral degree (eg: PhD EdD), or graduate degree (eg: MBA, MA) from a US accredited school do not need to submit graduate examination scores, but should contact the Graduate Admissions Coordinator regarding requirements for submission of evidence of degree completion. Applicants with six or more years of progressive management/administrative/analytical experience at the professional level in the public sector (government, military, or nonprofit) may request permission to substitute their exemplary career record for the entrance exam requirement. Top performing graduates with an American Humanics certificate may also apply for their high quality performance to substitute for the entrance exam. Please see the MPA website for more details.

B. Program Requirements

1. Students are required to complete a minimum of thirty-nine (39) semester hours. Twenty-four (24) hours are taken in the core curriculum; fifteen (15) hours are required in each concentration. 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 comprehensive examination 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 (see PADM website).
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 21 semester hours prior to enrollment in PADM 7610. Please see the MPA website for the Internship Handbook.
3. Students earning the Nonprofit concentration are eligible for the American Humanics Nonprofit Management Certificate Program. Please see the MPA website for more details.

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 $\diamond 3.00$. \diamond 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 and skills 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 individuals who are responsible for the provision of varied services directly to citizens.

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;
4. two letters of reference;
5. and ability to articulate career goals and education objectives via a personal statement.
6. Applicants with a professional degree (eg: MD, JD, DDS), doctoral degree (eg: PhD, EdD), or graduate degree (eg: MBA, MA) from a US accredited school do not need to submit graduate examination scores, but should contact the Graduate Admissions Coordinator regarding requirements for submission of evidence of degree completion. Applicants with six or more years of progressive management/administrative/analytical experience at the professional level in the public sector (government, military, or nonprofit) may request permission to substitute their exemplary career record for the entrance exam requirement. Please see the MPA website for more details.

Inquiries can be directed to Dr. P. Edward French at pefrench@memphis.edu.

B. Program Requirements Successful completion of 15 hours of graduate credit. Students must maintain a GPA of 3.0 and must complete the program within three academic years.

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, Collective Bargaining
PLAN 7000, Introduction to Planning
PLAN 7202, Land Use Planning
POLS 6222, Urban Politics

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

PUBLIC ADMINISTRATION (PADM)

Prerequisites (MPA)

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.

Core Curriculum (MPA)

7213-8213. Seminar in Public Policy Analysis. (3). (POLS 7213-8213). 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 6101 or equivalent or permission of instructor.

7600-8600. Seminar in Administrative Theory and 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.

7601-8601. Research Methods in Public Administration. (3). (POLS 7601-8601). 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. PREREQUISITE: POLS 6101 or permission of the instructor.

7602-8602. Public Budgeting and Finance Administration. (3). (POLS 7602-8602). Detailed study of administrative and political problems of fiscal policy, the budgetary process, and fiscal controls.

7605-8605. Human Resources Administration. (3). (POLS 7605-8605). 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.

7607-8607. Public Management Leadership. (3). (POLS 7607-8607). 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.

7614-8614. Interagency Collaboration and Administration. (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.

Electives

6207. Health Politics and 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.

6221. Issues in Urban Administration. (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.

6225. Applications in Urban Administration. (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.

6401. Comparative Public Administration. (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.

6412. Neighborhood Development and Social Entrepreneurship. (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.

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.

7224-8224. Seminar in Urban Problems. (3). (POLS 7224-8224). 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.

7235. Seminar in Urban Problems: 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.

◆7503. Reading for Comprehensives. (3). Arranged on an individual basis for graduate students in public administration only. PREREQUISITE: Completion of degree requirements or in last two semesters of program.

7603-8603. Public Sector Collective Bargaining. (3). (POLS 7603-8603). Employee organizations and the development of collective relations in the public and hospital sectors; topics include unions and management wage policies, collective negotiation and bargaining, and the evaluation of the impact of unionization on public policy and union relations in the nonprofit sector.

7604. Social Science and the 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.

7606-8606. Seminar in Administrative Law. (3). (POLS 7606-8606). 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.

7608-8608. Public Management Information Systems. (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.

7609-8609. Seminar in Administrative Ethics. (3). (POLS 7609-8609). 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.

7610. Internship in Public Administration. (3-6). (POLS 7610). 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.

◆**7611. Practicum. (3-6). (POLS 7611).** 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.

7612-8612. Program and Policy Evaluation. (3). (POLS 7612-8612; 6605). 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.

◆**7613. Proseminar in Professional Development. (3). (POLS 7613).** Introduction to public and health administration professions with emphasis on career development; employment opportunities, computer resources, professional associations, submission and publication of articles. Faculty and student presentations.

7634-8634. Developing Public Human Resources. (3). (POLS 7634-8634). Organizational, group, and individual development processes and philosophy for public, nonprofit, and health care agencies; special emphasis on application of knowledge and skills.

7635-8635. Issues in Public Human Resources. (3). (POLS 7635-8635). 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.

7641-8641. Theory and Practice of Nonprofit Administration. (3). (POLS 7641-8641). 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.

7642-8642. Resource Development in Nonprofit Organizations. (3). (POLS 7642-8642). 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.

7643. Seminar in Nonprofit Administration and Philanthropy. (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.

7661. Contemporary Perspectives in Public Administration. (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.

7662-8662. Applications in Public Service. (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.

7663-8663. Issues in Public Management and Policy. (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.

◆ **7702-8702. 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.

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.

◆ **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.**

◆ **Grades of A-F, or IP will be given.**



Graduate School

The Fogelman College of Business and Economics

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GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentration Within Major	Degree Offered
Accountancy	Accounting	(1) Accounting (2) Accounting Systems (3) Taxation	Master of Science (MS)
Economics	Economics		Master of Arts (MA)
Fogelman College of Business and Economics (Interdepartmental)	Business Administration	(1) Finance, Insurance, and Real Estate (2) Management (3) Management Information Systems (4) Marketing (5) Real Estate Development	Master of Science (MS)
			Master of Business Administration (MBA)
		(1) Biomedical Management (2) Executive (3) Professional (4) Law	Master of Business Administration (MBA)
		(1) Accounting (2) Economics (3) Finance (4) Management (5) Management Information Systems (6) Marketing	Doctor of Philosophy (PhD)*
	Business Administration		International Business Administration (IMBA)

*Some concentrations may not admit students to the doctoral program every year. Interested applicants should contact department PhD coordinators before applying to the program.

Individual program requirements described in The University of Memphis Graduate Catalog, 2008-2009, 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 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).

The Fogelman College of Business and Economics is one of the premier schools of business in the Mid-South and the only business school in West Tennessee that 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 five concentrations, and the Master of Science in Accounting, and a Master of Arts in Economics.

The general **MBA** program is designed for part-time students (although students may enroll on a full-time basis) with all classes offered in the evening. At least one year of full-time work experience is required prior to admission. This program has no concentrations.

The **MBA with an Executive concentration** is a full-time, fixed-track, 21-month program designed for full-time working professionals and mid-upper level executives with at least five years work experience, with classes offered on alternating Fridays and Saturdays and in two domestic and one international residency weeks.

The **MBA with a Biomedical Management concentration** is a fixed-track, 21-month 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 is required.

The **MBA with a Professional concentration** is a part-time, evening program designed for working students with at least one year of professional experience. Students are required, with advice from the program director and faculty advisors, to 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 **International MBA** is a fixed-track two-year program designed for the full-time student interested in international business, with a required internship or study-abroad component.

The **Master of Science** with a major in Business Administration has concentrations in Finance, Insurance, and Real Estate; Management Information Systems; Management; Marketing, and Real Estate Development. 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 society value in the global arena;
- (2) acquisition of managerial-level knowledge of and skills in creativity and innovation, leadership and teambuilding, 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. Satisfactory performance on undergraduate course work and a recent (five years or less) GMAT or GRE admissions examination score. In recent years, the average GMAT score for applicants admitted to Master's programs was approximately 565.
5. A current resume
6. A personal statement of interest
7. Response to the required essay questions (available at <http://www.mba.memphis.edu>)

A separate application and additional information materials must be submitted for admission to either the Executive concentration (<http://www.mba.memphis.edu/>) or the International MBA (fcbe.memphis.edu/modules/general/Pg_imba.php?). 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 writing to GMAT, Educational Testing Service, Princeton, New Jersey 08540, by calling 1-800-462-8669, or by using www.gmac.com.

Registration packets for the GRE may be obtained from Graduate Admissions (WT 101) or the Testing Center (JWB 112).

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 MBA with Biomedical Management concentration 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 Teambuilding (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
ISDS 7313 Global Operations Management (3 hours)
ISDS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Only degree-seeking students will be allowed to enroll in Core Knowledge and Skills courses.

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 Executive MBA concentration consists of 45 credit-hours in a fixed-track format and is completed in 21 months. All participants take the same course of study and progress together through the program. Leadership, team-building, creativity, and communication skills are presented during one-week residential management seminars in August of both the first and second years of the program, and in 1 and 2-hour modules in a format designed for and limited to corporate executives.

An international study residency is required in the summer after the first Spring semester of the program. During the Fall and Spring semesters classes meet each weekend on alternate Fridays and Saturdays. 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 Teambuilding (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
ISDS 7313 Global Operations Management (3 hours)
ISDS 7110 Quantitative Tools for Managers (3 hours)
MKTG 7140 Global Strategic Marketing (3 hours)
MGMT 7160 Global Strategic Management (3 hours)

Executive Concentration Courses (15 hours)

MGMT 7421 Executive Leadership
MGMT 7250 Strategic Human Resource Management
FIR 7160 Executive Financial Management
BA 7950 Practicum in International Business
BA 7717 Special Topics in Business Administration

The program website mba.memphis.edu provides additional information regarding course schedule, etc.

Biomedical Management MBA Concentration: Program Requirements

The Biomed MBA concentration consists of 45 credit-hours in a fixed-track format and is completed in 21 months. All participants take the same course of study and progress together through the program. Classes meet during the day and the evening. A 3 credit- hour internship with a sponsoring company is required. The Biomed 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 Teambuilding (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
ISDS 7313 Global Operations Management (3 hours)
ISDS 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
ISDS 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 (3 hours)

Professional MBA Concentration: Program Requirements

The MBA with a Professional concentration is a part-time, flexible format program and 45 credit-hours in length. Classes are taken during the 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 Teambuilding (2 hours)
ACCT 7050 Law, Ethics and Corporate Governance (2 hours)
ISDS 7313 Global Operations Management (3 hours)
ISDS 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.

II. INTERNATIONAL MASTER OF BUSINESS ADMINISTRATION

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, knowledge of the essential foundations of the business functions; (2) acquisition of a professional-level knowledge of: financial reporting and analysis, managing organizations, strategic use of science and technology, creating value in the global arena; (3) competence in business communication in a foreign language; (4) knowledge and skills in operations of one or more international businesses; and (5) ability to compete effectively for jobs in the profit and not-for-profit sector.

Program Admission

Applicants must have:

1. An undergraduate degree from an accredited college or university,
2. A Graduate School application for admission and the appropriate fee,
3. An official transcript from each college or university attended,
4. Satisfactory performance on undergraduate course work and a recent (5 years or less) GMAT or GRE admissions examination score.
5. Acceptable TOEFL score for international applicants.

All applicants to the International MBA program must submit a current resume, personal statement, three letters of recommendation, and an IMBA application form. They must demonstrate essential foundations through prerequisite course work in statistics, business calculus, accounting, finance, economics. US students in the foreign language tracks should be fluent in their chosen track's language at the equivalent of the junior level of college instruction. Demonstrated proficiency in English is required of international students. The curriculum offers the core knowledge and area studies course work and a study abroad/international business internship. Qualified applicants enter the program for Fall only. The program website is <http://imba.memphis.edu>.

Program Requirements:

ACCT 7172--Global Accounting Policies--3 hrs.

ECON 7101--Economics for International Business--3 hrs.

MGMT 7125--Organizational Behavior International--3 hrs.

MKTG 7101--Global Marketing--3 hrs.

BA 7902--Workshop in Business--1 hr.

Business Communication I* (Students select one course, per their language track.)--3 hrs.

ENGL 7807--Workshop in Government & Corporate Writing

LALI 7780--Individual Studies in Business Language (Chinese)

SPAN 7101--Introduction to Hispanic Culture and Business

FREN 7101--French/Business & Economics

GERM 7101--Advanced Business German I

JAPN 7101--Advanced Business Japanese I

ISDS 7650--Global Information Technology--3 hrs.

MKTG 7213--Research Methodology--3 hrs.

ECON 7172--International Competitiveness--3 hrs.

FIR 7172--Global Financial Management--3 hrs.

BA 7902--Workshop in Business--1 hrs.

Business Communication II* (Students select one course, per their language track.)--3 hrs.

LALI 7780--Individual Studies in Business Language (Chinese)

SPAN 7102--Introduction to Hispanic Culture and Business

FREN7102--French for Commerce

GERM 7102--Advanced Business German II

JAPN 7102--Advanced Business Japanese II

Elective course for international & world regional track students
GEOG 7301--Seminar in Regional Geography **or elective course**--3 hrs.
POLS 7501--Seminar in International Relations **or elective course**--3 hrs.
Elective course for all students--3 hrs.
BA 7950--Practicum in International Business **or elective course**--9 hrs.
MGMT 7161--International Business Strategy--3 hrs.
Required Business Elective--3 hrs.
Required Business Elective--3 hrs.

IMBA TOTAL--59 hours

*Students are required to take business communication courses according to their language track. Foreign national students are required to choose English for their language coursework.

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.

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. Admission to the Electronic Commerce program is competitive and requirements are discussed in the appropriate section later in this Bulletin.

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 three core courses:

MKTG 7213--Research Methodology--3 hours
ISDS 7465--Information Systems in Organizations--3 hours
One international course (selected from the following: ECON 7170, FIR 7170, 3 hours ISDS 7171, MIS 7170, MKTG 7170, MGMT 7170, or any other international course approved by the concentration advisor)

Total core: 9 hours

The remaining 24 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 details concerning the concentration.

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 in Business Administration program is to prepare individuals primarily for careers in teaching and research in institutions of higher education and secondarily for careers as consultants, researchers, and professional managers in other 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 and supply chain management.

Visit this website for more information: <http://fcbephd.memphis.edu>

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 evaluation include the applicant's:

1. **Academic record.** Applicant's graduate grade point average on the master's level coursework should be 3.4 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 or the Graduate Record Examination (GRE). In 2005, the average GMAT score for applicants admitted to doctoral programs was approximately 633.
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, 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.

Program

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.

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 15 hours of 8000 level courses is required in the student's chosen concentration. Possible concentrations include: 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 S,U, or IP may not be used to satisfy the minimum hours required for Research Core or Concentration.

Dissertation (18 semester hours): requires major research of an original and creative nature 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 is approved by the dissertation committee, the candidate will be given a final oral examination primarily dealing with the dissertation. The examination will be conducted by the dissertation committee. 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 have been completed. **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.

Comprehensive Examinations

Each student will write comprehensive examinations in the concentration. Comprehensive examinations in the concentration may be taken as soon as all of the course work required for the PhD degree has been successfully completed. Exceptions may be made as the discretion of the Associate Dean for Academic Programs. After satisfactorily completing the written comprehensive examinations, each student must pass a general oral examination integrating all work. The student's program committee will organize and administer the oral examination. Comprehensive examinations are given each year in March and September. Some concentrations require qualifying examinations covering specific courses or content, typically given after the first year of coursework, to be successfully completed prior to sitting for the comprehensive exam. 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 a GMAT score of 600 or above. Graduate assistants provide part-time assistance to the concentration in teaching and research. Current compensation for doctoral students ranges from \$9,000 to \$12,000 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.

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.

7100-8100. Introduction to Electronic Commerce. (3). (Same as Comp 7100). Technical foundations of electronic commerce, including intranets and extranets and protocols; programming in C++, Java, and html; client-server environments; webmasters; on-line authoring tools; catalogs; and services. PREREQUISITE: COMP 2150 or knowledge of a high-level programming language.

7105-8105. Contemporary Electronic Commerce (3). (Same as COMP 7105-8105). Technical and managerial foundations of electronic commerce, including electronic infrastructure, data transfer, mining and warehousing, security; one-to-one marketing; impact of electronic commerce on resource planning, project development, organization and management of the business environment; new forms of the virtual enterprise. PREREQUISITES: ISDS 7190, COMP 7100, or permission of the instructor.

7110-8110. Advanced Electronic Commerce (3). (Same as COMP 7110-8110). Advanced concepts and strategies for EC, including implementation platforms, multimedia integration, human-computer interaction, and ethical issues; impact of EC as a force in technology advances, consumer behavior, and changing the nature of the business world. PREREQUISITES: BA 7105, COMP 7105, or permission of the instructor.

7160. Survey of Electronic Commerce. (3). A broad survey of electronic commerce topics including the Internet, the World Wide Web, e-strategy, e-business models, customer relationship management, e-supply chain management, electronic data interchange, data security on the Internet. PREREQUISITE: Permission of faculty director of master's program.

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.

7750. Survey of International 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.

◆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.

◆**7900. Research Practicum in Business for Master's Students. (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 credit hours.

◆**7902-8902. Workshop in Business for Graduate Students. (1-6).** Presentations of research methods and scholarly work by faculty, graduate students, and visiting scholars in business.

◆**7910. Problems in International Business. (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.

◆**7920. Studies in the Contextual Environment of International Business. (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.

7950. Practicum in International 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.

7970-8970. Electronic Commerce Project. (3). (Same as COMP 7970-8970). Research in an electronic commerce project under the supervision of a faculty member and possibly a liaison from commerce or industry. PREREQUISITES: BA 7110, COMP 7110 or permission of the instructor.

◆**8800. Reading for Comprehensives (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.

◆**8900. Research Practicum in Business for Doctoral Students. (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 credit hours.

◆**8901. Teaching Practicum in Business for Graduate Students. (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.

◆**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.

◆**9000. Dissertation (1-12).** Independent research for Doctor of Business Administration degree. PREREQUISITE: Successful completion of comprehensive exams or permission of Director of Ph.D. Programs.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

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SCHOOL OF ACCOUNTANCY

*Room 200, Business Building
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I. Objectives

In the School of Accountancy, qualified students may work toward the following graduate degrees: Master of Science with a concentration in Accounting, Accounting Systems, 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.

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 course work and a recent (five years or less) GMAT admissions examination score. The GMAT is required even if the applicant has earned a prior master's degree. In recent years the average GMAT score for applicants admitted to master's programs was approximately 530.

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, accounting systems, and taxation.

The Master of Science degree requires:

1. Prerequisites of ACCT 3110 and 3120, Intermediate Accounting. Students choosing the taxation concentration or who are required to take ACCT 6520 also must have taken ACCT 3510, Federal Income Tax, or its equivalent.

Students taking ACCT 6241 must take the course prerequisite ACCT 4240. Students taking ACCT 7320 must take the prerequisite ACCT 3310. If students do not have an undergraduate degree in business, they must complete the following Essential Foundations courses (C or better in each course) or their

equivalent:

ACCT 7000	Fundamental of Accounting
ECON 7010	Economic Theory
FIR 7070	Financial Concepts
ACCT 3011	Business Law
MGMT 7030	Management and Organization
MKTG 3010	Principles of Marketing
ISDS 7070	Information Systems Principles

2. Each candidate must complete a minimum of 30 semester hours of approved graduate courses. The 30 graduate credits must include 21 hours in Accounting.

A. General Requirements: 6 hours

- ACCT 7120 Strategic Accounting (3)
 ACCT 7610 Accounting Issues in a Service-Oriented Economy (3)

B. Concentrations

Specialization Core: 15 hours

Accounting	Accounting Systems	Taxation
ACCT 6241, Auditing and Assurance	ACCT 6241, Auditing and Assurance	ACCT 6520, Taxation of Business Entities
ACCT 7320, Controllership	ACCT 7320, Controllership	ACCT 7510, Tax Research
ACCT 7420, Accounting Databases and Systems	ACCT 7420, Accounting Databases and Systems	ACCT 7511, Partnership Taxation
ACCT 6520, Taxation of Business Entities	ACCT 7421, ERP Systems Design***	ACCT 7512, Corporate Taxation
Accounting elective*	ACCT 7442, e-Enterprise Accounting Systems***	ACCT 7514, Estate and Gift Taxation

Supporting Courses: 9 hours

Accounting	Accounting Systems	Taxation
Non-accounting elective*	Non-accounting elective*	Non-accounting elective*
Non-accounting elective*	Non-accounting elective*	Non-accounting elective*
Communication**	Communication**	Communication**

* Elective courses to be selected in consultation with Masters Program Advisor to support concentration specialization.

** Communication courses to be selected in consultation with Masters Program Advisor from MKTG 7510, Negotiation Strategies; MGMT 7173, Executive Communication; or ENGL 7807, Workshop: Government and Corporate Writing.

*** ACCT 7241, Internal Auditing, may substitute for one of these two courses.

IV. PhD Program

See the beginning of this college section for admission, prerequisites, and program requirements. Additional guidelines are outlined in the PhD Student Handbook, which is available from the Director of PhD Programs.

ACCOUNTANCY (ACCT)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

- 6211. Advanced 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.
- 6241. Information Systems Auditing and Assurance. (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.
- 6520. Taxation of Business Entities. (3).** Introduction to the federal income taxation of corporations, partnerships, estates, and trusts. PREREQUISITE: ACCT 3510 or permission of instructor.
- 7000. Fundamentals of Accounting. (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.
- 7040. Legal Concepts for Business. (3).** A survey of the legal, social, and political factors that affect business operations; prerequisite for MBA Core Knowledge and Skills.
- 7050. Corporate Governance and Business 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.
- 7080. Financial and Managerial Accounting for Managers. (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.
- 7110. Accounting for Decision Making. (3). (7010).** Financial reporting from a decision-maker's perspective, managerial use of accounting information; includes case studies and research projects. NOTE: Not open to students who have received credit for ACCT 3310 or a similar course. PREREQUISITE: ACCT 7000 or equivalent.
- 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.
- 7170. International Accounting. (3).** International accounting problems, including accounting by multinational corporations, foreign currency translation, institutional structures, financial control and reporting for international operations, comparative analysis of accounting principles and auditing standards of various countries. PREREQUISITE: ACCT 7000 or equivalent.
- 7172. Global Accounting 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.

7241. Internal Auditing. (3). Authoritative internal audit standards, ethics of internal auditors, techniques of efficiency and effectiveness audits. PREREQUISITE: ACCT 4240.

7310. Advanced 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.

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 or ACCT 7110.

7330. Cost Management. (3). Concepts and applications of cost management systems, including strategic planning and control, activity based costing and management, total quality control, product life-cycle cost, performance evaluation, target costing, just-in-time inventory system, and continuous improvement. PREREQUISITE: ACCT 3310 or ACCT 7110.

7420. Accounting Databases and Systems. (3). Accounting systems analysis and design; emphasis on database information structures; advanced system analysis tools; integrating accounting and computer controls; use of state-of-the-art database package leading to development of working accounting model; on-site practicum.

7421. Enterprise Resource Planning Systems Design. (3). Environment of multiuser accounting; audit trail and internal control considerations in centralized versus distributed accounting systems; design considerations of computerized accounting subsystems, including accounts receivable, accounts payable, payroll, and general ledger. PREREQUISITE: ACCT 7240 or permission of instructor.

7422. e-Enterprise Accounting Systems. (3). Development of working computerized accounting systems; overview of IDE Tools for accounting systems development; accounting file design, accounting user interface characteristics, accounting report generation considerations; complete development and programming of working accounting subsystem modules by student teams. PREREQUISITE: ACCT 7420.

7510. Tax Research and 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.

7511. Federal Income Taxation of Partnerships and Partners. (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.

7512. Federal Income Taxation of Corporations and Shareholders. (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.

7514. Estate and Gift Taxation. (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.

7515. Tax Administration, Practice, and Planning Considerations. (3). Introduction to overall organizational structure of Internal Revenue Service and operating procedures concerning individual rulings, additional issuances, the audit process, and its administrative powers; rules governing tax practice including Treasury Department Circular 230; strategies in seeking Administrative Rulings, the IRS audit, litigation

considerations, penalties, statute of limitation of refund claims. PREREQUISITE: ACCT 7510 or permission of the instructor.

7518. Selected Topics in Taxation. (3). Special tax considerations of individuals, partnership, corporations, estates, trusts, exempt organizations, and governmental entities. PREREQUISITE: ACCT 7510 or permission of the instructor.

7520. Federal Income Taxation of Trusts and Estates. (3). Tax law as it relates to Subchapter J; general overview of nature of trusts and estates during their existence and administration, taxable income of trusts and estates, taxation of beneficiaries, character of income, throwback rule, grantor trusts, tax planning considerations. PREREQUISITE: 7510 or permission of the instructor.

7610. Accounting Issues in a Service-Oriented Economy. (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.

◆**7910. Problems in Accounting. (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.

◆**7911. Accounting Internship. (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.

7920-7929. Special Topics in Accountancy. (1-3). Varied topics. May be repeated with change in topic. PREREQUISITE: Permission of Faculty Director.

◆**7996. Thesis. (3-6).**

◆**8000. Independent Accounting Research. (3).** Research problem related to student's field of concentration under direction of a faculty member.

8610. Seminar in Auditing Research. (3). Research techniques and critical analysis of reported research findings related to various phases of the audit; applications of quantitative methods in audit; auditor and audit client behavior studied and evaluated, including analytical, empirical, and archival research methodologies.

8621. Seminar in Empirical Economic Accounting Research. (3). Scientific philosophy and method of empirical research that tests economic theories of accounting.

8710. Seminar in Financial Accounting Research. (3). (8920). In-depth study of existing body of literature in various areas of empirical accounting 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.

8720. Seminar in Accounting Research and Human Information Processing. (3). (8210). Research on judgement and decision-making behavior in accounting; theories and empirical evidence on how professional accountants make judgements and users are affected by accounting information; extensive readings from research literature in accounting and related fields; alternative methods for conducting empirical research.

8730. Managerial and Behavioral Accounting Theory and Research. (3). (8310). Theoretical framework of managerial and behavioral accounting related to decision-making processes of management; influence of behavioral science on budgeting techniques and managerial information and control systems; behavioral accounting research.

8731. Seminar in Management Accounting. (3). Presents theoretical foundations and empirical tests (including experiments, survey and field studies, and statistical tests of archival data) of current management accounting issues.

8740. Research Seminar in Accounting. (3). Review, analysis, and integration of scholarly research in financial and managerial accounting as well as auditing research; development of critical thinking and communication skills for designing, executing, and evaluating scholarly accounting research.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

ECONOMICS

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Chair

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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.

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; ISDS 2710 and 3711, Business Statistics I and II (ISDS 7020 is an acceptable substitute for ISDS 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.

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 economic 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

ECONOMICS (ECON)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

6130. Government Regulation of Business. (3). The several approaches to legal and legislative control of business—especially tax laws, commission regulation, and anti-monopoly legislation—are considered in view of the impact of each on industrial operating policy and corporate social responsibility.

6410. Development of Economic Thought. (3). Integration of macro- and microeconomics; examines contribution of selected schools and writers to modern economic theory, including preclassical, classical, Marxian, neoclassical, and post-1914 contributions; focuses on theory of money, interest, and inflation.

6760/69. Special Topics in Economics. (1-3). Topics vary; may be repeated when topics change. PREREQUISITE: Permission of department chair.

6810. Quantitative 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.

7010. Economic Theory. (3). Investigation of microeconomic and macroeconomic theory; topics include: supply and demand, production and cost, competition and monopoly, income determination, unemployment, inflation, and government budget. PREREQUISITE: Fewer than 6 hours of undergraduate economics or permission of instructor.

7100. Economics for the Global Executive. (3). (7020). Concepts and tools of economic theory and their application to business and social issues in the context of a global economy; how decisions of firms, consumers, and governments interact to determine market outcomes; market structures, impact of international trade and currency markets on firms competing in a global economy.

7101. Essentials of Economics for International Business. (3). Essential economic theory and applications to international business; application of economic concepts such as the market model, consumption and production theory, income and employment determination in an international environment; elementary international economics for business management. PREREQUISITES: Admission to IMBA concentration or permission of instructor.

7110. Managerial Economics. (3). Economic rationale underlying key management decisions; managerial problems identified and examined in light of relevant economic concepts; remedial action plotted on basis of economic logic. PREREQUISITE: ECON 7100 or 7300 or equivalent or permission of instructor.

7120-8120. Advanced Quantitative Economic Analysis. (3). Advanced mathematical methods used in economics, finance, accounting, and management science with specific applications to micro- and macroeconomics; topics include constrained, unconstrained, and dynamic optimization, comparative statistics, and optimal control. PREREQUISITES: ECON 6810 or permission of instructor.

7125-8125. Business and Economic Research. (3). Fundamental application of statistical inference, research software, data sets, and econometrics. PREREQUISITES: ISDS 7020 and MATH 1312.

7126-8126. 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.

7130-8130. Industrial Organization. (3). How different types of markets work; nature of the firm; monopoly; monopolistic competition and product differentiation; oligopoly; repeated games and tacit collusion; entry, accommodation, and exit. PREREQUISITE: ECON 7310-8310 or permission of instructor.

7170. International Trade and Investments. (3). Introductory survey of trade theory and international macroeconomics; traditional issues of international trade theory, including why countries trade, distributional effects, policies; basic concepts and issues in international macroeconomics, including balance of payments and international capital flows, exchange rates; effects of macroeconomic policies under alternative exchange rate regimes. PREREQUISITE: ECON 7010 or permission of instructor.

7172. International Competitiveness in the World Economy. (3). Meaning and measurement of international competitiveness; microeconomic and macroeconomic aspects; government policy implications; strategic intervention. PREREQUISITE: ECON 4350 or 7170 or permission of instructor.

7175-8175. International Trade Theory and Policy. (3). Advanced treatment of the theory of international trade; the theory of comparative advantage, the Heckscher-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.

7176-8176. International Monetary Theory and Policy. (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.

7210-8210. Labor Economics. (3). Use of theory and statistical techniques to analyze determination of wage rates and employment and working conditions in labor markets under conditions of competition and collective bargaining. PREREQUISITE: ECON 7100 or 7300 or permission of instructor.

7235. The Memphis Economy. (3). (Same as PADM 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.

7300. Economic Theory and 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.

7310-8310. Advanced Microeconomics I. (3). Economic models of consumers, firms, and markets; basic theories of the firm and consumer; choice under uncertainty; market structure and traditional models of imperfect competition. PREREQUISITE: ECON 3310 and 3320, or ECON 7300, or permission of instructor.

7312-8312. Economic Behavior and Organizations. (3). Models of real-world economic behavior and institutions; analysis of nature of modern corporation as an economic organization; focus on roles played by incomplete information, transactions costs, legal structure and evolution of differences in capabilities in

shaping hierarchies, contractual arrangements, and other aspects of organizational relationships.

PREREQUISITE: ECON 7300.

7313-8313. Economics of Risk and Uncertainty. (3). Economics of risk and information: individual choice under uncertainty; mean-variance models and their relation to expected utility; stochastic dominance; applications to insurance, asset demands, capital budgeting, etc.; market equilibrium and information; adverse selection and signaling; moral hazard and incentives. PREREQUISITE: ECON 7310-8310 or permission of instructor.

7320-8320. Advanced Macroeconomics I. (3). Microeconomic foundations of macroeconomic models; comparison and contrast of macroeconomic models, neoclassical and Keynesian, new neoclassical and neo-Keynesian. PREREQUISITE: ECON 3310 and 3320, or ECON 7300, or permission of instructor.

7322-8322. Monetary Theory and Policy. (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.

7700-8700. Economics of Electronic Commerce. (3). Market characteristics of electronic commerce, economic impact of electronic commerce on terrestrial commerce; broader issues of property rights, government regulation, information infrastructure maintenance, and business cycles. PREREQUISITE: ECON 7010 or equivalent.

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 7010 or equivalent, or permission of instructor.

7711-8711. Applications of Health Care Economics. (3). Analysis of health care expenditures, employee health plans, and third party reimbursement mechanisms; economics of insurance design in presence of moral hazard and adverse selection; business and union strategies for health care; local, state, and national health care reform. PREREQUISITE: ECON 7710 or permission of instructor.

7712-8712. Pharmaceutical Economics. (3). Methodology and case studies of pharmaceutical economics and quality of life aspects of medicinal intervention; emphasis on comparative pharmaceutical care systems and payment mechanisms of developed and developing countries. PREREQUISITE: ECON 7710 or permission of instructor.

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.

7720-8720. Economics of the Public Sector. (3). Emphasis on the production of public goods, financing of public goods, problems created by a federal fiscal system; current problems and policy decisions; public finance theory and policy will be analyzed.

7810-8810. 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.

7811-8811. Econometrics II. (3). Continuation of ECON 7810-8810. Estimation and statistical inference in simultaneous equations models and models with discrete or limited dependent variables; seemingly unrelated regressions, unobservable variables, identification and estimation in a simultaneous system,

binomial and multinomial choice, truncated or censored data, and sample selectivity. PREREQUISITE: ECON 7810-8810 or permission of instructor.

◆**7900-8900. Research Practicum in Economics for Graduate Students. (1-6).** Practical demonstrations of and experience in the design, practice, and methodology of research in the field of economics. Required of all PhD students and recommended for all graduate assistants. May be repeated for a maximum of 6 credit hours.

◆**7901-8901. Teaching Practicum in Economics for Graduate Students. (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.

◆**7910-8910. Problems 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.

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.

◆**7996. Thesis. (3-6).** Independent research for the master's degree.

8311. Advanced Microeconomics II. (3). Continuation of ECON 7310-8310. Advanced development of theories of the consumer and firm; general equilibrium analysis and welfare economics; game theory, with applications to imperfect competition. PREREQUISITE: ECON 7310-8310 or permission of instructor.

8321. Advanced Macroeconomics II. (3). Seminar focusing on recent advances in macroeconomic theory; topics may include rational expectations and the policy effectiveness debate; economic dynamics and growth theory; asset-pricing models; neo-Keynesian models with imperfect competition and coordination failure. PREREQUISITE: ECON 7320-8320 or permission of instructor.

8812. Econometrics III. (3). Modern analysis and modeling of economic and financial time series and applications, including stationary ARMA processes, spectral analysis, basic asymptotic theory for serially dependent processes, vector autoregressions, unit-root nonstationary processes, cointegrated systems, structural changes, and ARCH processes. PREREQUISITE: ECON 7810.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

FINANCE, INSURANCE, AND REAL ESTATE

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Chair

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I. The Department of Finance, Insurance, and Real Estate offers the Master of Science degree with a major in Business Administration and concentrations in Finance, Insurance, and Real Estate or in Real Estate Development as well as the PhD in Business Administration with a concentration in Finance.

II. MS in Business Administration Program

See the beginning of this College section for admission requirements and College Core requirements.

A. Program Requirements

1. Prerequisites of MATH 1830 and ACCT 7000 and FIR 7050 or their equivalents.
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). At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).
3. Finance, Insurance and Real Estate Concentration: The required core of courses includes:
FIR 7150, Corporate Finance
FIR 7410, Investment Theory and Portfolio Management, and
FIR 7840, Quantitative Applications for Finance.
4. Real Estate Development Concentration: The required courses are:
FIR 6310, Real Estate Law
FIR 6340, Real Estate Appraisal
FIR 7301, Contemporary Real Estate Theory and Practice
FIR 7302, Decision Process in Development of Commercial and Industrial Real Estate
FIR 7320, Financing Real Estate Transactions
FIR 7350, Real Estate Investment Analysis
FIR 7910, Problems in Finance, Insurance, and Real Estate
5. Three semester hours must be completed in a collateral area approved by the program coordinator.
6. Candidates must pass a written or oral comprehensive examination.

III. PhD Program

For admission, prerequisites, and program information, see the college website at:
http://fcbe.memphis.edu/modules/general/Pg_docprograms.php?

FINANCE (FIR)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

6011. Estate Planning and Law of Taxation. (3). A survey course of the law of taxation as applied to the transmission of property by gift or death and its impact upon accumulations of wealth; estate planning from an individual viewpoint designed to create, maintain, and distribute the maximum estate possible. PREREQUISITE: FIR 3011 or permission of the instructor.

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.

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.

6610. Cases in Managerial Finance. (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.

6720. Management of Financial Institutions. (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.

6810. Property and Liability Insurance (3). Forms and functions of fire, marine, automobile, general liability, and other types of property and liability insurance; emphasis on business and industrial applications.

6820. Life and 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.

7070. Financial Concepts for Business. (3). (7010). Discounting, risk measurement, valuation, capital budgeting, cost of capital, capital structure, dividend policy, working capital, financial instruments, and markets. PREREQUISITE: ACCT 7000 or equivalent.

7150. Corporate Finance. (3). (7610). Analytical tools, concepts, and decision rules for acquisition and allocation of funds by the business firm; topics include capital budgeting under risk, capital rationing, cost of capital, capital structure, dividend policy, and working capital management; cases and readings may be required. NOTE: This course is open only to degree-seeking students. PREREQUISITE: FIR 7050 or 7070 or equivalent.

7155. Global Financial Management. (3). Modern financial theory as currently practiced in an interdependent global economy by corporate financial managers, financial consultants, and managers of financial institutions.

7160. Executive Financial Management. (3). 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.

7170-8170. International Financial Management. (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.

7171. International Financial Markets. (3). Analysis of operation and regulation of international financial markets for derivatives (options, futures, and swaps), equities, debt, and currencies.

7172. Global Financial Management. (3). Overview of corporate finance with emphasis on the international environment; present value and the opportunity cost of capital; valuation of future cash flows; capital budgeting; risk and return; long-term financing; dividend policy and capital structure; mergers and acquisitions. Elementary knowledge of accounting, statistics, PC, and microeconomics helpful.

7301. Contemporary Real Estate Theory and Practices. (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.

7302. The Decision Process in the Development of Commercial and Industrial Real Estate. (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 successful real estate projects, industrial parks, warehouse-distribution centers, and related land uses.

7320. Financing Real Estate Transactions. (3). Economic, institutional, and legal issues associated with real estate finance; emphasis on investor and developer financing, and secondary mortgage market.

7350. Real Estate Investment Analysis. (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.

7410-8410. Investment Theory and Portfolio Management. (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 7070 or equivalent.

7710-8710. Seminar in Investment Theory. (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.

7721-8721. 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.

7724-8724. Micro-Structure Theory. (3). Market microstructure theory; empirical underpinnings, empirical research, and critical contemporary issues.

7725-8725. Equity Markets: Trading and Structure. (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 7050 or equivalent.

7726-35/8726-35. Current Topics in Finance, Insurance, and Real Estate. (3). Consult the online class listings for topics.

7736. Financial Management. (1.5-3.0). Successful financial management of the modern corporation; critical inter-relationships among finance and other functions of the firm; confrontation of financial problems using logic and recent advances.

7737. Business Legal Environment. (1.5-3.0). General overview of several legal subjects that executives are likely to confront; presentation and discussion of relevant statutory, regulatory, and judicial pronouncements.

7810-8810. Advanced Financial Management. (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 7150 or equivalent.

7840-8840. Quantitative Applications for Finance. (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 7150.

◆ **7910-8910. Problems in Finance, Insurance, and Real Estate. (2-4).** 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.

◆ **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.

8820. Theory and Practice of Financial Management. (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.

8850. Seminar in Finance. (3). Emphasis on current issues in private sector finance; designed to encourage students in finance to develop a firm understanding of the important theoretical and empirical contributions to the literature; course will draw on readings and the research projects of individual students.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

MANAGEMENT

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I. In the Department of Management, qualified students may work toward the Master of Science degree in Business Administration with a concentration in Management, or the PhD in Business Administration with a concentration in Management.

II. MS in Business Administration with Concentration in Management

A. Program Admission

1. Satisfactory performance on the Graduate Management Admission Test (GMAT)
2. Satisfactory undergraduate grade point average

B. Concentration Prerequisites

Essential Foundations or its equivalent, except ISDS 7080.

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), including MGMT 7130. Students choosing the thesis option should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.
2. Three semester hours in a collateral area approved by the student's advisor (nine if thesis is written).
3. The 33 credit hours required must be in courses designated for graduate students (7000 level or above).
4. The comprehensive examination requirement for the MS in Business Administration with concentration in Management is satisfied by successful completion of MGMT 7160.

III. 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.

MANAGEMENT (MGMT)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

7030. Management and Organization. (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.

7125. Organizational Behavior and the International Context. (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.

7130. Organizational Behavior and Performance. (3). Study of human behavior, attitudes, and performance within an organizational setting; motivation, leadership, communication, group dynamics, organizational change 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.

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.

7160. Global Strategic Management. (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. PREREQUISITE: Satisfactory completion of 18 semester hours of Core Knowledge and Skills coursework in MBA program.

7161. International 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.

7170. International Management. (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. PREREQUISITE: MGMT 7030.

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.

7210. Seminar in Industrial 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. PREREQUISITE: MGMT 7030.

7220-8220. Seminar in Human Resources Administration. (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. PREREQUISITE: MGMT 7030.

7250. Strategic Human Resource Management. (3). Theories, research, and practice in managing human resources strategically in business organizations: strategic HRM, legal environment and equal employment opportunity, job analysis and design, planning and recruitment, selection and placement, training and deployment, performance management, and turnover and retention.

7260-8260. Seminar in Job Analysis, Selection, and Performance Appraisal. (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.

7421. Self Leadership for Executives. (3). 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.

7422-8422. Seminar in Organizational Theory. (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. PREREQUISITE: MGMT 7030.

7423-8423. Seminar in Organizational Behavior 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. PREREQUISITE: MGMT 7030.

7500-8500. Seminar in Strategic Management. (3). Literature of strategic management, including contributions of other fields to strategic management. PREREQUISITE: MGMT 7030.

7506-8506. Seminar in Industry and Competitive Analysis. (3). Competitive environment of business organizations; emphasis on understanding industry structure and the positioning of firms in relation to major rivals. PREREQUISITE: MGMT 7160.

7508-8508. Seminar in 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. PREREQUISITE: MGMT 7160.

7510-8510. Seminar in Strategy and Planning Research. (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. PREREQUISITE: MGMT 7160.

7520-8520. Seminar in Organizational Change and Development. (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.

7530-8530. Seminar in the Development of Management Thought. (3). Historical evolution of management thought designed to enable students to acquire a mastery of the literature in the field; emphasis on the work of pioneers and major contributions to the development of management thought.

◆7910-8910. Problems in Management. (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.

◆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.

7940-49-8940-49. Special Topics in Management. (3). Topics vary and are listed in the online course listing.

8921. Seminar in Management 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.

◆Grades of S, U, or IP will be given.

◆Grades of A-F, or IP will be given.

BUSINESS EDUCATION (BUED)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

7620. Organization and Supervision of Vocational Business Education. (3). Office occupations programs with special emphasis on types of curriculums, production laboratories, and cooperative programs. Classroom supervision, physical layout, administration of programs, and utilization of block time.

7655. Materials and Methods in Vocational Education. (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.

7660. Tests and Measurements in Business and Office Education. (3). Standardized and published tests in business education, new trends in testing, application of sound testing theory and techniques to business education with special emphasis on evaluation of skill development, establishment of realistic office competencies, and evolution of grading standards.

7720. Guidance in Business and Office Education. (3). History, principles, and philosophy of guidance in business education; relationships of business teacher to school guidance services; special attention directed to the development, scope, and responsibilities for vocational guidance with respect to selection and retention of vocational students.

MANAGEMENT INFORMATION SYSTEMS

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I. In the Department of Management Information Systems qualified students may work toward the Master of Science degree in Business Administration with a concentration in Management Information Systems, and the PhD degree in Business Administration with a concentration in Management Information Systems.

II. MS in Business Administration with Concentration in Management Information Systems

A. Program Admission

1. Satisfactory performance on the Graduate Management Admissions Test (GMAT).
2. Satisfactory undergraduate grade point average.

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. Other courses can be selected from MIS courses as approved by the departmental master's coordinator.
3. Nine semester hours of electives will be selected with the approval of the departmental master's coordinator.
4. At least 24 of the 33 credit hours required must be in courses designed primarily for graduate students (7000 level or above).
5. The comprehensive examination requirement for the MS in Business Administration with concentration in Management Information Sciences is satisfied by successful completion of MIS 7640.

III. PhD Program

See the beginning of this College section for admission, prerequisite, and program requirements. Additional guidelines defined by the area are available from the PhD program coordinator.

MANAGEMENT INFORMATION SYSTEMS (MIS)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

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.

7030. Integrated Software Applications. (3). Emphasizes mastery of suite application software using an integrated approach to software applications and employing problem-based methods; course meets licensure standards.

7060. Program Development and File Structures. (3). Programming principles, program logic development, internal data structures, and file organization; development of structures and computer programs using a modern programming language.

7070. Basic Principles for Information Systems Managers. (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.

7160. Computer Hardware and System Software. (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.

7170. Global Information Technology Management. (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.

7190. Programming 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.

7435. Web Site Development. (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.

7465-8465. Information Systems in Organizations. (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. PREREQUISITES: MIS 7070, 2755, or equivalent.

7470-948470-9. 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.

7480. Thriving in an Information 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.

7605-8605. Business 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. PREREQUISITE: MIS 7060 or permission of instructor.

7610-8610. Systems Analysis and Design. (3). Comprehensive structured approach to application system development process; emphasis on requirements analysis, logical specifications, structured design, and implementation of information systems. PREREQUISITES: MIS 7605 and 7615.

7615-8615. Data Communications Systems and Networks. (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.

7620-8620. Decision Support Systems and Expert Systems. (3). Application of information systems tools to problem solving and decision making; emphasis on developing and applying concepts and technologies of decision support systems and expert systems. PREREQUISITES: MIS 7605, ISDS 7120.

◆7630. Information Systems Projects. (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.

7640-8640. Information Systems Management and Planning. (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.

7650-8650. Information Systems in the Global Enterprise. (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.

7655-8655. Advanced Systems Analysis and Design. (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.

7660-8660. Advanced Networking and Database Management. (3). Integration of computer networking and database management concepts in a distributed information systems environment; topics include architecture, development, security, and management of distributed systems, client/server systems, distributed objects, the Internet, and intranets; current products, tools, and methodologies for developing and managing these systems. PREREQUISITES: MIS 7605 and 7615.

7665-8665. Advanced Business Computing Environments. (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.

7670-8670. Computer and Network Security in Business Organizations. (3). 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 from programs, OS's, databases, PC's, networks and communication; legal, ethical, and human factors in computer security. PREREQUISITE: permission of instructor; MATH 2701 recommended.

7671. Project and Change Management. (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: MIS 7610.

◆7910-8910. Problems in Management Information Systems. (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.

◆**7996. Thesis. (3-6).**

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.

8710. Research Seminar in Information Systems 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.

8720. Research Seminar in Information Systems II. (3). Development of a research proposal; critique and evaluation related to research and the proposal. PREREQUISITE: MIS 8710 or permission of instructor.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

MARKETING & SUPPLY CHAIN MANAGEMENT

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I. In the Department of Marketing and Supply Chain Management, qualified students may work toward the Master of Science degree in Business Administration with a concentration in Marketing or the PhD with a major in Business Administration and a concentration in Marketing & Supply Chain Management.

II. MS Degree in Business Administration Program

A. Concentration Prerequisites

Essential Foundations or its equivalent, except ISDS 7080.

B. Concentration in Marketing

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 choosing the thesis option should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.

1. The following courses must be included in the core of the concentration:
MKTG 7140, Strategic Marketing
MKTG 7213, Research Methodology
MKTG 7510, Negotiation Strategies
MKTG 7511, Market Driven Quality
2. Three semester hours in a collateral area approved by the student's advisor. This will include MGMT 7160 (Seminar in Business Policy) if an integrating business policy course has not been successfully completed.
3. At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).
4. The comprehensive examination requirement for the MS in Business Administration with concentration in Marketing is satisfied by successful completion of MGMT 7160.

III. 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 the PhD program with a concentration in Marketing & Supply Chain Management

- A. 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.

- B. GPA Requirement: Marketing doctoral students are required to maintain a minimum of 3.50 GPA in the marketing courses.

MARKETING (MKTG)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

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.

7101. Global Marketing. (3). Overview of marketing principles and subsequent deconstruction of culture-bound thinking regarding marketing processes; development of marketing management skills through the examination of marketing content areas in concert with examination of culture and its influence on marketing. PREREQUISITE: Admission to IMBA concentration.

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.

7170. Multinational Marketing Seminar. (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. PREREQUISITE: MKTG 7060 or permission of Director of MBA Programs.

7213. Research Methodology. (3). Nature and scope of research philosophy and methods in business; primary and secondary research procedures; emphasis on the preparation and presentation of independent research findings and on utilization of multivariate analysis techniques. PREREQUISITE: MKTG 7060 or permission of instructor.

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.

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.

7270. Strategic International Marketing. (3). Strategic decision-making in a global environment; strategic planning systems, including marketing information systems and analysis, leading to formulation of international marketing strategies. PREREQUISITE: MKTG 7170 or equivalent.

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: MKTG 7060 or permission of Faculty Director of Master◆s Programs.

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: MKTG 7060 or permission of Faculty Director of Master◆s Programs.

7512. Corporate Macromarketing. (3). In-depth seminar on how corporations acquire and deploy political and interest group assets to control broad market forces; topics include corporate lobbying, PAC management, political intelligence-gathering operations, and their effectiveness toward accomplishing macromarketing objectives.

7520. Marketing New Product Development in the Biomedical Industry. (2). 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, ISDS 7315; HADM 7718.

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.

◆**7910-8910. Problems in Marketing and Supply Chain Management. (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 prior to enrollment.

◆**7996. Thesis. (3-6).**

8215. Ethical Criticism of Marketing Science. (3). Ethical analyses and critiques of scientific writing; deconstructive strategies of reading; emphasis on literary and rhetorical tactics employed in presentation of marketing theory.

8216. Measurement and Structural Equation Modeling. (3). Theoretical and methodological issues in research design, measurement, and method; development of measures of marketing constructs and empirical assessment of measurement properties; model development and testing to expand marketing theory; LISREL methodology to test measurement and structural models. PREREQUISITE: MKTG 8215 and PSYC 8302 or equivalent.

8217. Theory Construction and Evaluation. (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.

8222. Advanced Marketing Management Thought. (3). State-of-the-art thought in marketing management; analyses of foundations of marketing management theory; emphasis on developing new research approaches to improve marketing practice.

8223. Advanced Consumer Behavior. (3). Survey of theoretic and methodological contributions of consumer behavior research in areas of human information processing, search for information, complex decision-making, motivations, and attitudes; emphasis on tracing major research streams in the literature through examination of current journal articles; research paper required. PREREQUISITE: Permission of instructor.

8930. Advanced Research Methodology. (3). Detailed coverage of topics relevant to conducting research in behavioral sciences, particularly marketing, including sampling techniques; experimental design concepts (random and fixed effects models, blocking designs, multi-factor, use of repeated measures); development and evaluation of measurement instruments; application of multivariate techniques to marketing problems. PREREQUISITE: ISDS 7020 or equivalent.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

DECISION SCIENCES (ISDS)

NOTE: Students taking Business courses will be charged an additional \$30 per credit hour.

7020. Statistical Methods in Business and Economics. (3). Statistical concepts and methodology useful in understanding, assessing, and controlling operations of business and economic society. PREREQUISITE: ECON 6810 or equivalent.

7080. Principles of Production and Operations Management. (3). Role of P/OM function and relationship to other functional areas; basic production techniques and tools for both manufacturing and service operations. PREREQUISITE: ISDS 3711 or 7020.

7110. Quantitative Tools for Managers. (3). Statistical concepts and tools, optimization and stimulation techniques useful in understanding, assessing, and controlling operations of business and economic society.

7120. Management Science and Decision Technology. (3). 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.

7170. International Production Operations Management. (3). 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: ISDS 7080 or permission of instructor.

7310-8310. Seminar in Production and Operations Management. (3). 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: ISDS 3510 or equivalent or permission of instructor.

7311-8311. Seminar in Supply Chain Management. (3). 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: ISDS 7310 or permission of instructor.

7312-8312. Seminar in Value Chain Resources Management. (3). 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: ISDS 7310 or equivalent or permission of department chair.

7313-8313. Global Operations Management. (3). 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.

7315. Design and Management of Supply Chains in the Biomedical Industry. (3). 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.

7425-8425. Deterministic Models for Management Science. (3). 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: ISDS 7120 or equivalent.

7430-8430. Advanced Quantitative Topics for Business Decisions. (3). Advanced study of management decision-making using various quantitative methods of analysis; specialized applications of

specific foundation courses in management science. PREREQUISITES: ISDS 7120 and ECON 6810 or equivalent.

7431-8431. Applied Modeling for Business Decisions. (3). The application of management science modeling across business disciplines through readings, case studies, and projects; computer modeling languages utilized. PREREQUISITES: ISDS 7120 and business calculus.

7450-8450. Integrated Supply Chain Modeling and Technologies. (3). 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: ISDS 7120 and 7311.

7921-8921. Seminar in Decision Sciences Research. (3). 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: ISDS 2711 or 7020 or equivalent.

8530. Survey of Statistical Techniques in Business Research. (3). 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 techniques. PREREQUISITE: ISDS 7020 or equivalent and working knowledge of SPSS.

8540. Multivariate Analysis for Business Research. (3). Multivariate techniques available to the business researcher; use of computerized statistical packages and their interpretation. PREREQUISITE: ISDS 8530 or equivalent.

THE COLLEGE OF COMMUNICATION AND FINE ARTS

RICHARD R. RANTA, PhD,
Dean

MOIRA LOGAN, MFA,
Director of Graduate Studies

GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentration Within Major	Degree Offered
Architecture	Architecture		Master of Architecture (MArch)
Art	Art	(1) Ceramics (2) Graphic Design (3) Interior Design (4) Painting (5) Printmaking/Photography (6) Sculpture	Master of Fine Arts (MFA)
	Art History	(1) Egyptian Art and Archaeology (2) General Art History	Master of Arts (MA)
Communication	Communication	(1) Communication (2) Film and Video Production	Master of Arts (MA)
	Communication		Doctor of Philosophy (PhD)
Journalism	Journalism		Master of Arts (MA)
Music	Music	(1) Composition (2) Jazz and Studio Music (3) Music Education (4) Musicology (5) Pedagogy (6) Performance (7) Orff-Schulwerk (8) Conducting	Master of Music (MMu)
		(1) Composition (2) Performance	Doctor of Musical Arts (DMA)

		(3) Conducting (4) Music Theory	
		Music Education Musicology	Doctor of Philosophy (PhD)
Theatre and Dance	Theatre		Master of Fine Arts (MFA)
Interdisciplinary (Art and Anthropology)	Museum Studies		Graduate Certificate

Individual program requirements described in The University of Memphis Graduate Catalog, 2008-2009, are subject to change. Please consult your graduate advisor for the latest catalog updates. 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).

COMMUNICATION/FINE ARTS (CCFA)

6001. Arts in the Schools Institute. (1). Provides an opportunity to discover and explore impact of aesthetic education. Students view performances and exhibits and experience exploratory workshops by teaching artists.

[Introduction](#) | [Academic Services](#) | [Admissions Regulations](#) | [Academic Regulations](#)
[Minimum Degree Requirements](#) | [Appeals Procedures](#) | [Degree Programs & Courses](#) | [Expenses](#)
[Graduate Assistantships & Fellowships](#) | [Research Facilities](#) | [Residency Classification](#)
[University Administrators](#) | [University Calendar](#) | [Graduate School](#) | [U of M Home](#)

ARCHITECTURE

Room 404, Jones Hall

(901) 678-2724

MICHAEL D. HAGGE, MArch, MCRP
Chair

SHERRY BRYAN, MArch
Coordinator of Graduate Studies
901-678-3302

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<http://architecture.memphis.edu>

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 US 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 the conformance with established educational standards.

Master's 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 NAAB grants candidacy status to new programs that have developed viable plans for achieving initial accreditation. Candidacy status indicates that a program should be accredited within 6 years of achieving candidacy, if its plan is properly implemented.

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.

A. Program Admission

In addition to application to the Graduate School, all persons making application to the MArch 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 January 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.
 - a. 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 before being admitted to the MArch degree program:
 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), 9 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), 24 semester hours
 - b. 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 an NAAB-accredited professional undergraduate degree in architecture. Registration as an architect in the United States may be substituted for the professional degree.

C. Program Requirements

1. A total of 60 semester hours, including 6 hours of thesis studio
2. A minimum of 42 semester hours at the 7000 level, including no more than 6 semester hours of thesis
3. A total of 36 semester hours of Architecture core courses, including 18 semester hours of advanced architectural design studios, 9 semester hours of architectural seminars, and 9 semester hours of architectural theory and advanced professional and technical courses
4. A minimum of 2 semester hours of Architecture Thesis Research and 6 semester hours of Architecture Thesis Studio. Thesis must be approved by a faculty committee.
5. 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 graduate programs accredited by the National Architectural Accrediting Board, a maximum of 24 semester hours in architecture course work may be approved.

ARCH (ARCHITECTURE)

NOTE: The ARCH courses below require a \$20 per credit hour materials fee.

Architecture Core Curriculum

6022. Architecture and 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. COREQUISITE: ARCH 4822/6822.

6822. Architecture and 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. COREQUISITE: ARCH 6022.

7011. Advanced Architectural 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.

7012. Advanced Architectural Design Seminar II. (3). Offered in conjunction with 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.

7211. Contemporary Architectural 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.

7421. Advanced Environmental Systems. (3). Advanced principles, appropriate applications and performance of environmental systems; accoustical, lighting, climate modification systems, and energy use integrated with the building envelope. PREREQUISITE: ARCH 3421 (or approved equivalent) or permission of instructor.

7431. Advanced Professional Practice. (3). Basic principles and legal aspects of practice organization, financial management, business planning, time and project management, risk mitigation, mediation and arbitration; trends affecting practice such as globalization, outsourcing, project delivery, expanded practice settings, diversity, and others. PREREQUISITE: ARCH 3431 (or approved equivalent) or permission of instructor.

7711. Advanced Architectural Design Studio I. (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.

7712. Advanced Architectural Design Studio II. (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.

◆7930. Architectural Thesis Research. (3). Study and 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 proposal. PREREQUISITE: Permission of instructor.

◆7996. Architectural 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.

Architecture Electives

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.

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.

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.

6451. Site and 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.

6510-6519. Special Topics. (1-3). Topics are varied and announced in online class listings. May be repeated for a maximum of 6 hours when topic varies. PREREQUISITE: Permission of instructor.

6613. Computer Applications in Architecture III. (3). Advanced design, modelling, and analytical concepts using various computer software programs. PREREQUISITE: Permission of instructor.

6811. Parameters in 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.

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.

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.

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.

◆7021. Architecture 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 S, U, or IP will be given.

◆Grades of A-F, or IP will be given.

ART

Room 201, Jones Hall
(901) 678-2216

RICHARD A. LOU, MFA
Chair

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I. The Department of Art offers the Master of Arts degree with a major in Art History and concentrations in Egyptian Art and Archaeology or General Art History; and the Master of Fine Arts with a major in Art and concentrations in Ceramics, Graphic Design, Interior 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.

II. MA Degree Program

Program objectives are: (1) assimilation and application of art historical methodologies to individual research; (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. Admission to the Graduate School: Applications received after April 1 cannot be guaranteed consideration for the Fall semester.
2. For the concentration in General Art History, an undergraduate course in each of the major areas of art history is desirable: 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.
6. For those seeking graduate assistantships, the deadline for submission of all materials is February 15.

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.
4. The qualifying examination in art history shall be successfully completed and identified deficiencies removed. For a concentration in General Art History, this test is an entry-level slide identification examination covering key monuments of Western art from ancient through modern times. For a concentration in Egyptian Art and Archaeology, this test is an entry-level slide identification examination covering key monuments of ancient Egyptian art and an entry-level examination in Middle Egyptian.
5. Knowledge of an appropriate foreign language must be demonstrated by the student. Generally speaking, advanced studies in art history require proficiency in at least one foreign language, depending upon the area of concentration selected by the student. Foreign language proficiency must be demonstrated by successfully passing an examination administered by the Department of Art; this examination should be taken during the first year of graduate study. This examination is set up so that each student is given a standard amount of time to translate in writing with the aid of a dictionary selected passages from scholarly articles in the student's field. For a concentration in Egyptian Art and Archeology, French or German is preferred.
6. 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 12 hours each semester, 3 of which may be chosen from ART 7880 or 7881.

C. Program Requirements

1. A total of 30 semester hours including the thesis.
2. The completion of ARTH 6123 and 7130.
3. A minimum of 18 semester hours in art history (not including the required ARTH 6123, 7130 or any hours in ARTH 7996).
4. Twenty-one semester hours of 7000 level courses, including no more than 3 credit hours for the thesis.
5. 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.
6. The satisfactory completion of a comprehensive examination and an acceptable thesis, with presentation and defense. NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write the thesis.
7. Graduate Assistantships. Students with assistantships are required to take 12 hours each semester, 3 of which must be from ART 7880 or 7881. Assistantships are renewed based on the following:
 - a. 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.
 - b. 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 exam.
 - c. Students who fail to successfully complete these examinations by March 15 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:

- a. Graphic Design: 20-30 slides of original and/or printed works. Submission of original work may be requested.
 - b. Interior Design: 20-30 slides of drawings, perspectives, renderings, plans, elevations, etc.
 - c. Ceramics, Painting, Printmaking/ Photography, and Sculpture: 20-30 slides 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.
 4. Deadline: All University and Department of Art MFA application materials are due February 15 for Fall admission and assistantship consideration.
 5. Address: Send slides, 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 12 hours each semester, 3 of which may be chosen from ART 7880 or 7881.

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 and Interior 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.
3. Students applying to the program in Interior Design are required to have completed an undergraduate degree in interior design or architecture. In addition, a minimum of two years full-time professional experience in either field, after completing the undergraduate degree, is strongly recommended.

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 and Interior Design: The student must commit to full-time study for a minimum of two successive semesters after admission to either design 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:
 - a. transcript of undergraduate degree program and transcripts of prior and current graduate study;
 - b. three letters of recommendation; and
 - c. 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 (lluebbers@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.

ART (ART)

NOTE: The ART courses below require a \$20 per credit hour materials fee.

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.

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.

6211. Writing and the 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.

6221. Graphic Design for Print Communications. (3). Practical problems in the areas of publication, information, corporate, and promotional design. PREREQUISITES: ART 3213 and 3222 or permission of instructor.

6222. Interactive Multimedia for Graphic Design. (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.

6223. Specialized Studies in Graphic Design. (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.

6224. History of 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.

6233. Design Practice Studio. (3). Faculty supervision on projects for institutional and corporate clients; development of publications, exhibits, signage and other graphics, and participation in professional design process from project inception to completion. May be repeated for a maximum of 12 credit hours with approval of the advisor.

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.

6321. Drawing and Painting I. (3). An advanced course in drawing and painting methods with emphasis on transparent watercolor.

6322. Drawing and Painting II. (3). A continuation of Art 6321 with attention given to various mixed media.

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.

6332. Painting IV. (3). A continuation of Art 6331 with emphasis on development of a personal style.

6333. Painting V. (3). Continuation of ART 6332; emphasis on development of personal style. PREREQUISITE: ART 6332 or permission of instructor.

6351. Advanced Printmaking I. (3). Specialization in one or two printmaking media with emphasis on development of personal imagery and technical skills.

6352. Advanced Printmaking II. (3). Advanced work in one or two printmaking media with continued development of personal imagery and advanced technical skills.

6353. Computer Imaging in Printmaking and Photography 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.

6354. Computer Imaging in Printmaking and Photography 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.

6410. Art Education Independent Study. (1-3). Theoretical and pragmatic ideas relevant to teaching of art. May be repeated for a maximum of 6 credit hours.

6511. Sculpture IV. (3). Advanced work in various sculptural media.

6512. Sculpture V. (3). A continuation of ART 6511 with emphasis on personal expression.

6521. Ceramics III. (3). Introduction to pottery-making, including hand forming and production processes using clays, plaster, and cements.

6621. Workshop in Art I. (1-3). Specific art problems as they apply to individual student; emphasis on basic art concepts and creative experience.

6622. Workshop in Art II. (1-3). Continuation of ART 6621, providing study of problems appropriate to needs of individual student.

6641. Study and Travel in Art. (3 or 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.


6650. Professional 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.

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.


6702. Photographic Materials and Processes. (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.

6703. Alternative Photographic Processes. (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.

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.

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.

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.

 7040. Problems in Graphic Design: Methodology and Practice (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.

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.

◆**7201-8201. Advanced Research in Photography. (3).** Independent work and research in photography. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor.

7240. Visual Communication Research Topics. (3). Group discussion and criticism of individual study problems; emphasis on independent studio research projects as related to general topic in visual communication.

◆**7330-8330. Studies in Two-Dimensional 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.

7411. Methods for Elementary 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.

7420. Methods for K-12 Art Instruction. (2). Instructional planning, implementation, and evaluation applied to elementary and secondary school art programs.

7421. Positive Youth Development through the Arts. (3). Introduction to an asset or strength-based model for promoting positive youth development; investigates exemplary models of collaborative, interdisciplinary, cross-cultural creative arts programs for urban youth; students submit a process portfolio documenting their experiences. PREREQUISITE: Permission of instructor.

7423. Methods for Arts in Secondary 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.

7441. Art Education Professional 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.

◆**7550-8550. Studies in Three-Dimensional 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.

7640. Studies in Computer Animation. (3). Advanced techniques and principles of visual communication in the video animation format. PREREQUISITE: permission of instructor.

◆**7651. Graduate Studio Seminar. (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.

◆**7660-8660. Directed Individual 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.

◆**7710. Independent Studies in Black and White Photography. (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.

7711. Advanced Photography Seminar. (3). (6711) 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.

7712. Photography Portfolio Seminar. (3). (6712) Student must produce a book of photographs or portfolio (bound by student) that represents a coherent, in-depth picture statement. REREQUISITE: ART 7711.

◆**7770. Studies in 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.

◆**7880. Teaching Art for Graduate Assistants (1-3).** Overview and practical demonstrations of the art of teaching Art. Required of all graduate teaching assistants. May be repeated for a maximum of 3 credits.

◆**7881. Workshop in Art for Graduate Assistants (1-3).** Presentation of research methods and scholarly output by faculty, graduate students, and visiting scholars. May be repeated for a maximum of 3 credits.

◆**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.**

◆ **Grades of A-F, or IP will be given.**

ART HISTORY (ARTH)

NOTE: The ARTH courses below require a \$20 per credit hour course fee.

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.

6111. Art and Archaeology of Egypt. (3). Pre-dynastic to Late Period.

6112. Egyptian Art and Archaeology in the Old and Middle Kingdoms. (3). Art, architecture, and archaeology, 3000-1500 BC.

6113. Egyptian Art and Archaeology in the New Kingdom and Late Period. (3). Art, architecture, and archaeology, 1500 BC. to 642 AD.

6121. Ancient Art of the Near East. (3). Architecture, sculpture, painting, and the minor arts in Mesopotamia, Anatolia, and Syria-Palestine.

6123. Greek Art. (3). Architecture, sculpture, and painting from the Bronze Age to the end of the Hellenistic period.

6124. Roman Art. (3). Architecture, sculpture, and painting from Etruscan Rome to the fall of the Empire.

6125. Art and Archaeology of Pompeii. (3). Pompeii's excavations, art, artifacts, and architecture in reconstructing ancient Roman daily life.

6129. Studies in Ancient and Medieval Architecture. (3). Selected topics comparing the architecture of ancient Egypt, the Classical world, and Medieval Europe.

6130. Art of the Medieval World. (3). Architecture, sculpture, and painting, including manuscript illumination, of the Middle Ages; includes Western European and Byzantine traditions.

6131. Art of the Early Middle Ages. (3). Advanced study of the architecture, sculpture, and painting of early medieval period.

6134. Art of the High Middle Ages (3). Advanced study of the architecture, sculpture, and painting, including manuscript illumination, stained glass, and ivories, of Romanesque and Gothic periods.

- 6141. Art of the Early Renaissance in Italy. (3).** Survey of the architecture, sculpture, and painting of Italy, 1300-1510.
- 6142. Northern Renaissance Art. (3).** Fifteenth century art in Northern Europe with emphasis on panel painting, manuscript illumination, and printmaking.
- 6143. Art of the High Renaissance in Italy. (3).** Sixteenth century art in Italy, highlighting the works of Michelangelo, Raphael, Titian, and the Mannerists.
- 6146. Baroque Art. (3).** Historical study of the architecture, sculpture, and painting produced in Europe during the seventeenth century.
- 6148. Neo-classicism and Romanticism. (3).** Western European art, ca. 1760-1850, emphasizing painting, sculpture, and art theory. PREREQUISITE: ARTH 2102 or permission of instructor.
- 6149. Realism and Impressionism. (3).** Western European art, ca. 1850-1880, emphasizing painting, sculpture, and art theory. PREREQUISITE: ARTH 2102 or permission of instructor.
- 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.
- 6153. Cubism through Surrealism. (3).** Modern European art movements from ca. 1905 to World War II; covers Cubism, Expressionism, Surrealism. PREREQUISITE: ARTH 2102 or permission of instructor.
- 6155. High Modern Art. (3).** American and European art and art theory, emphasizing the development of modernism. PREREQUISITE: ARTH 2102 or permission of instructor.
- 6157. Contemporary Art: Theory and Criticism. (3).** Historical movements, theory, and criticism from 1968 to the present. PREREQUISITE: ARTH 2102 or permission of instructor.
- 6158. Modern Architecture. (3).** 19th century styles, 20th century masters, contemporary developments in architecture, including historic preservation.
- 6160. Architecture and 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.
- 6162. Latin American Art. (3).** Hispanic arts of the Americas from 1500 to the present, considered in relation to Iberian and Indian traditions.
- 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.
- 6166. Social 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.
- 6181. Traditional Arts of Africa, Oceania, and North America. (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.
- 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.
- 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.
- 6381. Art Curatorial Techniques. (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.

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.

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.

6662. Museum Exhibitions. (3). (Same as ANTH 6662). Museum exhibition methods and theory, including research, design, layout, object selection and handling, installation, public programming, and evaluation. PREREQUISITE: Permission of instructor.

6721. History of Photography I. (3). Survey of the history and theory of photography since its invention in the 19th century.

6722. History of Photography II. (3). Historical and critical issues in photography from World War I to present.

7030-39/8030-39. Special Topics in Art History. (1-3). Topics are varied and announced in online class listings. May be repeated to maximum of 9 hours when topic varies.

7110. Advanced Individual Study in Art History. (3). Historical periods of art history with emphasis on individual research. May be repeated for credit when topic varies. PREREQUISITE: permission of instructor.

7115. Middle Egyptian I. (3). Grammar and translation of hieroglyphs.

7116. Middle Egyptian II. (3). Readings in hieroglyphs. PREREQUISITE: ARTH 7115 or equivalent.

7117. Middle Egyptian Literature. (3). Readings and translations of major literature of Ancient Egypt. PREREQUISITE: ARTH 7116 or equivalent.

7118. Middle Egyptian Historical Texts. (3). Readings and translations of ancient Egyptian works of history. PREREQUISITE: ARTH 7116 or equivalent.

7119. Late Egyptian. (3). Readings in literature and other texts. PREREQUISITE: ARTH 7116 or equivalent.

7120-8120. 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.

7121-8121. 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.

7125-8125. Egyptian Art and Archaeology. (3). Topics and problems in Egyptian art and archaeology. May be repeated for a maximum of 12 hours when topic varies.

7130-8130. Art History Methods and Professional Practice. (3). History of the discipline along with current research methods. Students develop research presentations in oral and written formats.

7140-8140. Renaissance Art. (3). Selected areas or specific problems of Renaissance Art. May be repeated for a maximum of 12 hours when topic varies.

7150-8150. Nineteenth Century Art. (3). Selected areas or specific problems in Nineteenth Century Art. May be repeated for a maximum of 12 hours when topic varies.

◆ **7152-8152. Twentieth Century Art. (3).** Selected areas or specific problems in Twentieth Century Art. May be repeated for a maximum of 12 hours when topic varies.

◆ **7165-8165. American Art: Ancient to Modern. (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.

◆ **7660-8660. Directed Individual Study. (1-12).** Individual investigation of special research problems or projects. May be repeated upon recommendation of advisor.

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.

7662. Museums and Communities. (3). (Same as ANTH 7662). History and theory of museums, governance, audiences, and current topics in the profession. PREREQUISITE: Permission of instructor.

◆ **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.

◆ **7880-8880. Teaching Art History for Graduate Assistants (1-3).** Overview and practical demonstrations of the art of teaching Art. Required of all graduate teaching assistants. May be repeated.

◆ **7881-8881. Workshop in Art History for Graduate Assistants (1-3).** Presentation of research methods and scholarly output by faculty, graduate students and visiting scholars. May be repeated.

◆ **7996 Thesis. (1-6).** Preparation and defense of a thesis prepared under direction of major professor. Studio Art thesis requires an exhibition.

INTERIOR DESIGN (IDES)

6430. Interior Design Internship. (3). Supervised apprenticeship in interior design industry. Placement requires approval of interior design faculty. PREREQUISITE: IDES 3711.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

COMMUNICATION

Room 143 Theatre and Communication Building
(901) 678-2565

MICHAEL LEFF, PhD
Chair

SANDRA SARKELA, PhD
Coordinator of Graduate Studies

E-mail: comdept@cc.memphis.edu
ccfa.memphis.edu/communication.htm

I. The Department of Communication awards the Master of Arts degree with a major in Communication and concentrations in Communication or Film and Video Production. The department also awards the PhD degree 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.

1. The concentration in communication provides students with fundamental grounding in communication theory and rhetorical theory. The program is then tailored to meet the needs and interests of individual students.
2. The concentration in film and video production 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.

Program objectives are: (1) advanced understanding of classical rhetorical social science research tradition, and the dominant thinkers, theories, and methods current in the field; (2) practice of effective communication education; and (4) ability to conduct and communicate scholarly research.

A. Admissions Criteria

1. All students applying for admission are required to submit Graduate Record Examination (GRE) verbal and quantitative scores. In addition to meeting university admission requirements, the department uses the following criteria in consideration of applications:
 - a. in general, a verbal score of 500 and a quantitative score of 450 or more on the GRE;
 - b. an undergraduate GPA of 3.0, a GPA of 3.2 for the last 60 credit hours, or a GPA in the major of 3.25;
 - c. if English is a second language, a TOEFL score of 600 (or 250 on the computer-based TOEFL) and a TSE score of 280.

If the candidate does not meet the above criteria, but has an undergraduate GPA for the last 60 hours of at least 2.7 and a combined GRE of at least 900 (TOEFL and TSE scores remain the same), the application will be referred to the departmental graduate studies committee for consideration. In such cases, additional materials may be sought from the applicant. Candidates with a combined GRE below 900 or a GPA for the last 60 hours of undergraduate work below 2.7, or, if English is a second language, a TOEFL score below 600 or a TSE score below 280, will not be admitted.

B. Initial Graduate Advising

Before registering for courses beyond 9 hours of study, the student will form an MA advisory program

committee consisting of at least two members of the department's graduate faculty. One of these two (who must be a full member of the graduate faculty), by request of the student and the consent of the faculty member, will serve as committee chair. These two members will assist the student in identifying a third member to be added before registering for courses beyond 18 hours of study.

C. Formation and Conduct of Master's 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 committee approval.

D. Program Requirements

1. Successful completion of a minimum of 36 hours of graduate courses; 70% of the minimum must be at the 7000 level or above. The thesis, special project, and practicum, should a student choose one of these options, all carry academic credit, which count toward the minimum 36-hour requirement.
2. Completion of the degree requires one of the following options; however students in Film and Video Production must complete option c, A Special Project:
 - a. A 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.
 - b. A thesis and oral comprehensive examination. After completing a minimum of 18 hours of study and prior to starting a thesis, the student will form an MA thesis committee consisting of at least three members of the department's graduate faculty. One of these three, by request of the student and the consent of the faculty member, will serve as committee chair. Three to six hours of 7996 are required. 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 thesis committee. The thesis, defense, and examination must be acceptable to all members of the committee and recommended to the Graduate School after a successful defense.
 - c. A special 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 three credits of 7993 or 7994 during or after the last semester of course work. The special project provides an opportunity for students to demonstrate the ability to work independently, as well as their mastery of an area of concentration in an applied form approved by their committee. The project may take one of several forms, such as an original screen play, a quantitative or qualitative study, or a film or video production. On completion of the special 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 committee. The project, defense, and examination must be acceptable to all members of the student's MA committee.
3. All students must successfully complete two of the following core courses: COMM 7321 Communication Theory, COMM 7350 Rhetorical Theory, or COMM 7804 Seminar in Media Theory and Criticism.
4. All students with a concentration in Film and Video Production must take 3 credits of COMM 7892 Film and Video Production before beginning their final special project.
5. Up to 9 hours outside the department may be applied to the minimum hour requirement with the approval of the student's MA committee.
6. Up to 6 semester hours earned at another institution may be applied to the minimum hour requirement with the approval of the student's MA 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. All assistants must register for 12 hours of credit (or for 6 hours if enrolled in thesis or dissertation hours only). It is advised that 3 of these be chosen from COMM 7001, 7002, or 7003.

F. Time Limitation

All requirements for the degree must be completed in 6 calendar years.

II. Departmental MA Guidelines

Additional details and information are available in the departmental MA Guidelines given to students following admission.

III. PhD Program

A. Introduction

The PhD program in the Department of Communication at The University of Memphis provides fundamental grounding in the theory and practice of communication, media, and rhetoric as directed toward a variety of contexts, especially that of the urban environment.

B. Program Admission

The Department uses the following criteria in consideration of applications:

1. Fulfillment of university requirements for admission to the graduate school and a verbal score of 500 and a quantitative score of 450 or more on the GRE. If English is a second language, a TOEFL score of 600 (or 250 on the computer-based TOEFL) and a TSE of 280 are required.
2. MA or other advanced degree from an accredited institution. The MA thesis or other evidence of scholarly writing must be provided with the application.
3. Three letters of recommendation submitted by persons competent to judge the applicant's academic record and potential for advanced graduate work.
4. Transcript of prior academic work at the undergraduate and graduate levels. Individual copies should be sent to the Graduate School and to the department's coordinator of graduate studies. A minimum graduate GPA of 3.5 for the MA (on a 4-point scale) is expected.
5. A vitae/resume.
6. A statement of purpose that explains the applicant's reasons for seeking the doctoral degree from the Department of Communication at The University of Memphis.

C. Retention Requirements

A student will be retained continuously in the program within university time limits until completion of the degree, provided the following conditions are met.

1. It is expected that students maintain a GPA of 3.5 throughout the PhD program. Should the student's GPA fall below 3.5, 9 semester hours will be allowed to correct the deficiency. At the request of the student's PhD committee and at the discretion of the department chair and the graduate program committee this period may be extended 9 additional semester hours. The student must have obtained a GPA of 3.5 before registering for dissertation credit hours. A student who falls behind the satisfactory progress schedule may be put on probation. Any assistantship is forfeited if a student is put on probation.
2. After being notified by the Graduate School of acceptance as a graduate student in the department, the student will meet with the coordinator of graduate studies or the department chair, who will assign the student a temporary advisor in the student's area of interest. That advisor will assist the student in registering for the first semester.

3. Before registering for courses beyond 9 hours of study, the student will select a temporary PhD program advisory committee of at least 3 members. That committee will assist the student in registering for the first semester.
4. Before registering for courses beyond 18 hours of study the student must form his or her PhD program advisory committee consisting of a chair and at least three other members, of which one must be from outside the Department of Communication. Three members of the committee must be members of the Graduate Faculty and the chair must be a full member. See the Graduate Catalog for graduate faculty listings.
5. Students are expected to demonstrate satisfactory progress in fulfilling the graduation requirements.

D. Graduation Requirements

1. Students must earn at least 60 semester hours beyond the master's degree as approved by their PhD committee, including a minimum of 15 hours for combined major area paper and dissertation credits and a minimum of 6 hours taken from outside of the Department of Communication.
2. Research Tool or Analytic Specialty. Students must demonstrate mastery in a research tool or analytic specialty. Examples of research tools or specialties include facility in a foreign language, qualitative or quantitative methodologies, rhetorical criticism, knowledge of a body of communication law, or computer programs or techniques. A minimum of 9 hours of graduate work is necessary to meet this requirement.
3. Core Competencies. Students must have competency in three areas: Communication Theory, Media Theory, and Rhetorical Theory. These competencies can be satisfied academically in a variety of ways in consultation with the student's advisor.
4. 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.
5. Comprehensive Examination. The examination will consist of a written and an oral portion. At the completion of the student's course-work (at least 45 hours), 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 committee within the following parameters:
 - a. At least 2 hours of the written exam will be devoted to theoretical issues;
 - b. At least 2 hours to research tool or analytic specialty issues;
 - c. The remaining hours will be divided among themes pertinent to the student's specialization, including cognate areas of study; and
 - d. When appropriate, questions may be solicited from other faculty members to supplement those provided by the PhD 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 committee administers the comprehensive examination. At the close of the oral portion, the PhD 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.
6. Dissertation Requirements
 - a. 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 student's dissertation committee. It is recommended that one member of the committee 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.
 - b. Dissertation Proposal Defense. The student shall submit a proposal for the dissertation to the dissertation 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.

- c. **Dissertation Defense.** The dissertation director will circulate a complete draft of the dissertation to all committee members, who will be given the opportunity to provide feedback. If need be, the student will then write a revised dissertation, approved by the dissertation director, and circulated to all committee members. This process will continue until a majority of the dissertation 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 committee, the dissertation will be submitted to the Graduate School for final approval and the degree awarded.
7. **Departmental PhD Guidelines.** Additional details and information are available in the departmental PhD Guidelines given to students after admission into the program.

COMMUNICATION (COMM)

- 6011. Communication in Organizations. (3).** Communication systems and problems in contemporary organizations with emphasis on the role of communication in corporate culture and in organizational change.
- 6012. Health Communication. (3).** Examination of the role of communication in health care; application of communication theory and practice to the health care context from provider-patient interaction to cultural influences on health.
- 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.
- 6014. Computer-Mediated Communication.(3).** Examination of theories of computer-mediated communication in interpersonal relationships and organizations, and the role and impact of the Internet and computer technology in society.
- 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.
- 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.
- 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.
- 6341. Interpersonal Communication. (3).** Theory, research, and practice regarding dyadic communication.
- 6342. Small Group Communication. (3).** Advanced study of group communication theory emphasizing group membership, member perceptions, group development, group process, and group outcomes.
- 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.
- 6363. Dialogue. (3).** Theoretical, philosophical, and practical exploration of dialogic communication and relations.
- 6364. Voices of 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.
- 6365. Place, Community, and Communication. (3).** Explores interrelationships among human

interaction, created places, and the natural world; emphasizes communication environment, broadly conceived, and its effects on community.

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.

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.

6380. Communication and Conflict. (3). Theories and methods of conflict management and resolution, focusing on practical communication skills; emphasis on concepts of perception, listening, and peacemaking.

◆6802. Internship. (1-3). 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.

6810. Broadcast Regulation and Program Policy. (3). Effects of FCC and other governmental regulations on broadcasting and electronic media management and operations; licensing, renewals, content control, politics, and copyright.

6811. Radio and Television Programming. (3). Analysis of individual program formats (with examples); use of this information along with ratings and other audience research to study the design of program schedules.

6812. Communications Law in the Performing Arts. (3). Artist, performer, management contractual relationships; acquisition, copyright, and disposition of literary and audio-visual properties; production and distribution agreements; advertising law and other matters for TV, motion picture, radio, and stage businesses.

6822. Audio Production for Broadcasting and Film. (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.

6824. Cinematography/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.

6825. Editing and 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.

6831. Broadcast and Cable Sales and Advertising. (3). Relation of broadcasting and cable sales and advertising to networks, station representatives, and salespeople; role of sponsors, agencies, and allied groups.

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.

6842. Television Studio Production II. (4). Advanced training in TV studio/multiple camera techniques; extensive production work. PREREQUISITE: COMM 3842.

6850. Film History I. (3). (6852). Historical survey of motion pictures from medium◆s pre-history to 1940 with emphasis on narrative film.

6851. Film History II. (3). Historical survey of major movements, genres, and themes in narrative film from 1940 to 1960.

6853. Documentary Form in Film. (3). Development of non-fiction film as rhetorical and expressive form; analysis of individual films, genres, and filmmakers.

6854. Documentary Form in Broadcasting. (3). History, theory, and criticism of non-fiction broadcasting, including docudrama and television documentaries.

6856. Women and Film. (3). Women as performers, viewers, subjects, and creators in American and international film.

6857. History of Broadcast and Electronic Media. (3). Comprehensive history of broadcast and electronic media as developed from 1895 to present.

6858. Contemporary Cinema. (3). Major themes and styles in international and American narrative film from 1960 to present.

6871. Broadcast and Cable Management. (3). Theories of management; special problems and situations confronting managers of broadcast and cable outlets, including personnel, engineering operations, programming, and sales functions. PREREQUISITE: COMM 3800.

6891. Producing and Directing for Film and Video. (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.

6960. Documentary Writing. (3). Writing for nonfiction media.

6970. Screenwriting. (3). Writing for fiction film and television. Basic dramatic theory, narrative structure, characterization, dialogue, adaptation and unique demands of audio/visual media.

◆7001-8001. Research Assistantship. (3). Assisting professors with research projects. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Graduate research assistant status in Department of Communication.

◆7002-8002. Intermediate Teaching Techniques for Graduate Assistants. (3). Overview and practical demonstrations of the art of teaching oral communication; discussion of instructional issues including the role of race, ethnicity, and nationality in classroom interactions. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Graduate teaching assistant in Department of Communication.

◆7003-8003. Advanced Teaching Techniques for Graduate Assistants. (3). Discussion of pedagogy for the traditional classroom and other instructional settings (e.g corporate training); may include interning in and teaching courses in addition to oral communication. May be repeated for a maximum of 12 credit hours. PREREQUISITE: Graduate teaching assistant in Department of Communication.

7012-8012. Seminar in Health Communication. (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.

7013-8013. Seminar in Political Communication. (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.

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.

7321-8321. Communication Theory. (3). Theories, models, and approaches to study of communication.

7322-8322. Persuasion and Interpersonal 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.

7331-8331. Seminar in Communication Theory. (3). Specific topics, issues, and research in communication theory. May be repeated for a maximum of 9 hours credit.

7332-8332. Seminar in Communication 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.

7350-8350. 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.

7362-8362. Seminar in 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.

7369-8369. Seminar in Organizational 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.

7371-8371. Rhetorical Criticism. (3). (Same as ENGL 7371-8371). Examines principal modes of contemporary rhetorical analysis. PREREQUISITE: Permission of instructor for non-degree-seeking students.

◆7374-8374. Independent Studies in Communication Arts. (1-3). Independent research in areas of special interest including rhetoric, radio, television, and film. May be repeated for a maximum of 9 hours. PREREQUISITE: Permission of the instructor.

7432-8432. Quantitative Research Methods. (3). (Same as ENGL 7432-8432). Survey of quantitative research in communication; practical experience in collecting and analyzing quantitative information.

7434-8434. Qualitative Research Methods. (3). Survey of qualitative research in communication. Practical experience in collecting and analyzing qualitative information.

7450-8450. Seminar in Interpersonal Communication. (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.

7460-8460. Seminar in Group Communication. (3). Examination of the theoretical and methodological approaches to the study of group communication focusing on both the task and relational orientations of group interaction. May be repeated for a maximum of 9 hours credit.

7472-8472. Organizational Culture and Change. (3). Examination of the wide variety of theoretical and methodological approaches to culture, identification of types of organizational cultures, and tracking cultural evolution.

7474-8474. Supervisory Communication and Leadership. (3). Examination of the communication issues, strategies, and concepts involved in supervisory communication effectiveness. Review of current research regarding supervision, leadership, and teams.

7616-8616. Contemporary Rhetorical Theory. (3). Examines the relationship between rhetorical

theory and contemporary philosophy, especially poststructuralism, neo-pragmatism, and hermeneutics.

7621-8621. Seminar in 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.

7632-8632. Seminar in Rhetorical Criticism. (3). Examination of the principal modes of contemporary rhetorical analysis such as Neoclassical, Burkean, Feminist, Cultural/Critical, and Poststructuralist. Repeatable for 9 hours.

7802-8802. Seminar in 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.

7804-8804. Seminar in Media Theory and Criticism. (3). Major critical approaches to media form and content; emphasis on film and television. May be repeated for a maximum of 6 hours.

7806-8806. Seminar: Trends in Mass Communication. (3). Critical issue or issues facing communications today. Topics will vary each time offered. May be repeated for a maximum of 6 credits.

7808-8808. Seminar: Mass Communication and 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.

7809-8809. Seminar in Communication History. (3). Selected topics in history of communication, including public address, film, broadcasting, and electronic media. May be repeated for a maximum of 6 hours.

7815-8815. Seminar in History of 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.

7819-8819. Rhetoric of Science. (3). (Same as ENGL 7819-8819). Examines traditional equation of science with knowledge and process by which historically based case studies of science writing and studies of technology can yield insight into the rhetorical dimensions of science.

7820-8820. 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.

◆**7892. Film and 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.

7991. Seminar in 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.

◆**7993-8993. Special Problems. (1-3).** Directed individual investigation of special research projects not included in thesis.

◆**7994-8994. Culminating Project. (3).** Culminating research project in lieu of a thesis.

◆**7995-8995. 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.

◆ **7996. Thesis. (1-6).**

◆ **8992. Pro-Seminar. (3-6).** Preparation of prospectus for doctoral dissertation; topic will be approved by student's advisory committee. Specific course requirements vary depending on nature of topic, research methodology, and progress toward completion. Students must complete at least 3 credit hours of this course to be eligible to take qualifying examinations.

◆ **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.**

◆ **Grades of A-F, or IP will be given.**

JOURNALISM

Room 300, Meeman Journalism Building

JAMES REDMOND, PhD
Chair

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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.

II. MA Degree Program

Students in the MA program may take courses in advertising, journalism, and public relations in keeping with their needs and interest. The programs are designed for practicing professionals and those who anticipate completing doctoral programs. The residential program can accommodate those who are planning a career change. The on-line program is for mass communication professionals who are already working in the field. Students should consult with the coordinator of graduate studies and with faculty advisors in designing individual curricula.

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. All applicants must meet admission requirements of the Graduate School plus the following admission standards set by the Journalism Department:

1. An undergraduate grade-point average of at least 3.0 (A=4.0) in all course work. Exceptions to this requirement will be considered.
2. An undergraduate degree in journalism from an accredited postsecondary institution or another degree from an accredited institution plus significant professional experience in advertising, broadcasting, journalism, or public relations.
 - a. Candidates who lack the degree or significant professional experience will be required to complete undergraduate coursework to remedy their deficiencies.
 - b. Journalism master's students may apply up to nine hours of graduate credits earned while in non-degree seeking status at the University of Memphis.
3. A score of 480 on the Verbal component and a score of 420 on the Quantitative component of the Graduate Record Examination (GRE), or a score of 396 (40 on old scale) on the Miller Analogies Test (MAT). Applicants with lower test scores may be considered.
4. In addition, applicants will submit to the department:
 - a. A statement of 500 to 1000 words indicating the academic program for which the individual is applying and specifying his or her career goals
 - b. A resume

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 of 3.0 or better. Course work taken outside the department must be approved by the student's advisor. Residential students are required to take two courses (6 hours) outside the department. Exceptions are considered for residential students who already possess a diverse background or who lack an undergraduate degree in journalism or media-related field.

Students with a strong background in journalism may elect to add a cognate area to their journalism degrees to prepare themselves for speciality areas of the journalism profession, e.g., biomedical journalism or journalism administration. Students must submit written program plans to the graduate faculty for approval before the speciality courses are taken. The cognate will consist of not more than four courses (12 hours) within the specialty. The MA with specialty may not be combined with the project or thesis option.

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 7025, 7050, 7075, and 7100 plus additional course work approved by the student's advisor to meet specified credit hour totals. No more than three hours in either JOUR 7700 or JOUR 7800, 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.
3. Comprehensive Examination. Students may satisfy this requirement by doing one of the following options:
 - a. successfully completing and defending a thesis;
 - b. successfully completing and defending a professional project;
 - c. successfully completing and defending a paper that has been accepted for publication by a refereed journal or accepted for presentation at an academic or professional conference.
4. Master's Thesis. Students who anticipate continuing with doctoral study should complete an independent research project culminating in a master's thesis. Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write the thesis. 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.
5. Professional Projects (JOUR 7998. Professional Project). Practicing professionals seeking master's degrees to enhance career progress may complete a professional project under the direction of a faculty committee. 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.
6. Each student is responsible for obtaining a copy of the Master of Arts in Journalism Student Handbook from the coordinator of graduate studies or the department [Website](#). The document answers most questions about the program.

JOURNALISM (JOUR)

6120. Reporting Public Issues. (3). Analyzing and writing news reports about government, courts, energy, economy, taxes, education, environment, medicine, and science; emphasis on relationship between current issues and public's need to be informed; and on topics vital to large, urban society.

PREREQUISITE: JOUR 3120, or permission of instructor.

6124. Computer-Assisted Reporting. (3). Advanced use of computer technology and investigative techniques to access, analyze, and develop database information in combination with traditional news reporting. PREREQUISITE: JOUR 3120 or permission of instructor.

6140. Publication Design and Production. (3). Basic principles of design and production for newspapers and magazines, including typography, story and page design, and graphics; dealing with copy, images, and infographics and presenting them in a clear, well-organized way; learning to write headlines, titles, subheads, captions, and other copy. PREREQUISITES: JOUR 3130 and 3526, or permission of instructor.

6328. Strategic Advertising Campaigns. (3). Development of creative strategy and its execution to include layouts, audio tapes, slide shows, storyboards, and sales promotion application. NOTE: Offered only in spring semester. PREREQUISITES: JOUR 3324, 4326, 4327, or permission of instructor.

6440. Public Relations Campaigns. (3). Application of theory, research data, and problem-solving techniques in development of comprehensive public relations strategies. PREREQUISITES: JOUR 3400, 3421, 3410; JOUR 4420 recommended, or permission of instructor.

6500. Mass Media Web Site Management I. (3). Creation and development of journalism/mass media organization Web sites; incorporation of target audience analysis and Web usability; and application of information products' conceptualization and layout.

6550. Mass Media Web Site Management II. (3). Creation and development of journalism/mass media Web sites; focus on Web multimedia, animation, and interface design; and command of Flash techniques. PREREQUISITE: JOUR 6500.

6560. Online Journalism Presentation. (3). Collaborative development of large-scale journalism/mass media Website projects; creation of original content, including stories, pictures, audio, and video; involvement in the entire process of online news and information creation and presentation. PREREQUISITE: JOUR 6500, 6550.

6702. Current Issues in Journalism. (3). Advanced study of recent critical problems affecting the mass media, with exploration of complexities that cause them.

6708. Mass Media Professional 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.

6712. Mass Media and 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.

6716. History of Mass Communication. (3). Major events, stories, personalities, and issues shaping development of mass communication from advent of printing to age of the Internet, with special emphasis on history of American journalism.

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.

6900. Multimedia Mass Communication. (3). Developing command of computer software in graphic design and multimedia editing by creating a CD or DVD to convey information appropriate for journalism/

mass media organizations. PREREQUISITE: JOUR 3900 or permission of instructor.

7000. Media Writing and 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.

◆7001-8001. Workshop in Journalism for Graduate Assistants. (3). Presentation of research methods and scholarly work by faculty, graduate students, and visiting scholars. Required of all graduate assistants.

7015. Precision Language for Journalists. (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.

7025-8025. Law of 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.

7050-8050. Mass Communication Theories. (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.

7075-8075. Mass Communication Research 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.

7100-8100. Mass Communication Administration Methods. (3). Administration of advertising, news, and public relations enterprises; systems analysis exploration of classic management principles in organization, assessment of environment, planning and strategy, budgeting, staffing, decision-making, and other functions in advertising, news, and public relations.

7200-09◆8200-09. Special Topics in Journalism. (1-3). Topics are varied and announced in online class listings.

7300-8300. Mass Communication Literature. (3). Review of scholarly publications, books, periodicals, and databases in advertising, public relations, and news media.

7320-8320. Mass Media and Diversity. (3). Research and analysis of the relationship among mass media, women, and minorities.

7340-8340. Advanced Advertising Practices. (3). Planning and design of advertising campaigns and tactics with primary emphasis on implementation.

7350-8350. Advanced 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.

7375-8375. 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.

7400. Public Relations Principles and Issues. (3). Contemporary social trends, public relations roles and responsibilities, and applicable public relations theory.

7420. Public Relations Programming and Production. (3). Design and implementation of public relations programs in response to contemporary issues.

7440. Organizational Public Relations. (3). How organizations maintain rapport with their publics and the mass media by effectively communicating long-range goals.

7450-8450. 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.

◆**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.

◆**7700-8700. Directed 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.

◆**7800-8800. Directed Individual 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.

◆**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.

◆**7996. Thesis. (1-6).**

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

RUDI E. SCHEIDT SCHOOL OF MUSIC

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I. The Rudi E. Scheidt School of Music is a member of the National Association of Schools of Music. It offers three graduate degrees--Master of Music, Doctor of Musical Arts, and Doctor of Philosophy--and a graduate certificate, the Artist Diploma in Music.

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 are normally expected to submit current GRE (general) or MAT scores (master's applicants only) with the applications materials. Students with extensive experience or exceptional credentials may request that the requirement of an entrance examination be waived.
5. Auditions and Work Samples
 - a. 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.
 - b. Students in composition must submit acceptable compositions in various media to the composition faculty.
 - c. Students in music education must submit a written philosophy of music education.
 - d. 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. 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 remedial coursework promptly. In the case of the theory requirement, such coursework ordinarily consists of MUTC 4202; in that of history, it is some combination of MUHL 3301, 3302, and/or 3303.
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.

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.

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)

- a. Applied Music (individual lessons) (12 hours)
- b. Ensemble (1 hour)
- c. Music Electives (8 hours)
- d. Recital MUAP 7999 (3 hours)

NB: for students studying voice, a minimum of 6 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

- a. Music History (12 hours)
- b. Minor Concentration in Music (6 hours)
- c. Ensemble (1 hour)
- d. Thesis MUHL 7996 or Lecture Recital MUAP 7899 (3 hours). NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.
- e. Reading knowledge of one foreign language, preferably German, must be demonstrated before graduation.
- f. Students taking the option of Lecture Recital must have a minimum of one semester of individual lessons at the 6000 level.

3. Pedagogy

- a. Applied Music (individual lessons) (8 hours)
- b. Pedagogical Area (12 hours)
- c. Ensemble, or Chamber Music for students studying piano (1 hour)
- d. Recital (3 in Suzuki, 2 in Piano Pedagogy)
- e. Projects in Piano Pedagogy (piano only) (1)

4. Orff-Schulwerk

- a. Level I Orff-Schulwerk MUSE 6802 (3 hours)
- b. Level II Orff-Schulwerk MUSE 7103 (3 hours)
- c. Level III Orff-Schulwerk MUSE 7104 (3 hours)
- d. Master Class in Orff-Schulwerk MUSE 7214 (2 hours)
- e. Courses chosen from music education (6 hours)
- f. Ensemble (1 hour)
- g. Electives (3 hours)
- h. Orff Practicum (3 hours)

5. Music Education

- a. History and Philosophy of Music Education MUSE 7402 (3 hours)
- b. Survey of Research in Music Education MUSE 7403 (3 hours)
- c. Music Education Electives (12 hours)
- d. Applied Music (individual lessons) (2 hours)
- e. Ensemble (1 hour)
- f. Thesis MUSE 7996 (3 hours) NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.

6. Jazz and Studio Music

- a. Advanced Improvisatory Practices and Materials MUTC 7010 (3 hours)
- b. History of Jazz MUHL 6806 (3 hours)
- c. Jazz Pedagogy MUSE 6512 (3 hours)
- d. Analytical Studies of Jazz Styles MUTC 7104 (3 hours)
- e. Lessons in performance, composition, and/or arranging (8 hours)
- f. Jazz Ensemble MUAP 7107 or Jazz Combo MUAP 7202 (3 hours)
- g. Recital MUAP 7996, Practicum MUJD 7699, or Thesis MUHL 7996 (3 hours)

7. Composition

- a. Composition MUTC 7501 (12 hours)
- b. Composition Practicum MUTC 7599 (3 hours)
- c. Ensemble (1 hour)
- d. Music Electives (8 hours)

8. Conducting

- a. Advanced Conducting MUAP 7701 (12 hours)
- b. Score Study and Aural Training for Conductors MUAP 7703 (3 hours)
- c. Ensemble as appropriate to conducting specialty (Wind, Orchestra, or University Singers) (3 hours)
- d. Music Electives (4 hours)
- e. Recital MUAP 7999 (3 hours)

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 preliminary comprehensive 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 preliminary comprehensive 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. (Piano majors may also perform the required concerto and chamber music recitals.)
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, viola da gamba, violin, voice) (63 hours)
 - a. 24 hours of private lessons on the major instrument
 - b. 12 hours of a minor area in music
 - c. 12 hours of electives, to be chosen with the approval of the student's advisor
 - d. 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. (Piano majors will be required to perform a chamber music recital in addition to the three solo recitals, and a standard concerto either in one of the solo recitals or on another occasion. 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.)

2. Composition (60 hours)
 - a. 3 hours of MUTC 8599 Composition Practicum
 - b. 18 hours of MUTC 8501 Composition
 - c. 12 hours of a minor area in music
 - d. 12 hours of electives, to be chosen with the approval of the student's advisor
 - e. 9 hours of MUTC 9000 Dissertation: The dissertation will consist of a work of significant scope.
3. Conducting (60 hours)
 - a. 15-18 hours of MUAP 8701, Conducting
 - b. 4-6 hours Wind Ensemble, Orchestra, or University Singers
 - c. 4-6 hours Conducting Practicum MUAP 8802
 - d. 4-6 hours MUAP electives (not Conducting)
 - e. 9-12 hours of coursework in choral, orchestral, or wind literature
 - f. 9-12 hours of coursework in a minor area in music
 - g. 9 hours dissertation equivalent: Three public recitals (MUAP 8999) or repertory approved by the doctoral committee are required. Each must be preceded by a formal hearing before the doctoral committee two to four weeks before the recital itself. A formal research document (MUAP 9000) 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. In certain cases, depending on repertorial considerations and with the permission of the doctoral committee, a series of small performances may be substituted for one or more of the conducting recitals.

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.
 - a. A minimum of eleven courses (33 hours) in the major area, including:
 - b. MUHL 8400 Bibliography and Research Methods
 - c. MUHL 8531 Early Musical Notations
 - d. MUHL 8505 Seminar in Musicology
 - e. 18 hours of graduate study outside musicology. At least 9 of these hours must be in an approved discipline outside music.
 - f. MUHL 9000 Dissertation (9 hours total) Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.
 - g. A reading knowledge of two foreign languages, ordinarily including German, must be demonstrated before graduation.

OR

2. A program providing a broad background in ethnomusicology and a focus on the music of the southern United States:
 - a. A minimum of eleven courses in the major area (33 hours), including:
 - b. MUHL 6800 World Musical Styles
 - c. MUHL 6801 American Folk and Popular Music

- d. MUHL 7400/8400 Bibliography and Research Methods
- e. MUHL 7800/8800 Field Methods in Ethnomusicology
- f. MUHL 8801 Ethnomusicology
- g. MUHL 8805 Transcription and Analysis in Ethnomusicology
- h. MUHL 8806 Seminar in Southern Regional Music
- i. Two of the remaining four courses in music shall have a major focus on Southern regional music.
- j. 18 hours of graduate study outside musicology. At least 9 of these hours must be in an approved humanistic discipline outside music.
- k. MUHL 9000 Dissertation (9 hours total). Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.
- l. A reading knowledge of two foreign languages, ordinarily including German, must be demonstrated before graduation.

B. Music Education Concentration Requirements (63 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. Major Core (9 hours)
 - a. MUSE 8220 Research and Bibliography (3 hours)
 - b. Two courses from MUHL or MUTC at the 8000 level, exclusive of individual studies (6 hours)
2. Concentration (18 hours)
 - a. MUSE 8402 History and Philosophy of Music Education
 - b. MUSE 8403 Survey of Research of Music Education
 - c. MUSE 8605 Psychology of Music
 - d. MUSE 8606 Descriptive/Experimental Research
 - e. MUSE 8202 Music in Early Childhood
 - f. MUSE 8203 Choral Literature and Techniques--or--
 - g. MUSE 8204 Instrumental Literature and Techniques
3. Guided Electives in consultation with the doctoral committee (6 hours)
4. 9 approved hours in College of Education
5. 9 approved hours in secondary area of Music
6. 12 hours MUSE 9000 Dissertation. NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before beginning to write.

VII. Artist Diploma Program

The Artist Diploma is a certificate program providing concentrated post-baccalaureate training for prospective professional musicians. Currently it is offered in voice and violin; it involves lessons and recitals at the School of Music and an internship at Opera Memphis (for singers) or the Memphis Symphony (for violinists).

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 7/8511 or 7/8611 (3 hours)
Internship MUAP 7/8800 (1 hour)

Semester 2

Lessons MUAP 7/8511 or 7/8611 (3 hours)
Internship MUAP 7/8800 (1 hour)
Recital MUAP 7/8999 (3 hours)

Semester 3

Lessons MUAP 7/8511 or 7/8611 (3 hours)
Internship MUAP 7/8800 (1 hour)

Semester 4

Lessons MUAP 7/8511 or 7/8611 (3 hours)
Internship MUAP 7/8800 (1 hour)
Recital MUAP 7/8999 (3 hours)

MUSIC INDUSTRY (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.

6603. Copyright and Licensing. (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.

◆**7699. Media Music Production Practicum. (3).**

7800-8800. Technology Applications in Music. (3). Advanced instruction in current technology assisting the composer, teacher, and practical musician.

◆**Grades of A-F, or IP will be given.**

MUSIC THEORY AND COMPOSITION (MUTC)

6202. Seminar in Music Theory and Analysis. (3). Theory, counterpoint, and analysis of literature; contrapuntal and harmonic techniques; research; theoretical problems from a pedagogical point of view; writing in strict and free styles. NOTE: Recommended as a review course for graduate students. May not be counted toward any degree program in music except the MMu and PhD in Musicology with permission of

the major advisor. (Offered fall semester.)

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.

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 \$100.00 per semester.

7010. Advanced Improvisatory Practices and Materials. (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, permission of instructor.

7101-8101. 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.


7104. Analytical Studies in Jazz Styles. (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.


7201-8201. Theory I. (3). Analysis of style features of the music of the eleventh century through the Baroque period.

7202-8202. Theory II. (3). Analysis of style features of the music of the late 18th and 19th centuries.

7203-8203. Studies in Music Theory. (3). Independent investigation of a research procedure or directed reading in selected areas of music theory chosen with consultation of instructor. May be repeated for credit when topic varies. PREREQUISITE: Permission of instructor.

7205-8205. Theory III. (2). Analysis of style features of music since 1900.

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.

7501-8501. Composition. (2, 3 or 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 \$100.00 per semester.

7502-8502. Electronic Compositional 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 \$100.00 per semester.

 **7599-8599. Composition Practicum. (3-6).**

7801-8801. Analytical 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.

7802-8802. Analytical 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.

◆7996. Thesis. (1-3).

◆9000. Dissertation. (1-9).

◆ Grades of S, U, or IP will be given.

◆ Grades of A-F, or IP will be given.

MUSIC HISTORY AND LITERATURE (MUHL)

6002. Song Repertory I. (2). Survey of French, 20th-century American, and British schools of song.

6003. Song Repertory II. (2). Survey of German, Italian, Spanish, and Latin American schools of song.

6005. History and Literature of the Organ. (3). Literature for the organ and its effect on and interaction with organ design.

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.

6009. Choral Literature I. (3). Survey of choral repertoires from Gregorian chant to 1700; contemporary performance practices; techniques of performing early choral music with modern mixed choirs.

6010. Choral Literature II. (3). Survey of choral repertoires from 1700 to the present; contemporary performance practices; problems of modern performance.

6011. String Quartet Literature. (3). History of the string quartet; survey of its music from Haydn to the present; problems of performance.

6012. History of Chamber Music for Wind Instruments. (3). History of chamber music for brass and woodwind instruments from the medieval through the modernist periods; instruments, types of ensembles, musical sources, notation, repertory, and performance practice.

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.

6014. Chamber Music for 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.

6015. Guitar Literature. (3). Exploration of selected literature and overview of history of the guitar from 16th century to present; reading of lute tablatures.

6020. Solo Brass Literature. (3). Examination of the solo literature for brass instruments from the seventeenth century to the present.

6021. The American 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.

6022. Early Chamber Music. (3). Survey of chamber music for strings, winds, and keyboards before 1700; course designed around needs of practicing instrumentalists.

6030. Percussion Repertory. (3). Survey of available literature for percussion instruments.

6260-69. Special Topics in Music History. (1-3). Selected topics in Music History. May be repeated with change in topic.

6407. The Opera and the Music Drama. (3). A survey of the opera before Richard Wagner; study of Wagner's music dramas and opera of his contemporaries; dramatic and musical significance of each phase of the development of the two forms. PREREQUISITE: Permission of the instructor.

6500. String Repertory. (3). Histories, tests, methods, periodicals, orchestral studies, and solo and ensemble literature.

6800. World Musical Styles. (3). Musical styles and the role of music performance in preliterate and folk societies throughout the world. (Offered spring semester.)

6801. American Folk and Popular Music. (3). Folk and popular elements in American music; role of mass media, especially the phonograph record, in utilizing and changing folk music; historical development and interrelationships between various musical styles ranging from nineteenth century minstrelsy to the roots of rock and roll; emphasis on southern Anglo-American and Afro-American folk and popular musical styles. (Offered fall semester.)

6804. Blues. (3). Stylistic development of blues music from its beginnings; relationships to African-American and American culture and history. (Offered fall semester.)

6805. History of Rock and Roll. (3). Stylistic origins and development of rock and roll music from its beginning to the present.

6806. History of Jazz. (3). Stylistic origins and development of jazz; interaction of jazz and Western classical music styles.

6807. Memphis Music. (3). Distinctive forms of folk and popular music in Memphis in the twentieth century; relationships to the history, culture, and social patterns of the city and mid-south region; folk music background, blues, jazz, country music, gospel music, and rock and roll emphasized. (Offered spring semester.)

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.)

7260-69↔8260-69. Special Topics in Music History. (1-3). Selected topics in Music History. May be repeated with change of topic.

7400-8400. Bibliography and Research Methods. (3). Survey of the fields of historical and systematic investigation in music with bibliographical studies and research analysis. Required of all students who intend to write a thesis.

7401-7406↔8401-8406. Style Periods in Music History. (3). Music and historical data from various periods of Western musical history.

7401-8401. Medieval Music.

7402-8402. Renaissance Music.

7403-8403. Baroque Music.

7404-8404. Classic Music.

7405-8405. 20th Century Music.

7406-8406. Nineteenth-Century Music.

7408-8408. Individual Research in Musicology. (1-3). Individual research on a selected topic under faculty supervision. May be repeated when the topic varies.

7409-8409. Repertory for Collaborative 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.

7505-8505. Seminar in Musicology. (3). Seminars in selected areas of musicology. May be repeated when topic varies.

7531-8531. Early Musical Notations. (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.

7551-8551. Performance Practice I. (3). Historical techniques and conceptions of performance from Gregorian chant through the seventeenth century.

7552-8552. Performance Practice II. (3). Historical techniques and conceptions of performance since 1700.

7560-8560. Music of J. S. Bach. (3). Music of Johann Sebastian Bach in its social, religious, performing, and historical contexts.

7800-8800. Field Methods in Ethnomusicology. (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.

7802-8802. Seminar in Ethnomusicology. (3). Seminars in selected topics. May be repeated for credit when the topic varies.

7803-8803. Individual Research In Ethnomusicology. (1-3). Individual research on a selected topic under faculty supervision. May be repeated if the topic varies. Only 3 hours credit may be applied toward a master's degree and only 6 hours credit toward a doctoral degree.

7804-8804. Internship in Southern Regional 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.

◆7996. Thesis. (1-3).

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.

8805. Transcription and Analysis in Ethnomusicology. (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.

8806. Seminar in Southern Regional 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.

◆**9000. Dissertation. (1-9).**

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

SACRED MUSIC (MUSA)

6104. Sacred Music in History and Practice I. (3). Jewish and Christian sacred music, exploring origins of styles, traditions, and current practices. This course may NOT be used as part of Sacred Music core. (Offered fall semester of alternate year.)

6105. Sacred-Music in History and Practice II. (3). (Offered spring semester of alternate year.)

6260-69. Special Topics in Sacred Music. (1-3). Selected topics in Sacred Music. May be repeated with change of topic.

6801. Individual Studies in Sacred Music. (1-3). Directed individual study in selected areas of music chosen in consultation with instructor. May be repeated for maximum of 6 hours credit with permission of department chair.

◆**7801-8801. Studies in Sacred Music. (1-3).** Directed individual or class study in selected areas of music chosen in consultation with instructor. May be repeated for a maximum of 9 hours credit with permission of department chair.

◆**Grades of A-F, or IP will be given.**

MUSIC EDUCATION (MUSE)

6205. Marching Band Techniques. (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.

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.

6209. Piano Tuning and Repair. (2). Basic techniques involved in piano tuning and adjustment. Some basic tools are required.

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.)

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 and arias and class recitations. Open to collaborative pianists only or by permission of instructor. (Offered alternate years.)

6215. Jazz Ensemble Techniques. (1). Knowledge of jazz phrasing, articulation; ensemble setting; repertoire selection; administration of school jazz program. PREREQUISITE: Permission of instructor.

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.

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.

6505. Collaborative Piano Techniques. (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.

6508. Principles 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.

6514. Brass Pedagogy. (3). Current literature, principles, methods, and psychology in brass playing and teaching.

6520. Percussion Pedagogy. (3). Basic principles of and materials for teaching percussion instruments.

6521. Woodwind Pedagogy. (3). Practical methods for teaching performance skills to woodwind students; current literature, principles, methods in teaching woodwind instruments.

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.

◆7001-8001. Workshop in Music for Graduate Assistants. (1-3).

7002-8002. Seminar in Advanced Music Teaching. (1). Practical instruction in the teaching of music at the post-secondary level.

7101. Jazz Program Administration. (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.

7103. Level II Orff-Schulwerk. (1-3). (6803). Intermediate level Orff-Schulwerk techniques including modal harmonization, irregular rhythms, alto recorder, performance, and more extensive improvisation and arranging. PREREQUISITE: MUSE 6802 or the equivalent.

7104. Level III Orff-Schulwerk. (1-3). (6804). Advanced Orff-Schulwerk techniques including original compositions, complex form, movement and instrumental arrangements, tenor and bass recorder performance, and advanced improvisation. PREREQUISITE: MUSE 7103 or the equivalent.

7202-8202. Music in Early Childhood. (3). Research and analysis of contemporary trends in field of early childhood education with emphasis on developing appropriate music activities for three to six year olds.

7203-8203. Choral Literature and Techniques. (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.

7204-8204. Instrumental Literature and Techniques. (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.

7207-8207. Measurements of Musical Behavior. (3). The investigation of evaluative tools in music education, formulation, and utilization of measurement devices in music teaching and research.

7210-8210. Projects in Elementary Music Curriculum Development, Implementation, and Supervision. (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.

7211-8211. Projects in Secondary Music Curriculum Development, Implementation, and Supervision. (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.

7213-8213. Orchestration for Orff Instrumentarium. (3). An analysis of techniques used to orchestrate for Orff instruments as done in Europe, Asia, North and South America; original orchestrations in the elemental Orff style. PREREQUISITE: MUSE 4803-6803 or permission of the instructor.

7214. Master Class in Orff-Schulwerk. (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 4804-6804 or equivalent experience.

7216. Project in Class Piano Pedagogy. (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.

7217-8217. Advanced Collaborative Techniques. (3). Individualized in-depth study of techniques and skills needed by professional collaborative pianists working with instrumentalists or singers.

7219-8219. Concepts of Music Teaching and Learning. (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.

7220-8220. Research and Bibliography of Music Education. (3). Active investigation and exploration of research methodologies specific to music education.

7221-8221. Music for Special Populations. (3). Recognition and comprehension of various disabilities and exceptionalities; techniques for teaching music to exceptional students. PREREQUISITE: MUSE 7402.

7260-79-8260-79. Special Topics in Music Education. (1-3). Selected topics in Music Education. May be repeated when topic changes.

7260-69. Special Topics in Jazz Studies. (1-3). May be repeated with change of topic.

7402-8402. History and Philosophy of Music Education. (3). An examination of the historical and philosophical foundations that underline the curricula and instructional programs in music.

7403-8403. A Survey of Research in Music Education. (3). Designed to acquaint students with theoretical and practical field research, to refine writing skills, to hypothesize, and to develop potential research problems.

7503. Introduction to 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.

7504. Suzuki Piano Literature and Technique 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, musical expression; introduction of music reading, scales and chord progressions; observation of lessons and classes taught by experienced teachers in the University Suzuki Piano Program. PREREQUISITE: MUSE 7503 or permission of instructor.

7506-8506. Independent Study in Suzuki Teaching. (3). Independent study of a selected topic in relation to Suzuki philosophy and method. PREREQUISITE: MUSE 7510 or permission of the instructor.

7511. Projects In 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.

7512-8512. Pedagogy for the Applied Voice Teacher. (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.

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.

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.

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.

7601. Suzuki String Pedagogy 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.

7602. Suzuki String Pedagogy 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.

7603. Suzuki String Pedagogy 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.

7604. Suzuki String Pedagogy 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.

7605-8605. Music Development and 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.

7606-8606. Descriptive/Experimental Research in Music Education. (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.

7607. Choral Rehearsal Technique. (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.

7608. Instrumental Ensemble Rehearsal Techniques. (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.

7609-8609. Choral Conducting Techniques. (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.

7702-8702. Instrumental/Wind Conducting Techniques. (3). Application of techniques studied in basic conducting to rehearsing and performing selected pieces; covers score study, planning, rehearsal techniques, and musical interpretation.

◆**7996. Thesis. (1-3).**

◆**7998. Orff Practicum. (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.

◆**9000. Dissertation. (1-9).**

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

APPLIED MUSIC (MUAP)

6004. Orchestral Excerpts. (2). Study and performance of selected orchestral excerpts suitable for auditions. PREREQUISITE: Permission of instructor.

6005. University Band. (1). (Same as 2003). Concert performance of traditional and contemporary wind compositions. Participants are chosen from this ensemble for basketball pep-bands and usually have participated in Fall marching band. Open to music majors and non-music majors.

6260-69. Special Topics in Applied Music. (1-3). Selected topics in Applied Music. May be repeated with change of topics.

6263. Reed Making. (1). A laboratory course designed to help students become independent reed makers. May be repeated for credit.

6801. Individual Studies in Applied Music. (1-3). Directed individual instruction in an applied area not listed under the MUAP course prefix. May not exceed 6 hours credit. Ensembles: All ensembles may be repeated for credit.

7002. Chamber Music. (1).

◆**7099. Chamber Music Recital. (1).**

7101. Wind Ensemble. (1).

7102. Orchestra. (1).

7103. University Singers. (1).

7104. Opera Chorus. (1).

7106. Symphonic Band. (1).

7107. Jazz Ensemble. (1).

7108. Opera Workshop. (1).

7201. Brass Ensemble. (1).

7202. Jazz Combo. (1).

7203. Chamber Music for Pianists. (1).

7204. Percussion Ensemble. (1).

7205. Contemporary Chamber Players. (1).

7207. String Ensemble. (1).

7209. Chamber Choir. (1).

7210. Opera Soloists. (1).

7211. Woodwind Ensemble. (1).

7212. Collegium Musicum. (1).

7213. Jazz Vocal Ensemble. (1).

7260-89◆**8260-89. Special Topics in Applied Music. (1-3).** Selected topics in Applied Music. May be repeated with change of topic.

7620-8620. Independent Study in Symphonic and Operatic Conducting. (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.

7622-8622. Independent Project in Opera Direction. (3). Actual staging or musical direction of an opera workshop or opera theatre production. May be repeated for credit. PREREQUISITE: MUAP 7623 and permission of instructor.

7699-8699. Production Practicum. (3-6). Required of majors in Opera and Conducting and Opera Production and Directing. May be repeated for credit.

7701-8701. Advanced 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. \$100.00 instruction and lab fee.

7702-8702. Conducting Practicum. (3). Supervised rehearsal and preparation of a public performance with a large ensemble.

7703-8703. Score Study and Aural Training for Conductors. (2). Skills of score reading, ear training, and score analysis for conductors.

◆**7800-8800. Internship in Music Performance. (3).** Music performances coordinated between the School of Music and Opera Memphis or the Memphis Symphony Orchestra. May be repeated for a maximum of 6 hours credit.

7801-8801. Studies in Jazz and Commercial Music. (3). Directed individual or class study in selected areas chosen in consultation with instructor. May be repeated with change in topic for a maximum of 9 hours credit.

◆**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.

◆**7996. Thesis. (1-3).**

◆**7999-8999. Recital. (1-3).** Student must be concurrently enrolled in an appropriate applied music course.

8002. Seminar in Performance Problems. (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.

◆**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.**

◆**Grades of A-F, 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.

Instrument	Music Education Majors Applied Music Minors Applied Music Electives No Recital Required (1-2 Hours Credit)	Applied Music Majors Applied Music Minors Applied Music Electives Recital Required (2-6 Hours Credit)
Trumpet	6111	7111/8111
Horn	6121	7121/8121
Trombone	6131	7131/8131
Tuba	6141	7141/8141
Euphonium	6142	7142/8142
Piano	6311	7311/8311
Harpsichord	6321	7321/8321
Organ	6331	7331/8331
Percussion	6411	7411/8411

Ethnic Percussion	6414	
Violin	6511	7511/8511
Viola	6521	7521/8521
Cello	6531	7531/8531
Bass	6541	7541/8541
Guitar	6551	7551/8551
Harp	6561	7561
Voice	6611	7611/8611
Flute	6711	7711/8811
Oboe	6721	7721/8721
Clarinet	6731	7731/8731
Saxophone	6741	7741/8741
Bassoon	6751	7751/8751
Recorder	6761	

↔ **Grades of S, U, or IP will be given.**

THEATRE AND DANCE
Room 143, Theatre and Communication Building
(901) 678-2523

ROBERT A. HETHERINGTON, MA
Chair

GLORIA BAXTER, MA
Coordinator of Graduate Studies

E-Mail: theatrelib@memphis.edu
ccfa.memphis.edu/theatre.htm

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.

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 course work 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. 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:
 - a. continuance in the program without condition;
 - b. continuance in the program with conditions; or
 - c. 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.

THEATRE (THEA)

6210-19. Special Topics in Theatre. (1-3). Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours when topic varies.

6220. Acting for the Musical Theatre. (3). An exploration of the techniques that allow the performer to fuse the art of acting and singing. PREREQUISITES: THEA 2532, MUAP 1100, MUAP 1610 or an equivalency exam/audition and permission of the instructor.

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.

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.

6457. Vocal Styles for Performance. (3). Exploration of language based characterization as it evolves from structure and style of text. PREREQUISITE: Permission of the instructor.

6501. Advanced Movement Styles. (3). Advanced study in physical theatre styles. Varied semester topics may include: performance art, fighting styles for period weapons, and physical theatre techniques for theatre teachers, choreographers and directors. Repeatable for a maximum of 6 hours when content varies. PREREQUISITE: permission of instructor.

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.

6514. Theatrical Rendering Techniques. (3). Materials and techniques for rendering theatrical space and scenic, costume, lighting, and properties design elements.

6515. Scene Painting. (3). Lecture laboratory course covering the techniques of painting scenery for the stage. *Offered alternate years.*

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.*

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.

6532. Mask Performance. (3). A study of the creation and performance of the character mask emphasizing the development of a mask from construction to character realization. PREREQUISITE: Permission of the instructor.

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.*

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.*

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.*

6554. Visual History of Theatrical Design 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.

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.

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.

6557. Costume Technology. (3). Intermediate costume construction techniques employing both traditional and experimental methods for sewing; brings costume design from concept to reality. *Offered alternate years.* May be repeated for a maximum of 6 hours credit with permission of instructor. PREREQUISITE: Permission of instructor.

6558. Visual History of Theatrical Design 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.

6559. Theatre of the 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.

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.*

6592. Theatre Architecture and Facilities Planning. (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.

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.

6631. Acting for Film and Television. (3). Educational experience for the actor in the media of film and television, concentrating on dramatic, commercial, and documentary areas. *Offered alternate years.* PREREQUISITE: Permission of instructor.

7210-19/8210-19. Special Topics in Theatre. (1-3). Topics are varied and announced in the online class listings. May be repeated for maximum of 9 hours when topic varies.

7431. Seminar in Directing Narrative Theatre. (3). Theory and technique for directing literary texts not originally written for the theatre; stage adaptations of short stories, novels, and compiled scripts; script preparation and directing projects required. Repeatable for a maximum of 6 hours. *Offered alternate years.* PREREQUISITE: THEA 7521 or permission of instructor.

7440. Seminar in Critical 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.

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.

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.

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.*

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.*

7560-8560. Directed Studies in Design and Technical Production. (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.

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.*

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.

7563. Costume Design Studio. (3). Exploration and application of aesthetic principles of costume design; special consideration to interpretation of character and period through line, color, and fabric, employing variety of rendering processes in the studio environment. *Offered alternate years.*

7564. Studio in Theatrical Collaboration and Style. (3). Exploration of elements of style as they pertain to concept development for theatrical production; engagement in dynamics of the collaborative process.

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.*

7568. Computer Applications for Theatre. (3). The computer and its role in theatrical production; families of software and their application to theatrical production activities; text, numeric, and data processing concepts and applications. PREREQUISITE: Permission of instructor.

7571. Advanced Playwriting. (3). Continuation of theories and practice of playwriting with the object of achieving a finished script, ready for production. May be repeated for maximum of 6 hours. *Offered alternate years.* PREREQUISITE: Permission of instructor.

7581. Seminar in Dramatic Theory and Criticism. (3). Major documents in dramatic theory and criticism from Aristotle to present. *Offered alternate years.*

7582. Analysis of Dramatic Literature. (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.*

7592. Theatre Planning & Management. (3). Principles of theatre planning and management for educational and regional theatres.

◆**7600-8600. Internship. (1-6).** Supervised work completed in a professional setting. Repeatable for a maximum of 6 hours. PREREQUISITE: Permission of the advisory committee.

◆**7800. Research in Theatrical Practice. (3).** Research, practice, methodology, or pedagogy in theatre. Open only to graduate assistants. Note: These hours will not be included in the minimum 60 hours for the degree. May be repeated for a maximum of 12 hours.

◆**7993-8993. Special Problems. (1-3).** Directed individual investigation of special research. May be repeated for a maximum of 9 credit hours. PREREQUISITE: Permission of instructor.

◆**7995-8995. 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 IP will be given.**

◆ **Grades of A-F, or IP will be given.**

DANCE (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.

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. PREREQUISITE: Permission of instructor.

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. PREREQUISITE: Permission of instructor. Offered alternate years.

6202. Advanced 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. PREREQUISITE: DANC 6201 or permission of instructor.

6301. Directed Studies. (1-3). Individual study, research, or practicum. May be repeated for maximum of 12 hours. PREREQUISITE: Permission of instructor.

6402. Dance Education in Diverse Settings. (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. PREREQUISITE: Permission of instructor.

THE COLLEGE OF EDUCATION

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GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentration within Major	Degree Offered
Counseling, Educational Psychology, and Research	Counseling	(1) School Counseling (2) Community Agency Counseling (3) 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)
Health and Sport Sciences	Human Movement Science	(1) Exercise and Sport Science (2) Health Promotion (3) Sport and Leisure Commerce (4) Physical Education Teacher Education	Master of Science (MS)
	Clinical Nutrition		Master of Science (MS)
Instruction and Curriculum Leadership	Instruction and Curriculum Leadership	(1) Early Childhood Education (2) Instruction and Curriculum (3) Instructional Design and Technology (4) Reading (5) Special Education	Master of Science (MS) Doctor of Education (EdD)
		(1) Early Childhood Education (2) Elementary Education (3) Middle School Education/Special Education	Master of Arts in Teaching (MAT)

		(4) Secondary Education (5) Special Education	
	Advanced Studies in Teaching and Learning	Childhood Literacy Reading	RODP Master of Education (MEd)
	Instructional Computing Applications		Graduate Certificate
Leadership	Leadership and Policy Studies	(1) School Administration and Supervision (2) Leadership (3) Student Personnel	Master of Science (MS)
		(1) Educational Leadership (2) Community Education (3) Policy Studies	Doctor of Education (EdD)
	Higher and Adult Education	(1) Higher Education (2) Adult Education	Doctor of Education (EdD)
	Community College Teaching and Leadership		Graduate Certificate
Interdisciplinary	Education		Education Specialist (EdS)

Individual program requirements described in The University of Memphis Graduate Catalog, 2008-2009, 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; Health and Sport Sciences; 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; Human Movement Sciences and Education; 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. It is also available to those already licensed who seek additional licensure in one or more areas. 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 "intent 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 or the Office of Teacher Education.

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 33 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 39-43 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); and high school in math, sciences, business education, foreign language, history, and the social sciences.

Internships/Student Teaching

Students seeking initial licensure must complete at least one semester of student teaching/internship requirements in the placements coordinated and approved by the Coordinator of Field Experiences in the College of Education. 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. When approved, the student will be assigned a graduate 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 or teacher licensure program, 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 College of Education.

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.

CERTIFICATE IN INSTRUCTIONAL COMPUTING APPLICATIONS

This certificate program is designed for educators who want to integrate the use of computers in the classroom. The certificate requires the completion of 12 hours from a designated core of courses. The focus of these courses is to develop the technological competencies needed for the development, utilization, and integration of instructional computing technology in the classroom.

Admission

Students interested in receiving a Certificate in Instructional Computing Applications must be admitted to a College of Education graduate program. The courses may be completed as part of a degree program with the advisor's approval, or as additional course work.

Requirements

1. Core courses: IDT 7061/8061, IDT 7062/8062, IDT 7063/8063, IDT 7064/8064
2. Students interested in developing computer-based instruction may substitute IDT 7073/8073 for IDT 7062/8062.
3. Students interested in developing computer training workshops for teachers may substitute IDT 7076/8076 for IDT 7063/8063.
4. Both substitutions must be approved by the advisor.

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 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.

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.

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 than 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.

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COUNSELING, EDUCATIONAL PSYCHOLOGY, AND RESEARCH

Room 100, Ball Hall

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DOUGLAS C. STROHMER, PhD

Chair

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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.

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 and (b) the sociopolitical forces impacting the culturally different client.

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

II. MS Degree Program in Counseling

Major: Counseling

Concentrations:



Community Agency 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 Community Agency Counseling and School Counseling are accredited by the Council of 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 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 the Rehabilitation Counseling program

1. Applicants must apply to the Graduate School and to the program. The Master of Science degree in Rehabilitation Counseling is a limited access program; not all eligible candidates are admitted. To be considered for admission, applicants must provide:
 - a. official undergraduate and/or graduate transcripts of all academic work completed,
 - b. submit a Graduate Record Exam (GRE) score, or proof of substantial life or professional experience in human services and/or disability (student must submit experiential learning portfolio),
 - c. complete a program admission application including appropriate goals essay,
 - d. provide three letters of academic and/or professional reference,
 - e. 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.

Program admissions for the Community Agency and School Counseling programs

1. Applicants must apply to the Graduate School and to the program. The Master of Science degree in Rehabilitation Counseling is a limited access program; not all eligible candidates are admitted. To be considered for admission, applicants must provide:
 - a. official undergraduate and/or graduate transcripts of all academic work completed,
 - b. submit a Graduate Record Exam (GRE) score,
 - c. complete a program admission application including appropriate goals essay,
 - d. provide three letters of academic and/or professional reference,
 - e. 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.

C. Program Requirements

1. All programs are a minimum of 48 semester hours.
2. Demonstrated competency in at least 3 of the 4 department core areas: human development, research methods, assessment, and learning and cognition.
3. MS program core (9 hours): COUN 7531, COUN 7551, and EDPR 7521.
4. All students are to maintain good standing (3.0 or better cumulative grade point average) and at least a B- in all required courses.

5. Concentration requirements:

- a. Community Agency Counseling (39 hours): COUN 7411, 7541, 7561, 7571, 7630 and EDPR 7117; COUN 7750; CPSY 7700; practicum COUN 7631 (3 hours) and internship COUN 7632 (6 hours); 6 hour elective.
- b. Rehabilitation Counseling (39 hours): COUN 6901, 6913, 6921, 7411, 7541, 7571, 7750, 7912; 6 hours of electives approved by advisor; practicum COUN 7941 (3 hours) and internship COUN 7942 (6 hours).
- c. School Counseling (39 hours): COUN 7411, 7541, 7542, 7561, 7571, 7640, and EDPR 7117; 9 hours of supportive electives; practicum COUN 7641 or 7645 (3 hours) and internships COUN 7642 and 7646 (6 hours). Students not having a teaching degree must take SPED 7000 or COUN 6901 as one elective.

Obtaining Experiential Learning Credit

The Rehabilitation Counseling program may award up to 9 experiential learning transfer credit hours based on previous experience or education. Such credits may be provided to students who have a BS degree in programs such as Rehabilitation Counseling, Rehabilitation Services, or Disability Studies. Similarly, students who have pre-master's experience in human services settings, such as working at a substance abuse treatment facility, may earn transfer credits. Specific courses and number of transfer credits are determined by the program faculty, the program coordinator, and the department head.

In order to receive experiential learning transfer credits, the following steps must be followed:

- The student will submit an experiential learning portfolio to the admission committee.
 - The admission committee will review each accepted applicant's portfolio for the possibility of experiential learning transfer credits. Courses for which the student has training or experience that is the substantial equivalent to course content will be recommended for transfer credit. These courses are limited to certain basic courses in the curriculum in addition to elective and special topics courses. Student interviews and/or supporting documents will be required in most cases.
 - The admission committee's recommendations will be presented to the department head, who will review them, and in turn present them to the program faculty.
 - Upon final approval, the student will submit an approved **◆**Master's Transfer Credit Evaluation Form**◆** to the Graduate School in order for the credits to be posted to the student's transcript.
6. **◆** All programs include clinical components, practica, and internships and each student's effectiveness will be evaluated by faculty and supervisors. Prior to contact with clients in practicum and internship, students are expected to evidence good judgment and appropriate emotional functioning. Final decisions regarding student effectiveness will be predicated upon factors including course grades, demonstrated clinical competence, personality factors, and any relevant test scores.
7. **◆** 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:
 - a. application to the Graduate School,

- b. application to the program,
 - c. official transcripts for undergraduate and graduate studies,
 - d. official report of Graduate Record Examination (GRE) scores,
 - e. a 300-500 word statement of goals and intended area of concentration,
 - f. three letters of recommendation.
2. ♦ Applicants to the MS program are evaluated three times a year. All application information must be received by July 1 for fall semester admission, November 1 for spring semester admission, and April 1 for summer semester admission. 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):
 - a. Research (6 credits): EDPR 7521 or 7523, and 7511 or 7541
 - b. Learning & Cognition (3 credits): EDPR 7121
 - c. 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 Programs

♦♦♦♦♦ 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 and personnel services 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 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 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.

All applicants need at least six semester hours of graduate work in cultural, historical, or psychological foundations of education.

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:
 - a. provide official undergraduate and graduate transcripts of all academic work completed,
 - b. submit a Graduate Record Exam (GRE) score,
 - c. complete a program admission application including appropriate goals essay,
 - d. provide three letters of academic and/or professional reference,
 - e. 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 (33) semester hours in the major, including COUN 8501, 8510, 8511, 8530, 8750, 8841, and 8885; CPSY 8102.
2. Nine (9) semester hours in research (EDPR 8541, 8542, and a research elective).
3. Nine (9) semester hours in a specialty area (such as counselor education, consultation, program evaluation, etc.).
4. Nine (9) semester hours of dissertation. NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
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 three times a year. Completed application packets must be received by July 1 for fall semester admission, November 1 for spring semester admission, and April 1 for summer admission. 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)*:
 - a. *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.
 - b. *Learning & Cognition* (3 credits): at least one from EDPR 8149, 8150, 8151.
 - c. *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, Research/Data Analysis.

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 January 15 for an applicant to be considered. Applicants to the doctoral program in Counseling Psychology must hold a Master's degree (or equivalent) in counseling, psychology, or a related area and often have had substantial work experience.

Admission decisions are made on the basis of GRE scores, graduate GPA, personal statement, letters of recommendation, clinical and research experience, and interviews. Competitive GRE scores are required. Minimum GRE scores of 1000 (V+Q) are recommended. The program mean GRE (V+Q) is 1135 and the program mean for graduate GPA is 3.79. 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.

NOTE: Both ETS and the GRE Board have advised that a combined GRE score should not be used as an absolute cutoff for admissions decisions, but rather should be used as part of an overall evaluation of applicants. A recent GRE Board statement reads as follows: "A cutoff score based only on GRE scores should never be used as the sole criterion for denial of admission." The Counseling Psychology program subscribes to this principle.

C. *Program Requirements*

1. 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
2. 6 semester hours in Counseling Psychology Foundations and Professional Issues, CPSY 8101 & 8201
3. 6 semester hours in Psychometric Theory and Methods, CPSY 8572 & 8573, or approved alternatives
4. 12 semester hours in Research Methods/Data Analysis, EDPR 8541, 8542, 8543, or approved alternatives; CPSY 8203
5. 18 semester hours in Counseling, CPSY 8102, 8202; COUN 8510, 8721, 8750 or approved alternative, 8841
6. 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 6 additional credits of CPSY 8200, CPSY 8300, or a combination of the two courses as electives. No more than a total of 12 practicum or advanced practicum credits will count toward the program requirements.
7. 15 semester hours of Electives in a Concentration
8. 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.
9. 12 semesters hours in Dissertation, CPSY 9000. NOTE: Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
10. 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 are expected to complete required coursework in three years and complete a one-year internship in their fourth 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 period.

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.

COUNSELING AND PERSONNEL SERVICES (COUN)

Courses numbered 7000 and above are available only to fully admitted department graduate students and students seeking post-master's professional development.

6611. Introduction 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.

6781. Strategies for Crisis Intervention. (3). Process of crisis intervention; study and practice in understanding crisis-induced dysfunctional behavior, recognizing crisis situations, and crisis counseling procedures.

6783. Alcohol and Drug Abuse Services. (3). Survey of human services for treating alcoholics and substance abusers; overview of treatment strategies and philosophies.

6901. Principles and Techniques of Rehabilitation Counseling. (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.

6913. Medical and Psychosocial Aspects of Rehabilitation. (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.

6921. Vocational Development and Occupational Information Service. (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.

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.

7411. Foundations of Counseling. (3). Introduction to professional roles, responsibilities, and identity of counselor; counseling ethics, credentials, and sociocultural context of counseling.

7531. Group Counseling Processes. (3). Organization and maintenance of effective groups; group participation, projects and readings to aid students in delineating their roles in various group settings. PREREQUISITE: COUN 7411.

7541. Theories of Counseling and Personality. (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

7542. Theories of Child Counseling and Consulting. (3). (7582-8582). Person-centered, behavioral, and related theories; experiences include exercises in counseling, consulting, and coordinating with a focus on the elementary school.

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.

7561. Career Counseling. (3). (7661-8661). Process of career development and planning, career and lifestyle counseling, planning, and development. PREREQUISITE OR COREQUISITE: COUN 7411.

7571-8571. Clinical Techniques. (3). (7690-8690). Implementation and practice of counseling theories; modeling, practice, and critique of counseling skills. PREREQUISITE: COUN 7411; 7541 or 7542.

7622-8622. College Student Counseling and Development. (3). (Same as HIAD 7442-8442). Study of traditional and non-traditional college students; emphasis on identification of development needs and appropriate counseling approaches.

7623-8623. College Environments. (3). (Same as HIAD 7443-8443). Person-environment interaction theories, campus ecology, impact of college environments on diverse student populations, and higher education environmental assessment techniques.

◆ **7625. Practicum in Student Services in Higher Education. (3). (7695-8695).** Supervised student personnel experiences in such post-secondary educational settings as admissions, financial aids, student activities, residence life, academic advising, career placement and planning, minority student affairs, and adult student services. 150 hours. PREREQUISITE: COUN 7411, 7531, 7541, 7551, 7561, 7571, 7622, 7632; EDPR 7117, 7251; HIAD 7440, and program approval.

◆ **7626. Internship in Student Services in Higher Education. (4-6). (7948-8948).** Supervised student affairs experience in an appropriate student personnel setting in a post-secondary institution. The student will be involved in service activities 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 8 semester hours. PREREQUISITE: COUN 7625 and program approval.

7630-8630. Counseling in Community Settings. (3). Overview of skills and knowledge unique to mental health counselors in community settings; mental health service delivery, community assessment counseling and assessment for mental disorders, and preventative mental health concepts. PREREQUISITE: COUN 7411, 7541, 7551.

◆ **7631. Practicum in Community/Mental Health Counseling. (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; EDPR 7117, 7521; CPSY 7700, and program approval.

◆ **7632. Internship in Community/Mental Health Counseling. (4-6). (7698-8698).** Supervised counseling experience in an appropriate community/mental setting. The student will be involved in agency 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 8 semester hours. PREREQUISITE: COUN 7631 and program approval.

7640-8640. Principles of School Counseling. (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.

◆ **7641. Practicum in Elementary School Counseling. (3). (7692-8692).** Supervised counseling with elementary age children; group discussions and individual interviews provide the student opportunities to interact with elementary children in a variety of settings; practice in appropriate techniques in interaction with elementary children. 150 hours. PREREQUISITE: COUN 7411, 7531, 7541, 7542, 7551, 7561, 7571, 7640; EDPR 7117, 7521, CPSY 7700, and program approval.

◆ **7642. Internship in Elementary School Counseling. (3-6). (7697).** Supervised counseling experience in working with elementary school-aged children in education-based activities. 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: COUN 7641 or 7645, and program approval.

◆ **7645. Practicum in Secondary School Counseling. (3). (7691-8691).** Supervised counseling with adolescents; assistance with individuals and groups and practice in providing assistance in educational, occupational, and personal decision making. 150 hours. PREREQUISITE: COUN 7411, 7531, 7541, 7542, 7551, 7561, 7571, 7640; EDPR 7117, 7521, CPSY 7700, and program approval.

◆**7646. Internship in Secondary School Counseling. (3-6). (7696-8696).** Supervised counseling experience in working with adolescents in education-based activities. 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: COUN 7641 or 7645, and program approval.

7710-8710. Alcohol/Drug Counseling. (3). Process of counseling alcoholic and drug dependent persons; modalities of treatment, philosophy of treatment and referral. PREREQUISITE: COUN 7541.

7720-8720. Systems Development for Family Therapy. (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 or permission of instructor.

7721-8721. Theories and Techniques of Family Therapy. (3). (8781). Major approaches to family therapy: structural, Bowenian, strategic, behavioral, communications, experiential, object relations; techniques and assumptions, traditional and current practices. PREREQUISITE: COUN 7720 or permission of instructor.

7722-8722. Couple Counseling and Therapy. (3). (8782). Marital and couple counseling and problem situations; phases of therapy, ethical dilemmas, research methodology in couple/family dysfunction. PREREQUISITE: COUN 7720 or permission of instructor.

7723-8723. Human Sexuality in Counseling and Psychotherapy. (3). Attitudes, values, beliefs, and theoretical concerns related to human sexuality; counseling strategies for individuals and couples regarding sex-related issues.

7730-8730. Crisis Intervention Counseling. (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.

7740-8740. Counseling Sexually Victimized Children and Their Families. (3). This course is designed to familiarize students with issues related to counseling sexually victimized children and their families. PREREQUISITE: Major in Counseling or permission of instructor.

7750-8750. 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 7541.

7751-8751. Gender Issues in Counseling. (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: Major in Counseling or permission of instructor.

7752-8752. Counseling Gay, Lesbian, and Bisexual Clients. (3). Gay, lesbian, and bisexual issues in counseling and psychotherapy; affirmative psychotherapy techniques and gay, lesbian, and bisexual issues, including identity formation, homophobic and heterosexism, relationships, parent and family dynamics, ethnic minorities, religion and morality, gender roles, AIDS/HIV, and suicidal ideation. PREREQUISITE: Major in Counseling or permission of instructor.

7771-8771. 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 or permission of instructor.

7780-8780. 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: Major in Counseling or permission of instructor.

◆**7790-8790. Special Problems in Counseling. (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: Major in Counseling and permission of instructor.

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.

7841-8841. Advanced Counseling Theories and Techniques. (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 or permission of instructor.

7885-8885. Legal and Ethical Issues in Counseling. (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: Advanced program standing or permission of instructor.

7905-8905. Case Management. (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.

7912-8912. Introduction to Psychiatric Rehabilitation. (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: Permission of instructor.

◆ **7941. Practicum in Rehabilitation Counseling. (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.

◆ **7942. Internship in Rehabilitation Counseling. (3-6).** 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.

◆ **8000. Specialist Culminating 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.

◆ **8091. Teaching in Counseling for Graduate Assistants. (1-3).** Overview and practical demonstrations of the art of teaching in counseling and counseling psychology. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours.

◆ **8092. Research Skills in Counseling for Graduate Assistants. (1-3).** Research design, analysis, and methodology in counseling and counseling psychology. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours.

◆ **8093. Administrative Training for Graduate Assistants. (1-3).** Overview and practical demonstrations of administrative skills in counseling, counseling psychology, rehabilitation counseling, or educational psychology and research. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours.

8501. Doctoral Seminar in Counseling. (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.

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.

◆ **8511. Practicum in Counseling and Personnel Services. (3).** Supervised experience in appropriate settings; the student will be involved in varied supervision activities as needed. 150 hours. PREREQUISITE: Program approval.

◆ **8530. Doctoral Internship in Counseling and Personnel Services. (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.

8831. Advanced Group Processes for Counselors. (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 or permission of instructor.

◆**9000. Doctoral 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.*

◆*Grades of A-F, or IP will be given.*

COUNSELING PSYCHOLOGY (CPSY)

7700-8700. Diagnosis and Counseling Interventions for Mental Disorders. (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.

◆**8008. Directed Readings in Counseling Psychology. (1-3).** Individually directed reading with written report required. May be repeated for maximum of 9 hours. PREREQUISITE: Permission of instructor.

◆**8092. Research Skills in Counseling Psychology for Graduate Assistants. (1-3).** Research design, analysis, and methodology in counseling psychology. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours.

8101. Foundations of Counseling Psychology. (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.

8102. Seminar in Group Counseling and Psychotherapy. (3). (8793). Theoretical-philosophical and research base of group counseling and psychotherapy; supervised application. PREREQUISITE: Doctoral student.

◆**8200. Counseling Psychology Practicum. (3). (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.

8201. Professional Issues in Counseling Psychology. (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.

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.

8203. Seminar in Counseling and Counseling Psychology Research. (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 residency research project, 6 credit hours of statistics, and enrollment in CPSY PhD program or Counseling EdD program.

8204. Counseling and Counseling Psychology Research 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.

◆**8300. Advanced Practicum in Counseling Psychology. (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.

◆**8501. Counseling Psychology Research. (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.

8570-8574. Special Topics in Counseling Psychology. (3). Current topics in counseling psychology. May be repeated with a change in content.

8575. Adult Personality Assessment. (3). Administration, scoring, and interpretation of psychodiagnostic instruments for individual personality assessment in adults. PREREQUISITE: CPSY 8700 or permission of instructor.

8576. Adult Cognitive 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.

8577. Supervision in Counseling Psychology. (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.

8600. Counseling Psychology 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.

◆**8800. Predoctoral Internship in Counseling Psychology. (3-6). (8890).** 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.

◆**9000. Doctoral 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.*

◆*Grades of A-F, or IP will be given.*

EDUCATIONAL PSYCHOLOGY AND RESEARCH (EDPR)

7000. Thesis/Research Project (1-6). (EDFD 7000). Thesis or research project that is presented or published, designed under direction of student's committee, and completed while completing MS degree; capstone experience for Master's degree program. May be repeated for a maximum of 6 credit hours.

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.

◆**7008-8008. 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.

◆**7009-8009. Practicum. (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.

◆**7081-8081. 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

◆**8091. Teaching in Educational Psychology and Research for Graduate Assistants. (1-3).** Overview and practical demonstrations of the art of teaching in educational psychology and research. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours. PREREQUISITE: EDPR 7521 or 7523 or permission of instructor.

◆**8092. Research Skills in Educational Psychology for Graduate Assistants. (1-3).** Research design, analysis, and methodology in educational psychology and research. Restricted to graduate assistants. May be repeated for a maximum of 3 credit hours. PREREQUISITE: EDPR 7521 or 7523 or permission of instructor.

◆**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.*

◆*Grades of A-F, or IP will be given.*

Educational Psychology

7109-8109. Infant Development. (3). (EDPS 7110-8110). Infancy and toddlerhood from developmental research issues perspective; empirical studies and contemporary issues relating to factors influencing infant development.

7110-8110. Early Childhood Development. (3). Advanced study of methodology, variables, and findings from empirical research relating to early childhood development via contemporary developmental research literature.

7111-8111. Child Psychology Applied to Education. (3). (EDPS 7111-8111). Major theories of child psychology and their implications for educational practices with the preschool and elementary school child.

7112-8112. Adolescent Psychology Applied to Education. (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.

7113-8113. Midlife and Adult Development. (3). (EDPS 7113-8113). Cognitive, emotional, and psychosocial theories and research on middle age and adult development.

7114-8114. Psychology of Aging. (3). (EDPS 7114-8114). Cognitive and psychosocial developmental theories of aging and implications for life-span education.

7115. Child Development for Beginning Teachers. (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.

7117-8117. Life-Span Human Development. (3). Theories and research on the physical, psychological/emotional, social, cognitive, and cultural aspects of human development across the life span.

7121-8121. Learning and Cognition Applied to Education. (3). (EDPS 7121-8121). Major theories of learning and cognition; emphasis on current research and implications and applications for practitioners.

7131-8131. Culturally Diverse Students: Implications for Education. (3). (EDPS 7131-8131). Cultural differences among American student populations; emphasis on family structure, socialization of children, and cultural influences on student behavior.

7149-8149. Seminar in Cognitive Processes Applied to Education. (3). (EDPS 7149-8149). Information processing, computer simulation of intelligence, critical thinking, memory, problem solving of normal and atypical learners with applications made for classroom instruction. PREREQUISITE: EDPR 7/8121.

7150-8150. Motivation. (3). (EDPS 7150-8150). Theoretical and research viewpoints on motivation from cognitive perspective; applications to educational and industrial setting. PREREQUISITE: EDPR 7/8121 or 7/8149 or permission of instructor.

7151-8151. Individual Differences in Learning. (3). (EDPS 7151-8151). Theoretical foundations of instructional models designed to adapt learning to individuals; includes programmed instruction, computer-based instruction, competency-based

(PSI) models, token economy systems, peer tutoring strategies, and contemporary theoretical models pertaining to behavior modification, aptitude-treatment interactions, and adaptive instruction.

7161-8161. Moral and Ethical Development. (3). (EDPS 7161-8161). Current theory and research on moral and ethical reasoning and development across the life span and educational implications.

7165-8165. Social Development in Children. (3). Current theory and research on children's social development; emphasizing relationships with parents, teachers, siblings, and peers from infancy through adolescence.

8171. Seminar in Human Development. (3). (EDPS 8171). Research issues in human development; specifically focused on adolescence, midlife, aging, and implications across age groups. PREREQUISITE: EDPR 7/8111, 7/8112 or 7/8113 or 7/8114 or permission of instructor.

Educational Research

7511-8511. Measurement and Evaluation. (3). (EDRS 7511). Test construction, test statistics, and interpretations and applications of standardized test results.

7512-8512. Psychometric Theory and Educational Application. (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.

7521. Introduction to Educational 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.

7523. Applied Educational Research. (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.

7531-8531. Computer as a Research 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.

7541-8541. Statistical Methods Applied to Education 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 7523 or permission of instructor.

7542-8542. Statistical Methods Applied to Education 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; emphasis on student acquisition of practical intermediate univariate analytic and interpretative skills. PREREQUISITE: EDPR 7/8541 or permission of instructor.

7543-8543. Research Design and 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.

7544-8544. Applications of Multiple Regression in Educational Research. (3). Path models; path analysis, hierarchical linear modeling (HLM); applications of path analytic and HLM techniques in educational research. PREREQUISITE: EDPR 7/8542 or permission of instructor.

7547-8547. Sampling Designs and Survey Research 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 or 7523 and 7-8542 or permission of

instructor.

7551-8551. Introduction to Evaluation 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 or 7523 and EDPR 7/8542 or permission of instructor.

7561-8561. Qualitative Methods in Education. (3). (EDRS 7561-8561). Issues, procedures, and problems of conducting qualitative research in educational settings. PREREQUISITE: EDPR 7521 or 7523 or permission of instructor.

7572-8572. Institutional Research in Education. (3). (EDRS 7572-8572). Techniques of institutional analysis in designing self-studies, evaluating the teaching and learning environment and institutional planning. PREREQUISITE: EDPR 7521 or 7523 and EDPR 7/8542 or permission of instructor.

7581-8581. Applied Behavior Analysis and Single-Case Designs. (3). Reviews essential theory, logic, concepts, principles, methods, and ethics of single-subject designs as they relate to behavior analysis. PREREQUISITE: SPED 7514-8514.

8519. Seminar in Educational Measurement. (3). (EDRS 8519). Systematic investigation of advanced topics in the field of educational measurement. A prior course in educational statistics is recommended.

8549. Multivariate Methods in Education. (3). (EDRS 8549). Systematic investigation of current multivariate methods in the field of educational statistics. PREREQUISITE: EDPR 7/8542 or permission of instructor.

8562. Advanced Qualitative Methods in Education. (3). Advanced examination of major theoretical and methodological issues in contemporary qualitative inquiry; in-dept treatment of important practical issues encountered in conducting qualitative research in educational settings. PREREQUISITE: EDPR 7/8561 or permission of instructor.

HEALTH AND SPORT SCIENCES

Room 106, Field House
(901) 678-3472

ROBIN R. ROACH, EdD
Interim Chair

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I. The Department of Health and Sport Sciences offers two graduate degrees: 1) Master of Science degree in Human Movement Science with concentration in Exercise and Sport Science, Health Promotion, Physical Education Teacher Education, or Sport and Leisure Commerce; and 2) Master of Science degree in Clinical Nutrition.

II. MS Degree Program--Major in Human Movement Science

Program objectives are: (1) appreciation of the varied subject matter that comprises the fields of study; (2) skill development and understanding of the research evidence that formulates the foundation of human movement sciences; (3) understanding of the critical role of diversity to the delivery of inclusive sport science services; (4) development of effective leadership skills; and (5) understanding and commitment to the ethical standards of the profession.

A. Admission Requirements

1. An applicant must submit an official transcript for undergraduate and graduate studies, an official report of Graduate Record Examination (GRE) scores, and an application to the Graduate School. An applicant seeking admission to the Sport and Leisure Commerce concentration may opt to take the Graduate Management Admissions Test (GMAT) in lieu of the GRE. An applicant seeking admission to the Physical Education Teacher Education concentration may opt to take the Miller Analogy Test (MAT) in lieu of the GRE.
2. An applicant must submit the Departmental Graduate Admission Application Form, two letters of recommendation, and a 300-500 word statement of goals and intended area of concentration directly to the department. (Contact the department's academic services coordinator for application forms. Departmental application forms are also available on-line at <http://hss.memphis.edu>. 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 science-oriented courses such as anatomy and physiology, health sciences, exercise physiology, anatomic kinesiology, sport psychology, and motor learning for Exercise and Sport Science and Health Promotion concentrations; or a background in sport management, economics, finance, marketing, public relations, commercial recreation, resort management, and tourism courses for the Sport and Leisure Commerce concentration.
5. Completion of undergraduate work deemed by the concentration committee as prerequisite to graduate courses
6. Due to the close mentoring of students by the graduate faculty, admission to the program is limited. To ensure maximum consideration for admission into the program, 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/MAT scores, personal goals statement, relevant employment history, and letters of recommendation.

B. Program Requirements

1. A minimum of 33 hours is required for the major although respective concentrations may require additional credit hours.
2. Program Core (6 hours): EDPR 7523 and EDPR 7541.
3. Concentration requirements:
 - a. Exercise and Sport Science (15 hours): EDPR 7542, EXSS 7123, 7163, 7201, 7202
 - b. Health Promotion (24 hours): HPRO 7182, 7710, 7712, 7722, 7732/8732; HMSE 7183; COUN 7780; ANTH 7250
 - c. Physical Education Teacher Education (18 hours): PETE 7201, 7202, 7203, 7204, 7205, 7501
 - d. Sport and Leisure Commerce (12 hours): SLC 7321, 7420, 7440, 7503
4. Guided electives selected from the following OR other courses with approval of the advisor:
 - a. Exercise and Sport Science concentration (choose 9 hours): BIOL 6503, 6504, 6511, 6512, 6630, 7010, 7031; NUTR 7212; EDPR 7531; EXSS 6000, 6010, 6406, 6603, 6902-11, 7152, 7173, 7210/8210, 7220/8220, 7230/8230, 7240/8240, 7250/8250, 7532/8532, 7542/8542, 7722/8722, 7800, 7902-11; HPRO 7732/8732;
 - b. Health Promotion Concentration (no electives)
 - c. Physical Education Teacher Education (choose 6 hours): ECED 7100, 7104, 7107, IDT 7048, 7060, 7061, ICL 7002, 7040, 7130, 7138, HPRO 7702, 7722, 7183, 7182, LEAD 6400, 7000, 7004, SLC 7603, 7420, 7331, ICL 7160, 7165, 7168, EXSS 7163, 7173, 6603
 - d. Sport and Leisure Commerce Concentration (choose 9-12 hours): SLC 6102-11, 6902-11, 7152, 7341, 7351, 7361, 7371, 7600, 7603, 7605, 7653, 7800, 7902; COMM 6011, 6341, 6375, 6831; MIS 7465; MGMT 7030, 7170, 7173, 7220; and MKTG 7060, 7140, 7170, 7213, 7251, 7510.
5. Culminating Experience (3 hours):
 - a. Exercise and Sport Science concentration: HMSE 7996 (Thesis, 6 hours). Students should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
 - b. Health Promotion Concentration: HMSE 7996 (6 hours) or HPRO 7800 (3 hours) and HPRO 7950 (3 hours)
 - c. Physical Education Teacher Education: HMSE 7996 (6 hours) or PETE 7950 (6 hours)
 - d. Sport and Leisure Commerce Concentration: HMSE 7996 (6 hours) or SLC 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.

C. Program Retention Policy

All MS degree students are regularly monitored for completion of any entry-level deficiencies by graduate faculty.

A department retention committee, comprised of selected graduate faculty, monitors the academic progress of all MS degree students. The 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 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 American Dietetics Association (ADA) approved Didactic Program in Dietetics.
2. Acceptable undergraduate grade point average.
3. Acceptable scores on the Graduate Record Examination or on the Miller Analogies Test.
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 fee.

B. Program Requirements

A total of 42 hours is required for completion of this major, three hours of which must be a culminating experience (thesis or Master's project), and 10 hours of which must be clinical internship and residency.

1. Twenty-six hours are required in the major as core and consist of the following courses:

NUTR 7204 Life Span Nutrition (3)
NUTR 7205 Nutrition Care Process I (3)
NUTR 7214 Methods in Nutrition Education (3)
NUTR 7305 Nutrition Care Process 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 Advanced Food Systems Management (3)

2. Six hours are required as a research collateral and include the following courses:

EDPR 7523 Applied Educational Research (3)
NUTR 7950 Master's Project in Clinical Nutrition (3)
HMSE 7996 Thesis (6). 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 ADA accredited dietetic internship (900 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 ADA accredited dietetic internship with proof of registration as a dietitian, may waive Clinical Internship in Nutrition (NUTR 7481).
5. Successful completion of a written comprehensive exam.
6. Oral defense of culminating experience (Master's project or thesis).

HUMAN MOVEMENT SCIENCES AND EDUCATION (HMSE)

7183. Lifestyle Approaches to Wellness and Disease Prevention. (3). Effect of physical activity, physical fitness, and other lifestyle behaviors on health and prevention or delay of selected chronic diseases.

7403. Measurement and Evaluation in Human Movement Sciences. (3). (PHED 7403). Includes selection, application, and evaluation of certain tests appropriate to the Human Movement Sciences.

7620. Teaching Skills in Human Movement Sciences and Education. (3). Overview and practical demonstrations of the art of teaching for graduate assistants. PREREQUISITE: permission of advisor.

7622. Research Skills in Human Movement Sciences and Education. (3). Research design, practice, and methodology in human movement sciences and education; may be repeated. PREREQUISITE: permission of advisor.

◆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)

6000. Exercise Testing Techniques and Interpretation 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. *One hour lecture, two hours lab.*

6010. Dietary Supplements, Food, and Drugs for Health and Performance. (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. PREREQUISITES: Permission of instructor.

6406. Exercise Testing and ECG Interpretation. (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.

6603. Advanced Methods of Strength Conditioning. (3). Advanced study of training principles for strength and conditioning programs and their underlying physiological bases. PREREQUISITES: Permission of instructor.

6902-11. Special Topics in Exercise and Sport Science. (3). Current topics in exercise and sport science. May be repeated with change in topic. See online class listings for topic.

7123-8123. Mechanical Analysis of Motor Skills. (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.

◆ **7133-8133. Current Readings in Exercise and Sport Science. (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.

◆ **7142-8142. Seminar in Exercise and Sport Science. (1-3). (HLTH 7142).** May be repeated for maximum of 3 credits.

◆ **7152. Special Problems in Exercise and Sport Science. (3).** Independent study and/or research project on selected problems and issues in exercise and sport science. PREREQUISITE: Permission of instructor.

7163-8163. 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.

7173-8173. Sport and Exercise Psychology. (3). Survey of literature related to psychological aspects of participation in sport, exercise, and physical activity settings.

7201-8201. Physiology of Exercise: Musculoskeletal Aspects. (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.

7202-8202. Physiology of Exercise: Metabolic/Cardiorespiratory Aspects. (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.

7250-8250. Motor Control: A Behavioral Emphasis. (3). Analysis of theoretical and empirical basis for psychological mechanisms underlying movement control and skill development. PREREQUISITE: permission of instructor.

7210-8210. Analysis of 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.

7220-8220. Advanced Considerations of Skeletal Muscle Structure and Function. (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.

7230-8230. 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.

7240-8240. Atherosclerosis and Cardiovascular Disease: Pathophysiology and Interventions. (3). In-depth review of atherosclerosis and associated clinical manifestations; prevention and treatment emphasizing exercise, nutrient, and pharmacological therapy. PREREQUISITE: Permission of instructor.

7250-8250. Motor Control: A Behavioral Emphasis. (3). Analysis of theoretical and empirical basis for the psychological mechanisms underlying movement control and skill development. PREREQUISITE: Permission of instructor.

7532-8532. Research Methods in Sport Neuromechanics. (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.

7542-8542. Advanced 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.

◆7800. Internship in Exercise and Sport Science. (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.

7902-11--8902-11. Special Topics in Exercise and Sport Science. (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.

◆7950. Special Project in Exercise and Sport Science. (1-6). Functional study of a topic or problem in exercise and sport science that significantly relates to student's professional goals. PREREQUISITE: Permission of instructor.

◆8081. Independent Study. (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.

◆ Grades of A-F, or IP will be given.

HEALTH PROMOTION (HPRO)

6202-20. Workshops in Health. (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 in Health Promotion. (3). Current topics in health promotion. May be repeated with change in topic. See online class listings for topic.

◆**7122. Current Readings in Health Promotion. (3). (HLTH 7122).** Directed readings in health promotion; material selected to strengthen areas of study. May be repeated for maximum of 9 credits.

◆**7142. Seminar in Health Promotion. (1-3). (HLTH 7142).** Graduate seminar in health promotion.

◆**7152. Special Problems in Health Promotion. (3).** Independent study and/or research project on selected health problems or issues. PREREQUISITE: Permission of instructor.

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.

7702. Contemporary Health Issues. (3). (HLTH 7702). Extensive examination of timely and important issues in the health promotion area.

7703. Lifetime Physical Activity and Health. (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.

7704. Integrating Healthy Behaviors into Everyday 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.

7710. Event Planning and Program Promotion. (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.

7712. Epidemiology. (3). (HLTH 7712). Introduction to selected diseases of special concern in public health practice with emphasis on epidemiologic models and methods. PREREQUISITE: Introductory statistics, HLTH 7802, EDRS or EDPR 7521, or permission of instructor.

7722. Health Intervention Theories and Applications. (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.

7732-8732. Randomized Clinical Trials in Health and Sport Science. (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.

◆**7800. Internship in Health Promotion. (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.

7902-11. Special Topics in Health Promotion. (1-3). (HLTH 7092-11). Current topics in health promotion. May be repeated with a change in topic. See online class listings for topic.

◆**7950. Special Project in Health Promotion. (1-6).** A functional study of a topic or problem in health

promotion that significantly relates to the student's professional goals. PREREQUISITE: Permission of instructor.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

NUTRITION (NUTR)

6001-6006. Special Topics in Nutrition. (3). Current topics in nutrition. May be repeated with change in topic. See online class listings for topic.

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.

6702. Food Production Internship. (3). (HMEC, CSED 6702). Supervised field experience in an area of food production and service preparation for ServSafe, a food safety and sanitation certification.

6722. Catering Internship. (3) (HMEC, CSED 6702). Supervised field experience in catering. PREREQUISITES: HMEC 3602, 4502 OR CSED 3602, 4502.

6902. Study Tour in Foods and Nutrition. (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.

7204. Life Span Nutrition. (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 meet ADA Didactic Program in Dietetics requirements or permission of instructor.

7205 Nutrition Care Process I. (3) (CSED 7205). Didactic and laboratory methods in the selection, performance, and interpretation of nutrition assessment techniques. PREREQUISITE: Enrollment in the Dietetic Internship and Residency Program.

7206. Lifetime Nutrition and Health. (3). Equips teachers with nutrition knowledge, skills, and application needed to promote health learning. PREREQUISITE: Admitted to TEP or licensed to teach.

7212. Applied Nutrition for Health. (3). (HMEC, CSED 7212). Basic principles of nutrition and their applications to health and fitness. Not applicable to nutrition concentration.

7214. Methods in Nutrition Education. (3). Development of effective practitioner skills in nutrition education for groups and individuals in clinical and community settings. Emphasis on demonstration, practice, and feedback. PREREQUISITE: Enrollment in the Dietetic Internship and Residency Program or completion of an ADA approved dietetic internship.

7305. Nutrition Care Process II. (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 the Dietetic Internship and Residency Program or completion of an ADA approved dietetic internship.

7405. Pharmacology for Nutrition Professionals. (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 the Dietetic Internship and Residency Program or completion of an ADA approved dietetic internship.

7412-8412. 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: Student must meet ADA Didactic Program in Dietetics requirements or permission of instructor.

7415. Professional Issues in Nutrition. (3). 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 the Dietetic Internship and Residency Program.

7422-8422. 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: Student must meet the ADA Didactic Program in Dietetics requirements or permission of instruction.

◆7481. Clinical Internship in Nutrition. (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 the Dietetic Internship and Residency Program and completion of 24 hours of coursework.

7482. Clinical Residency in Nutrition. (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: Student must have completed an ADA accredited dietetic internship.

7522. Advanced Food Systems Management. (3). (CSED 7522). Detailed overview of current food service management systems with particular emphasis on hospital system internships. PREREQUISITE: NUTR 6602.

7950. Master's Project in Clinical Nutrition. (3). A functional study of a topic or problem in clinical nutrition that significantly relates to the student's professional goal. PREREQUISITE: Students must be in the final semester of the Clinical Nutrition Master's program and have completed EDPR 7523.

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.

7001. Applied Scientific Principles in Physical Education. (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.

7002. Curriculum in Physical Education. (3). Study of different curricular models and how to set up yearly and unit plans.

7003. Principles of Teaching Individual and 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.

7004. Learner Assessment in School-Based Physical Education. (3). Provides students with a range of tools to assess school children in psychomotor, cognitive, affective, and fitness areas.

7005. Teaching Strategies in Educational Gymnastics and Dance. (3). Prepares students to teach educational gymnastics and dance in school settings, as well as providing opportunities to develop individual skills.

7006. Instructional Strategies and Approaches in Physical Education. (3). Provides students with a range of instructional models that can be used in teaching physical education.

7007. Advanced Clinical Practicum in PETE. (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.

7008. Physical Education Professional Seminar. (1). Includes a range of professional issues and the development of a professional portfolio. COREQUISITE: PETE 7007.

NOTE: The following courses may be applied toward a master's degree.

7152. Special Problems in Physical Education Teacher Education. (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.

7133. Current Readings in PETE. (3). Directed readings in area of physical education teacher education; materials selected to strengthen areas of study. PREREQUISITE: Permission of the instructor.

7142. Seminar in PETE. (1-3). May be repeated when topic changes for a maximum of 3 credits.

7201. Theoretical and Instructional Models in Physical Education. (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.

7202. Advanced Analysis of Curriculum Models in Physical Education. (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.

7203. Learner Assessment and Program Evaluation in Physical Education. (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.

7204. Instructional Supervision in Physical Education. (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.

7205. Issues in Urban Physical Education. (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.

7501. Advanced Organization and Analysis of Instruction in Physical Education. (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.

7902-7911. Special Topics in PETE. (3). Important topics in Physical Education Teacher Education. May be repeated with a change in topic; see online class listings for topics.

7950. Special Project in Physical Education Teacher Education. (1-6). Functional study of a topic or problem in physical education that significantly relates to student's professional goals. PREREQUISITE: Completion of 18 credit hours in the program or permission of instructor.

◆ **Grades of S, U, or IP will be given.**

SPORT AND LEISURE COMMERCE (SLC)

6001. Sport Sales and Revenue Production I. (3). Analyzes and produces skills essential to revenue production and sales processes commonly found in the sport business. PREREQUISITE: Permission of instructor.

6002. Sport Sales and Revenue Production II. (3). Focuses on producing skills essential to managing existing customer sales commonly found in sport business. PREREQUISITE: SLC 6001.

6102-11. Workshops in Sport and Leisure Commerce. (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.

6902-11. Special Topics in Sport and Leisure Commerce. (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.

◆ **7142. Seminar in Sport and Leisure Commerce. (1-3). (RECR 7145).** May be repeated for a maximum of 3 credits.

◆ **7152. Special Problems in Sport and Leisure Commerce. (1-3). (RECR 7155).** Independent study or research, or both, on selected sport and leisure commerce problems and issues. PREREQUISITE: Permission of instructor.

7165. Advanced Perspective on Sport, Leisure & Commerce and the Global City. (3). 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: SLC 7321 or permission of instructor.

7175. Advanced Management of Sport and Leisure Organizations in International Perspective. (3). 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.

7321. Theoretical Foundations of Sport and Leisure. (3). Influence of historical, philosophical, and social elements upon sport and leisure management policies, practices, and programs. PREREQUISITE: Fully admitted students in Sport and Leisure Commerce program.

7331. Sport and Leisure as Promotional Culture. (3). 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.

7341. Commercial Recreation and Travel Tourism. (3). 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.

7351. Gender and Sexuality in Sport and Leisure. (3). (SLC 7201). Relationship between sport, leisure, and the dominant gender practices, experiences, and identities that structure everyday life within contemporary society. PREREQUISITE: SLC 7321, 7331, or permission of instructor.

7361. Race and Ethnicity in Sport and Leisure. (3). 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: SLC 7321, 7331, or permission of instructor.

7371. Sport and Leisure in the Global Marketplace (3). 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: SLC 7321; and 7331 or permission of instructor.

7420. Fundamentals of Sports and Leisure Commerce. (3). (SLC 7332). 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.

7440. Sport and Leisure Promotions and Information Services. (3). 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.

7503. Strategic Management of Sport & Leisure Organizations. (3). 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 and leisure commerce.

◆ **7600. Current Readings in Sport and Leisure. (3). (RECR 7135 or PHED 7133).** 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.

7603. Administration of Athletics. (3). Representative athletic administration procedure for colleges, public school systems, and municipal athletic leagues; fiscal procedures and business management.

◆ **7605. Practicum in Sport and Leisure Commerce. (3). (RECR 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.

7653. Managing Leisure and Sport Areas and Facilities. (3). (7100). Advanced management and operation of leisure and sport areas and facilities, emphasizing comprehensive planning, design, maintenance, and inspection of areas and facilities.

7800. Computer Applications in Sport and Leisure Commerce. (3). (RECR 7800). Evolution, current application, and future potential of computers for sport and leisure commerce.

7902-11. Special Topics in Sport and Leisure Commerce. (RECR 7905-15). (1-3). Current topics in sport and leisure commerce. May be repeated with change in topic. See online class listings for topic.

◆ **7950. Special Project in Sport and Leisure Commerce. (1-6).** A functional study of a topic or problem in sport and leisure that significantly relates to the student's professional goals. PREREQUISITE: Permission of instructor.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

INSTRUCTION AND CURRICULUM LEADERSHIP

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I. Department of Instruction and Curriculum Leadership (ICL) Overview, Programs, and Admission Deadlines

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 in ICL can also take IDT (Instructional Design and Technology) courses that focus on instructional computer applications in the P-12 classroom that will lead to a Certificate in Instructional Computing Applications. 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 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.

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. Concentrations are offered in Early Childhood (PreK-3), Elementary Education (early grades K-6), Middle School/Special Education (grades 4-8), Secondary Education (grades 7-12), and Special Education. Students choosing Special Education will choose one of three licensure areas: modified, 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 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.

C. Application Deadlines

Applicants to the ICL graduate programs are evaluated periodically throughout the year. All application information must be received by April 1 for summer and fall semesters and October 1 for the spring semester.

II. Master of Arts in Teaching (MAT) Degree Program

A. MAT Program Admission

Applicants must submit complete admissions requirements to be admitted. **All admissions requirements must be met prior to completion of 12 semester hours of course work or candidate will not be allowed to continue to take licensure or degree course work.** 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. Submit an application to Graduate Admissions in 101 Wilder Tower including the following:
 - a. An official transcript reflecting an earned bachelor's degree with a 2.5 or higher grade point average from an accredited institution or have a 2.75 grade point average in their last 60 hours of undergraduate course work.
 - b. Passing scores on the Pre-Professional Skills Test (PPST) reading (173), writing (174), and math (173) subtests.
 - c. Passing scores on the 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.)
2. Submit to the Office of Teacher Education in 202 Ball Hall two letters of recommendation on letterhead from professionals knowledgeable of the applicant's academic abilities, potential as a teacher, or experience with children.

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 Teacher Education Program (TEP). Students are encouraged to apply for admission into TEP as soon as they enroll in any College of Education courses.
2. TEP admissions deadlines are September 15 for fall and January 31 for spring.

3. Requirements for admission into TEP include:
 - a. A grade point average of 3.0 at the graduate level;
 - b. Successful completion of a personal interview;
 - c. Pass all sections of the Praxis I PPST Exam;
 - d. Pass the Praxis II Content Knowledge Exam required by the State of Tennessee for the licensure area.

Students must be admitted to the Teacher Education Program (TEP) before completing 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 39-46 graduate semester hours, depending on program and licensure area. The number of hours is contingent upon licensure requirements fulfilled by undergraduate studies and specific content/subject area requirements. Minimum hours may increase depending on licensure requirements. Students who are employed by a school district on an alternative license may have the Level III (student teaching and professional seminar) course requirements waived if they provide the necessary documentation to verify two years of successful teaching experience in their area of licensure. Students in this category should contact the ICL Department for specific requirements.

1. Program Requirements

- a. 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; SPED 6900, 7101; IDT 7061.
 2. Early Childhood Level II and III Licensure Requirements: ECED 6520, 6530, 6540, 7102; RDNG 7553; ICL 7804 (6 hours), 7993 (1 hour).
 3. Students are required to complete a minimum of 89 clock hours of structured field experience during the day in PreK-3 settings prior to student teaching. 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 either a thesis (ICL 7996-3 hours) or Master's Project (ICL 7992-3 hours).
- b. Students seeking **Elementary Licensure** in early grades (K-6) and the MAT degree must complete the following requirements:
 1. Elementary Early Grades (K-6) 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 (1 hour);
 3. Elementary Early Grades students are required to complete a minimum of 68 clock hours of field experience during the day in elementary school settings prior to student teaching. 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 either a thesis (ICL 7996-3 hours) or Master's Project (ICL 7992-3 hours).
- c. Students seeking the **Middle School/Special Education Licensure** in grades 4-8 and the MAT degree must complete the following requirements:
 1. Middle School/Special Education Level I Licensure Requirements (grades 4-8): ICL 7165, SPED 6900, 7000; EDPR 7112; IDT 7061;
 2. Middle School/Special Education Level II and III Licensure Requirements (grades 4-8): ICL 7913,

7993 (1 hour); RDNG 7545; SPED 7001, 7211, 7221, 7241; and 6 hours of appropriate methods courses (select 2): ICL 6003, 6004, 6005, 6006.

3. Students are required to complete at least 73 clock hours of structured clinical/field experience in both 4-8 and special education settings before student teaching. Middle School licensure course work includes these experiences. Students must plan accordingly.
 4. MAT degree requirements in addition to (1), (2), and (3) above: EDPR 7521 and ICL 7992 (Master's Project, 3 hours).
- d. Students seeking **Secondary Licensure** and the MAT degree must complete the following requirements:
1. Secondary Level I Licensure Requirements: ICL 7059; IDT 7061; SPED 7000; EDPR 7112 (or EDPR 7117 for any K-12 endorsement area);
 2. Secondary Level II and III Licensure Requirements: ICL 7030, 7080, 7709; RDNG 7545; 3 hours of appropriate methods courses ICL 7174, 7303, 7502, 7602, 7652; BUED 7655, CSED 6383; and ICL 7808 (6 hours), 7993 (1 hour).
 3. Students are required to complete a minimum of 40 clock hours of clinical/field experience during the day in secondary school settings prior to student teaching. 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 either a thesis (ICL 7996-3 hours) or Master's Project (ICL 7992-3 hours).
 5. Students who wish to become licensed as a teacher of French, Spanish, German, and/or Russian 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: biology, business education, business technology, chemistry, consumer science/homemaking, earth science, economics, English, French, geography, German, government, history, Latin, marketing/economics, math, physics, psychology, Russian, sociology, Spanish, and other foreign languages. Library information specialist is an add-on endorsement.
- e. 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 6900, 7000 or 7101; ICL 7104;
 2. Special Education Level II and III Licensure Requirements: SPED 6513, 7001, 7211, 7221, 7241 (6 hours), or PSYC 7808; and ICL 7993 (1 hour).
 3. Licensure areas (choose one):
 - a. Modified (K-12): SPED 7041, RDNG 7553, ICL 7504.
 - b. Comprehensive (K-12): SPED 6000, 6601, 7042.
 - c. Early Childhood (PreK-1): SPED 6601, 7121, 7141.
 4. Students in the Modified 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 student teaching. 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 student teaching. 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 either a thesis (ICL 7996-3 hours) or Master's Project (ICL 7992-3 hours).
- f. All students seeking teacher licensure must successfully pass student teaching or must document successful completion of professional experience in lieu of student teaching.
1. Students who are employed by a school district on an alternative license issued by the State of Tennessee may have the Level III (Student Teaching and Professional Seminar) course requirements waived if they provide the necessary documentation to verify two years of successful teaching experience in their area of licensure. Students in this category should contact the Licensure Coordinator for specific requirements.
 2. Students must enroll in the appropriate student teaching course during student teaching.
 3. Applications for student teaching must be filed one semester before student teaching.
 4. Application for documenting successful completion of professional experience in lieu of student teaching 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.

- g. Licensure in Tennessee requires acceptable scores on specified Praxis II Tests of pedagogy and teaching content knowledge.
- h. Validation of methods courses is not permitted.
- i. NOTE: Students electing to write a thesis should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.

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 3.00. Failure to maintain a 3.00 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.

A. Program Admission

Admission to the Graduate School and admission to a specific ICL graduate program are separate procedures. Applicants must submit complete admissions information:

1. An application to the Graduate School that includes:
 - a. Official report of the Graduate Record Examination (GRE) score (verbal, quantitative, and writing);
 - b. Official transcripts of undergraduate and graduate study;
 - c. 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. An application to the Department of Instruction and Curriculum Leadership (departmental applications can be obtained via the ICL web site <http://coe.memphis.edu/icl/>) that includes two letters of recommendation on letterhead, preferably one from a college/university professor.
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 33 graduate semester hours is required.
2. The major will consist of 18-21 semester hours in addition to ICL 7059 Models of Instruction or an equivalent course identified by the concentration and ICL 7992 Master's Project or ICL 7996 Thesis. Students electing to write a thesis should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write.
3. EDPR 7521 and three (3) semester hours in research, cultural, historical, or psychological foundations in education are required.
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 mentor 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:
 - a. Official report of the Graduate Record Examination (GRE) score (verbal, quantitative, and writing).
 - b. Official transcripts of undergraduate and graduate study
 - c. 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)
 - d. Copy of a valid teaching license.
2. Submit two letters of recommendation on letterhead, preferably one from a college/university professor, to the Department of Instruction and Curriculum Leadership in 202 Ball Hall.

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 can not 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:
 - a. Official Graduate Record Examination (GRE) score (verbal, quantitative, and writing)
 - b. Official transcripts of undergraduate and graduate study
 - c. 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://coe.memphis.edu/icl/>) that includes:
 - a. 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.
 - b. 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.

- c. 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. Interviews must be completed prior to the College deadlines.
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 April 1 for summer and fall semesters and October 1 for the spring semester.
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, with 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 should familiarize themselves with the [Thesis/Dissertation Preparation Guide](#) before starting to write the dissertation.
3. The research requirement will consist of 9-12 hours. EDPR 8541 and 8542 are required. The remaining hours should consist of courses directed toward research and/or statistical techniques and procedures necessary for the discipline and the dissertation topic.
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. Certificate in Instructional Computing Applications

This certificate program is designed for educators who want to integrate the use of computers in the classroom. The certificate requires the completion of 12 hours from a designated core of courses. 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.

A. Admission

Students interested in receiving a Certificate in Instructional Computing Applications must be admitted to a College of Education graduate program, one of which is the Department of Instruction and Curriculum Leadership graduate program. The courses may be completed as part of a degree program with the advisor's approval, or as additional course work.

B. Requirements

1. Core courses: IDT 7061/8061, IDT 7062/8062, IDT 7063/8063, IDT 7064/8064
2. Students interested in developing computer-based instruction may substitute IDT 7073/8073 for IDT 7062.
3. Students interested in developing computer training workshops for teachers may substitute IDT 7076/8076 for IDT 7063.
4. Both substitutions must be approved by the advisor.

VII. Graduate Retention Policy

It is the student's responsibility to obtain a copy of the retention policy from the departmental office.

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.

◆6701-10. Workshop in Curriculum and Instruction. (1-9). (CIED 6701-10). Various areas of the curriculum and elements of instruction are explored; active student participation is included. See online class listings for exact topics.

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.

7000. Analysis and Practice of Teaching I. (3). (CIED 7000). 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.

7010. Analysis and Practice of Teaching II. (3). (CIED 7010). 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 (or CIED) 7000.

7020. Professional Development Seminar I. (1-3). (EDUC 7020). Interpersonal and group process skills needed for teaching.

7021. Professional Development Seminar II. (1-3). (EDUC 7021). Specialty teaching area in pedagogical skills application.

7022. Professional Development Seminar III. (1-3). (EDUC 7022). Teacher roles, professional relationships, and professional development.

7030. Assessment and Evaluation. (3). (EDUC 7030). 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.

7032. Classroom Management. (2). (EDUC 7032). 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.

7051-8051. Simulation. (1-3). (CIED 7051-8051). Surveying, analyzing, and designing simulation activities appropriate for classroom situations; individual and group participatory activities.

7054-8054. Creativity in Teaching and Curriculum. (3). (CIED 7054-8054). Instructional strategies relevant to development of creative potential; activities include problem-solving, metaphoring, inventing, synectics, evaluation, questioning, brainstorming, creative writing and thinking, and spontaneity.

7058-8058. Values Education. (3). Major movements related to values education and analysis of strategies applicable to educational settings.

7059. Models of Instruction. (3). (CIED 7059). Analysis of theoretical and research support for selected models of instruction; emphasis on teaching applications.

7100. Field Experiences Introduction to Teaching. (1). Structured observation and participation in schools; emphasis on management and instructional issues. Field experiences: 10 hours.

7104. Collaborative Accommodations for Diverse Urban Learners. (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.

7150-59--8150-59. Special Topics. (1-3). Topics are varied and announced in the online class listing. May be repeated when topics change.

7704-8704. Workshop: Newspaper in the Classroom. (3). (CIED 7704-8804).

7705-8705. Advanced Management of the Learning Environment. (3). (CIED 7705-8705). Teacher's role in integrated approach to managing classroom's physical and behavioral learning environments, school curriculum, and pupil development and learning.

7706. Family and Community Relations for Teachers. (3). (CIED 7706). Analysis of family, cultural, and community patterns in relation to the teacher's roles and responsibilities for building educational partnerships.

7709. Urban Learning 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.

◆7800. Advanced Clinical Practicum for Initial Teacher Licensure or Additional Endorsement. (3-9). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993.

◆7803-8803. Internship in Kindergarten. (3-9). (CIED 7800-8800). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience.

◆7804-8804. Student Teaching in Early Childhood Settings. (3-9). (CIED 7800-8800). Includes student teaching experiences in both PreKindergarten or Kindergarten, and Primary grades 1-3. COREQUISITE: ICL 7993.

◆7805-8805. Internship in Elementary School. (3-9). (CIED 7800-8800). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience.

◆7806-8806. Student Teaching in Elementary School. (3-9). (CIED 7800-8800). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993.

◆7807-8807. Internship in Secondary School. (3-9). (CIED 7800-8800). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience.

◆7808-8808. Student Teaching in Secondary School. (3-9). (CIED 7800-8800). Includes student teaching, supervised practicum, and other similarly organized professional experiences; designed to compliment on-campus course study with actual on-site professional experience. COREQUISITE: ICL 7993.

◆7850-8850. Supervision of Student Teaching. (3). (CIED 7850-8850). Principles and techniques of student teaching supervision; designed for supervising teachers, administrators, coordinators of student teaching programs, and college personnel.

7912-8912. Foundations of 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.

◆**7913. Student Teaching in the Middle Grades. (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.

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.

◆**7991-8991. Independent Study in Instruction and Curriculum. (1-9). (CIED 7991-8991).** 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.

◆**7992. Master's Project. (3). (CIED 7992).** 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.

◆**7993. Professional Seminar. (1).** 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.

◆**7994-8994. 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.

◆**7996. Thesis. (1-6). (CIED 7996).** 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.

◆**8000. Specialist Culminating Experience. (1-6). (CIED 8000).** Thesis, internship, field study, or special project designed under direction of student's committee. Serves as capstone experience in Education Specialist Program.

◆**8200. Professional Seminar for Doctoral Students. (1).** 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 3 credit hours. PREREQUISITE: Admission to the doctoral program.

◆**8995. Research Residency Seminar. (3-6). (CIED 8995).** 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.

◆**8996. Teaching in Instruction and Curriculum Leadership for Graduate Assistants. (1-3).** Overview and practical demonstrations of the art of teaching for graduate assistants. May be repeated for a maximum of 3 credit hours.

◆**8997. Research Skills in Instruction and Curriculum Leadership for Graduate Assistants. (1-3).** Research design, practice, and methodology in Instruction and Curriculum Leadership for graduate assistants. May be repeated for a maximum of 3 credit hours.

◆**8998. Directed Readings in Instruction and Curriculum Leadership. (1-3).** Individually directed readings culminating in synthesis of ideas. May be repeated with change in topic for 9 hours. PREREQUISITE: Permission of instructor.

◆**8999. Supervised Research in Instruction and Curriculum Leadership. (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.

◆**9000. Doctoral Dissertation. (1-12). (CIED 9000).** 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.**

◆ **Grades of A-F, or IP will be given.**

Curriculum

6761. Aerospace Education in Schools. (3). (CIED 6761). Consideration of aerospace content and flight experiences; emphasizes classroom applications.

6762. Advanced Aerospace Education in Schools. (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.

7001. Fundamentals of Curriculum. (3). (CIED 7001). Principles of organizing and developing the curriculum and curriculum directions, trends, and patterns.

7002-8002. Curriculum Leadership. (3). (CIED 7002-8002). Application of curriculum and leadership theory to modern educational practices; emphasis on developing leadership styles to ensure implementation.

7003-8003. Curriculum Design and Evaluation. (3). (CIED 7003-8003). Considers a variety of curriculum designs and their implications for educational practice.

7004-8004. Innovative Curricula: Development and Implementation. (3). (CIED 7004-8004). Generic issues, problems, processes, and strategies relative to changes occurring with the implementation of innovative curricula. PREREQUISITES: ICL (or CIED) 7002, 7050.

7008-8008. Seminar in Curriculum Improvement. (3). (CIED 7008-8008). 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.

Elementary Education

7040. Integrated Teaching Strategies: Elementary. (3). Curriculum, methods, and materials for teaching mathematics, science, and social studies to elementary and middle school students. NOTE: For individuals in Elementary Accelerated MAT program only.

7103. Methods for Teaching Health, Physical Activity, and Nutrition. (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.

7130-8130. Elementary School Curriculum. (3). (CIED 7130-8130). Analysis of curriculum theories, materials, and practices as they affect the child's potential and growth.

7138-8138. Seminar in Elementary Education. (3). (CIED 7138-8138). Analysis of contemporary issues and trends in elementary education.

English/Language Arts Education

6003. Teaching Middle School Language Arts. (3). Principles, techniques, and materials for teaching language arts to students in the middle grades; clinical/field experience 18 hours. PREREQUISITE: Admission to TEP.

7300-8300. Contemporary Issues in Language Arts Instruction. (3). (CIED 7300-8300). 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.

7301-8301. The Teaching of Children's Literature in the Elementary School. (3). (CIED 7301-8301). Methods of teaching children's literature in the elementary school, including story telling, dramatization, choral speech work.

7302-8302. Teaching Literature to Adolescents. (3). (CIED 7302-8302). Methods of teaching adolescent literature including fiction, non-fiction, drama, and poetry.

7303-8303. English/Language Composition: Curriculum of the Secondary School. (3). (CIED 7303-8303). Emphasis on developing and implementing a sequential curriculum in secondary school language and composition. Field Experience: 8 hours.

7304. Memphis Urban Writing Institute I. (3). (Same as ENGL 7812). Intensive study of writing research, current writing practices, and issues and trends related to K-12 writing instruction. COREQUISITE: ICL 7305-8305 or ENGL 7813.

7305. Memphis Urban Writing Institute II. (3). (Same as ENGL 7813). Prepares K-12 teachers to improve their writing practices and assume a leadership role in writing instruction in their schools. COREQUISITE: ICL 7304-8304 or ENGL 7812.

7308-8308. Seminar in English/Language Arts. (3). (CIED 7308-8308). 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.

Gifted Education

7801-8801. The Talented and Mentally Gifted. (3). (CIED 7801-8801). Historical and societal perceptions and definitions of the talented and mentally gifted individuals; their social, emotional and learning processes.

7802-8802. Special Populations of the Gifted. (3). (CIED 7802-8802). 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.

7811-8811. Methods of Teaching the Gifted and Academically Talented. (3). (CIED 7811-8811). 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.

7822-8822. Advanced Methods of Teaching Gifted and Academically Talented. (3). (CIED 7822-8822). Examination of provisions of services to gifted students in other than traditional enrichment programs. PREREQUISITES: SPED 7801, 7811 or ICL 7801, 7811.

Library Sciences

6121. Library Materials for Young People and Adults. (3). (CIED 6121). 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.

7132. Cataloging and Classification. (3). (CIED 6502, CIED 7132). Introduction to principles and techniques of cataloging and classification of books and other library materials.

7133. School Library Administration. (3). (CIED 6503, CIED 7133). 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.

7730. Foundations of Librarianship. (3). (CIED 6504, CIED 7730). 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.

7731. Introduction to Bibliography. (3). (CIED 6501, CIED 7731). 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.

Mathematics Education

6004. Teaching Methods in the Middle Grades: Mathematics. (3). Introduction to instructional techniques, curriculum, and materials for teaching mathematics to middle school students, with emphasis on problem solving; clinical/field experience 18 hours. PREREQUISITE: Admission to TEP.

7500-8500. Advanced Mathematics in the Elementary/Middle School. (3). (CIED 7500-8500). Models of elementary and middle school mathematics instruction; history, philosophy, and research supporting those models. PREREQUISITE: Teacher licensure.

7501-8501. Elementary/Middle School Mathematics Education Curriculum. (3). (CIED 7501-8501). Issues and trends in elementary school mathematics curriculum. Appropriate current reports of professional groups will be considered.

7502-8502. Teaching Mathematics in the Secondary School. (3). (CIED 7502-8502). 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.

7503-8503. Secondary Mathematics Education Curriculum. (3). (CIED 7503-8503). Analysis of the secondary mathematics curriculum as it relates to sound educational practices.

7504. Methods for Teaching Mathematics in the Elementary and Middle Grades. (3). Instructional techniques, curriculum, and materials for teaching mathematics to elementary and middle school students. Field Experience: 10 hours. PREREQUISITE: Admission to TEP.

7508-8508. Seminar in Mathematics Education. (3). (CIED 7508-8508). Study and discussion of selected mathematics education topics of concern or special interest. May be repeated with a change in topics.

Science Education

6005. Teaching Methods in the Middle Grades: Science. (3). Instruction in principles, techniques, and materials for teaching relationships among science, technology, and society; clinical/field experience 18 hours.

7600-8600. Advanced Science in the Elementary and Middle School.(3). Models of science instruction; history, philosophy, and research supporting these models. PREREQUISITE: Teacher licensure.

7601-8601. Elementary School Science Curriculum. (3). (CIED 7601-8601). 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.

7602-8602. Teaching Science in the Secondary School. (3). (CIED 7602-8602). 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.

7603. Secondary School Science Curriculum. (3). (CIED 7603-8603). 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.

7605. Methods for Teaching Science in the Elementary and Middle School. (3). Instruction techniques, curriculum, and materials for teaching science to elementary and middle school students. Field experience: 10 hours. PREREQUISITES: Admission to TEP.

7608-8608. Seminar in Science Education. (3). (CIED 7608-8608). A survey of selected problems and topics in science education.

Secondary Education

7080. Curriculum and Instruction for the Multiethnic School. (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.

7160-8160. Modern Methods in Secondary Education. (3). (CIED 7160-8160). Secondary school teaching and how the secondary school can perform its role most effectively.

7165-8165. The Middle School. (3). Investigation of emerging concepts of the middle school and trends in classroom procedures and curriculum.

7168. Seminar in Secondary Education. (3). Analysis of problems, current issues, and trends in secondary education.

7170-79. Specialized Teaching Methods. (2). (CIED 7170-79). Objectives and philosophy of subject field as applied to secondary education; consideration of issues and research in content area; examination of curricular scope and sequence; application of adaptive and unique instructional strategies and methods to specific area; examination, selection, and utilization of curricular and instructional materials.

7174. Specialized Methods in Foreign Language. (3). (CIED 7174).(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.

Social Studies Education

6006. Teaching Methods in the Middle Grades: Social Studies. (3). Instructional strategies and assessment procedures relevant to teaching social studies to students in the middle grades; emphasis on addressing National Council of Social Studies Standards with middle school students; clinical/field experience 18 hours. PREREQUISITE: Admission to TEP.

7650-8650. Advanced Social Studies in the Elementary School. (3). (CIED 7650-8650). Advanced strategies for social studies instruction and history, philosophy, and research supporting those strategies. PREREQUISITE: Teacher licensure.

7652-8652. Teaching of Social Studies in Middle School/Secondary School. (3). (CIED 7652-8652). Consideration of principles and techniques for teaching secondary social studies. Field experience: 8 hours.

7653-8653. Middle School/Secondary Social Studies Curricula. (3). (CIED 7653-8653). Analysis

of programs and curricular materials for secondary social studies education.

7654. Methods for Teaching Social Studies in Elementary and Middle Schools. (3). Instruction techniques, curriculum, and materials for teaching social studies to elementary and middle school students. Field experience: 10 hours. PREREQUISITE: Admission to TEP.

EARLY CHILDHOOD EDUCATION (ECED)

6510. Early Childhood Education Programs and Practices. (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: 10 hours. PREREQUISITE: TEP admission or permission of instructor.

6520. Planning and Facilitating Social Learning and Development. (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: 15 hours. PREREQUISITE: TEP admission or permission of instructor.

6530. Planning and Facilitating Math and Science Learning and Development. (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 9 years. Field experience: 15 hours. PREREQUISITE: ECED 6510 and TEP admission, or permission of instructor.

6540. Planning and Facilitating Infant and Toddler Development and Care. (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: 10 hours. PREREQUISITES: ECED 6510 and TEP admission or permission of instructor.

7100-8100. Foundations of Early Childhood Education. (3). (CIED 7100-8100). Examination of historical, philosophical, psychological, and societal factors influencing development, modification, and implementation of programs for young children and their families.

7101-8101. Early Childhood Teaching and Learning. (3). (CIED 7101-8101). Incorporates knowledge of child development, early childhood curriculum models, and instructional methodologies to more effectively meet educational needs of young children in diverse environments.

7102-8102. Observations and Assessment of Infants, Toddlers, and Young Children With and Without Disabilities. (3). Developmental perspective on measurement and evaluation in early childhood years; standardized tests and informal measures, their advantages and disadvantages, and professional ethical issues regarding evaluating young children with and without disabilities. Field experience: 15 hours. PREREQUISITE: EDPR 7110.

7103-8103. Literacy Development in Early Childhood. (3). (CIED 7103-8103). Analysis of role of play in young children's development and learning from birth through age 9; developmentally appropriate applications to young children's literacy learning.

7104-8104. Play and Early Childhood Development. (3). (CIED 7104-8104). Analysis of role of play in young children's development and learning from birth through age 9; developmentally appropriate applications of play theory and research to young children's physical, intellectual, language, social, and emotional development and learning.

7107-8107. Constructivism in Early Childhood Education. (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.

7108-8108. Seminar in Early Childhood Education. (3). (CIED 7108-8108). 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.

7109-8109. Administration of Programs for Young Children. (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.

7113-8113. Research in Early Childhood Math and Science. (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.

7115-8115. Readings in Early Childhood Education Research. (3). Survey and analysis of contemporary issues and trends in early childhood education research; translating research into practical applications in early childhood settings.

◆**8110. Directed Readings in Early Childhood Education. (1-3).** Individually directed reading; written report required. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor.

◆**8112. Supervised Research in Early Childhood Education. (1-6).** Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor.

◆ **Grades of S, U, or IP will be given.**

INSTRUCTIONAL DESIGN AND TECHNOLOGY (IDT)

7052-8052. Instructional Technology and the Learner. (3). (CIED 7052, 8052). 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.

7060-8060. Technology Tools To Support Learning. (3). (CIED 7060-8060). 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.

7061-8061. Computers, Technology, Learning, and the Classroom. (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. PREREQUISITE: Must have had an introductory computer course or permission of instructor.

7062-8062. Authoring Instructional Courseware.(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 had an introductory computer course or permission of instructor.

7063-8063. Seminar in Instructional 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.

7064-8064. School Change and the Internet. (3). Issues, processes, and strategies relative to changes occurring with design, implementation, and evaluation of internet technology in schools. PREREQUISITE: IDT 7060-8060, IDT 7061, or permission of instructor.

7070-8070. The Instructional Design Process I. (3). (CIED 7070-8070). 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 K-12 students as well as adult learners in corporate, business, health, and governmental environments.

7071-8071. Principles and Applications of Instructional Design. (3). (CIED 7071-8071). Application of instructional design principles to solve performance and instructional problems in educational and non-educational environments.

7072-8072. Seminar in Web-Based Instructional Design. (3). (CIED 7072-8072). Application of ID principles to development of Web-based 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 intermediate content. PREREQUISITE: IDT (or CIED) 7071-8071 or permission of instructor.

7073-8073. Seminar in Computer-Based Instructional Design. (3). (CIED 7073-8073). Application of ID principles to development of computer-based 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 intermediate content. PREREQUISITE: IDT 7071-8071 or permission of instructor.

7074-8074. Theories and Models of Instructional Design. (3). A critical examination of existing instructional design theories from the perspective of supporting research and application.

7075-8075. Instructional Consulting. (3). Application of interpersonal skills when working with subject matter experts and clients of design, development, and production of instructional materials. PREREQUISITE: IDT 7071-8071.

7076-8076. Seminar and Workshop Design. (3). Technical and theoretical principles for developing effective seminars and workshops. Design, preparation, and implementation skills are developed for effective adult learning. PREREQUISITES: IDT 7071-8071 and research or statistics course.

7078-8078. Seminar in Instructional Design and Technology. (3). (CIED 7078-8078). Professional and research problems in instructional strategies, design, and technology. May be repeated once with a change in topic. PREREQUISITE: Permission of instructor.

7080-8080. The Instructional Design Process II. (3). Applies the instructional design process to create a self-paced instructional unit based on documentation designed in IDT 7070-8070; uses formative evaluation procedures to evaluate and revise the instructional unit based on evaluation results. PREREQUISITE: IDT 7070-8070.

7090-8090. Development of Interactive Learning Environments I. (3). Uses instructional design principles and models to develop interactive digital learning environments; students learn current development tools to impact instruction and learning. 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, or permission of instructor.

7095-8095. Development of Interactive Learning Environments II. (3). Teams use instructional design principles to design and develop an instructional system, emphasizing advanced development skills with current technologies, working with "live" clients, defining project goals and timelines, managing instructional design projects, and documenting the ID process. PREREQUISITE: IDT 7090-8090 or permission of instructor.

7230-8230. Instructional Text Design. (3). Introduction to application and techniques of generating and processing instructional text and graphics electronically. PREREQUISITES: IDT 7071-8071, 7072-8072, or permission of instructor.

◆7810-8810. Practicum in Instructional Design. (3-9). Planned, supervised experience in an instructional setting appropriate to student's specialization area of instructional design and technology;

opportunity to synthesize knowledge and skills and demonstrate professional competencies in educational or training settings. PREREQUISITES: IDT 7071-8071 and 3 hours of IDT coursework.

◆**8091. Directed Readings in Instructional Design & Technology. (1-3).** Individually directed readings culminating in synthesis of ideas. May be repeated with change in topic for 9 credits. PREREQUISITES: Permission of instructor.

◆**8092. Supervised Research in Instructional Design and Technology. (1-6).** Collaborative research with faculty including planning, design, management analysis, and reporting of research. May be repeated. PREREQUISITES: Minimum of 12 hours and permission of instructor.

◆ **Grades of S, U, or IP will be given.**

READING (RDNG)

7540-8540. Innovations for Teaching Literacy in the Classroom. (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.

7541-8541. Advanced Assessment of Reading Performance. (3). (CIED 7541-8541). Principles of assessment, evaluation, and prognosis in reading; formal and informal procedures and instruments used in assessing reading and related cognitive abilities; multiple causation approach to reading difficulties. PREREQUISITES: Teaching experience and RDNG (or CIED) 7540, or permission of the instructor.

7542-8542. Alternative Procedures for the Treatment of Reading Problems. (3). (CIED 7542-8542). Application of differentiated instruction within a clinical setting to meet the needs of the disabled reader. PREREQUISITES: RDNG (or CIED) 7540 and 7541 or permission of instructor.

7543-8543. Advanced Reading Instruction for the Special Learner. (3). (CIED 7543-8543). Etiology of reading disabilities unique to various types of handicapped children; planning and treatment selection related to gifted and talented, learning disabled, mentally retarded, physically handicapped, and other categories of special learner.

7544-8544. Reading and Study Skills in the Content Areas. (3). (CIED 7544-8544). Research based theories and steps necessary for academic disciplines: techniques for improving vocabulary, cognition, study skills, and reading rate.

7545. Teaching Reading in Subject Areas. (2-3). (CIED 7545). Methods, materials, and organizational patterns by which reading skills are developed and improved through integration with teaching strategies in subject areas. Field experience: 8 hours.

7546-8546. Computer Applications in Reading Instruction. (3). (CIED 7546-8564). Incorporating computers in the reading classroom and curriculum development of educationally relevant reading programs. PREREQUISITE: ICL (or CIED) 7060-8060 or permission of instructor.

◆**7547-8547. Reading Clinic. (3-6). (CIED 7547-8547).** Emphasis on practical experiences of clinical diagnosis and treatment. PREREQUISITES: ICL (or CIED) 7540-8540 or permission of instructor.

7549. Foundations of Language and Reading Development. (2). (CIED 7549). Instructional techniques, curriculum, and materials for teaching language arts and reading. Field experience: 4 hours. PREREQUISITES: Admission to TEP. Restricted to licensure-only or MAT secondary students.

7553. Foundations of Literacy Development in Grades K-4. (3). Teaching and assessing literacy development in grades K-4 with focus on major theories and current research. 12 hours of field experiences are required. Restricted to students seeking licensure.

7554. Foundations of Literacy Development in Grades 5-8. (3). Furthering literacy development in grades 5-8 with emphasis on teaching and assessment grounded in current research and theory. 12 hours

of field experiences are required. Restricted to students seeking licensure.

◆**7809. Reading Research Practicum. (3-9). (CIED 7800-8800).** Participation is required in a supervised research practicum; the experience includes either a clinical or field-based component. The development of a research paper is required.

8548. Advanced Seminar in Reading Research. (3-6). (CIED 7548-8548). 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.

8549. Theoretical Models and Processes of Reading. (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.

◆**8551. Directed Readings in Reading Education. (1-3).** Individually directed readings culminating in synthesis of ideas. May be repeated with change in topic for 9 credits. PREREQUISITE: Permission of instructor.

◆**8552. Supervised Research in Reading. (1-6).** Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

SPECIAL EDUCATION (SPED)

6000. Methods, Materials, and Curriculum for Learners with Moderate/Severe Disabilities. Curriculum, methods, and materials applicable to special educational needs of moderately/severely disabled learners, emphasizing educational and vocational skills that facilitate normalization and independent living. PREREQUISITES: SPED 3501 or SPED 6601; COREQUISITES: SPED 4001 or 7042.

6513. Assistive Technology, Transitions, and Community-Based Instruction. (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.

6601. Etiology and Characteristics of Students with Mild to Severe Physical/Health Impairments. (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.

6801-10. Workshop in Special Education. (1-9). For the professional in fields of special education. Intensive study of current methodologies, research, issues, and trends in various areas of exceptionality and disability. May be repeated when topic varies; see online class listings for topics.

6900. Consultation with School/Family/Community. (3). Current professional development issues that impact on educator interaction with students, parents, and other professionals including the development of communication and consultation skills.

7000. Introduction to Exceptional Learners. (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: 5 hours. NOTE: Not required if equivalent course taken at the undergraduate level. Substitutions must be approved

by advisor.

7001-8001. Tests and Measurements for Exceptional Children and Adults. (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 practice. Field experience: 8 hours. PREREQUISITE: SPED 7000.

◆**7002-8002. Independent Study in Special Education. (1-6).** Opportunity for self-directed, independent study in special education. PREREQUISITE: Permission of instructor.

7010-8010. Seminar in Special Education. (3). Continuing series of professional seminars designed to provide a forum for discussion of major problems, issues, trends, and research concerning individuals with disabilities. May be repeated for a maximum of 6 hours credit. PREREQUISITE: Permission of instructor.

7025. Microcomputers in Special Education. (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.

◆**7041-8041. Field Experience in Modified Special Education. (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.

◆**7042-8042. Field Experience in Comprehensive Special Education. (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.

7050. Teaching the Exceptional 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.

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.

7101-8101. Foundations of Early Childhood Special Education. (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: 4 hours.

7121-8121. Educational Programming for Pre-School Children with Disabilities. (3). Methods involved in developmental assessment and educational planning for children with disabilities in pre-school years. PREREQUISITE: SPED 7000 OR 7101-8101.

◆**7141-8141. Clinical/Field Experience in Early Childhood Special Education. (3-6).** Observation and supervised experience in early childhood special education settings. PREREQUISITES: ECED 6540 and SPED 7121-8121.

7201-8201. Characteristics of Individuals with Mild Disabilities. (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.

7203-8203. Characteristics of Individuals with Emotional Disturbance. (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.

7211-8211. Academic Instruction in Special Education. (3). Academic methods, remediation, and educational planning for individuals with disabilities. Field experience: 8 hours. PREREQUISITE: SPED 7000 or equivalent.

7221-8221. Behavior Management in Special Education. (3). Methods of changing behaviors of individuals with mild to severe disabilities in various educational settings. Field experience: 8 hours. PREREQUISITE: SPED 7000 or equivalent.

7222-8222. Methods and Techniques of Teaching Emotionally Disturbed. (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.

7224. Teaching Deaf and Hard-of-Hearing Children. (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.

7225. Teaching Speech/Language to Deaf and Hard-of-Hearing Children. (3). Focuses on the acquisition of basic speech/language skills in the development of effective communication in children with hearing impairments.

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.

7227. Teaching Reading to Deaf and Hard-of-Hearing Children. (3). Modern trends, lesson planning, teaching strategies, and assessment tools in reading instruction for children with hearing impairment.

◆7241. Supervised Practicum in Special Education. (3-9). Enhanced student teaching in settings with individuals who have disabilities. PREREQUISITE: Permission of instructor.

7401-8401. Psycho-Social and Educational Aspects of Learning Disabilities. (3). Psychological, social, and educational characteristics of individuals with learning disabilities; theories and philosophies regarding the treatment, etiology, and management considerations stressed.

7411-8411. Methods of Teaching Children with Learning Disabilities. (3). Remedial approaches for children with learning disabilities; emphasis on developmental sequence and educational practices.

7511-8511. 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.

7513-8513. Secondary School 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.

7514-8514. Introduction to Applied Behavior Analysis. (3). Overview of the principles, processes, concepts, and ethics of behaviorism and behavior analysis.

7516-8516. Advanced Principles and Concepts of Applied Behavior Analysis. (3). Knowledge and skills to select behaviors and interventions, measure behavior, evaluate the effects of interventions, and apply results of educational research to classrooms. PREREQUISITE: SPED 7514-8514.

7517-8517. Functional Assessment and Positive Behavior Support. (3). Examines principles, issues, approaches, and strategies for School-wide Positive Behavior Support and Functional Behavior Assessment. PREREQUISITE: SPED 7514-8514.

7518-8518. Evidence-Based Practices for Teaching Students with Disabilities. (3). Study of instructional strategies developed from applied behavior analysis, including Direct Instruction, Precision

Teaching, Discrete Trial Training, and others. PREREQUISITE: SPED 7514-8514.

◆**7519-8519. Practicum in Applied Behavior Analysis. (3-12).** Supervised experience in the application of behavior analytic strategies and tactics in an appropriate education setting; requires 20 hours per week and a minimum of 1000 hours total. May be repeated for a maximum of 12 hours credit. On-campus seminars addressing special topics are required. PREREQUISITE: SPED 7514-8514 with a grade of 3.0 or higher and permission of instructor.

7523-8523. Special Education Research and Dissemination. (3). Gives guidance in research practices appropriate for special education students and settings. Students will conduct guided research in program and/or methodology evaluation, single subject design, experimental and quasi-experimental designs, case studies and qualitative research to education settings; research ethics discussed; includes writing for specific special education journals.

◆**8524. Advanced Seminar in Special Education Research. (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.

◆**8622. Directed Readings in Special Education. (1-3).** Individually directed readings culminating in synthesis of ideas. May be repeated with change of topic for 9 hours. PREREQUISITE: Permission of instructor.

◆**8623. Supervised Research in Special Education (1-6).** Collaborative research with faculty, including planning, design, management, analysis, and reporting of research. May be repeated. PREREQUISITES: Minimum of 12 hours in concentration and permission of instructor.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

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.

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.

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.

7703. Knowledge of the 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.

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.

7706. Strategies of Learning and Instruction. (3). (5706). Analysis of theoretical and research

support for selected models of instruction; emphasis on teaching applications.

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.

7721. Theory and Foundation of Developmental Literacy (Literacy I). (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.

7723. Understanding and Implementing Best Practices in Teaching Beginning Literacy (Literacy II). (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.

7725. Understanding and Implementing Best Practices for Continued Literacy Growth in the Middle Grades (Literacy III). (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.

7726. Diagnosing Literacy Problems K-8. (Literacy IV). (3). (5726). Engages candidates in reading, discussions, and implementation of diagnostic tools and techniques in literacy for struggling students grades K-8.

7729. Remediation of Literacy Problems K-8 (Literacy V). (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.

LEADERSHIP
Room 123, Ball Hall
(901) 678-2369

KATRINA A. MEYER, PhD
Interim Chair and Coordinator of Graduate Studies

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<http://coe.memphis.edu/lead/>

I. Program Admission for Master of Science (MS) and Doctor of Education (EdD) in Leadership and Policy Studies:

1. Each applicant must submit a completed application packet to the University Graduate School that includes:
 - a. A completed admissions application
 - b. An official report of the Graduate Record Examination (GRE) score.
 - c. Official transcripts for all prior undergraduate and graduate courses.
2. In addition, each applicant must submit the following to the Department of Leadership:
 - a. A professional resume,
 - b. Three letters of professional recommendation on letterhead,
 - c. A brief statement of professional goals, and if available,
 - d. Evidence of current teacher certification.
 - e. 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 encouraged 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.

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.

II. Master of Science (MS) Degree Program

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 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:
 - a. A maximum of six (6) hours of transfer credit can be counted toward the concentration in School Administration and Supervision.
 - b. A maximum of six (6) hours of course work can be validated in the concentration in School Administration and Supervision.
4. Concentrations and Courses:
 - a. School Administration and Supervision: LDPS 7070, 7110, 7120, 7131, 7140, 7141, 7150, 7210,

- 7330, and one additional course
- b. Leadership: A minimum of 27 semester hours, including LEAD 7500, HIAD 8412, 5 additional departmental courses, and a portfolio
 - c. Administration/Supervision Licensure Program: The department maintains a program leading to licensure for students holding an appropriate master's degree
 - d. Student Personnel: A minimum of 27 semester hours, including LEAD 7500; HIAD 7050, 7440, 7442, 7443; and at least one of the following: HIAD 7410, 7512, 8420; or COUN 7730; and a portfolio

III. Doctor of Education (EdD) Degree Program

The department offers concentrations in Community Education, Educational Leadership, and Policy Studies.

A. 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:
 - a. Community Education: LEAD 8500, LDPS 8170, 8171, and 8181, and 18 hours approved by the student's advisory committee.
 - b. Educational Leadership: LDPS 8121, 8132, and 8181, and 21 hours approved by the student's advisory committee.
 - c. Policy Studies: LDPS 8305, 8310, and 8350, and 21 hours approved by the student's advisory committee.

IV. 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:
 - a. A completed admissions application
 - b. An official report of Graduate Record Examination (GRE) scores
 - c. Official transcripts for all prior undergraduate and graduate courses
 - d. 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
 - e. The admission committee may request a personal interview.
 - f. 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.
 - g. Deadline for submission of all application material is April 1 for summer and fall semesters and November 1 for 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
 - a. Higher Education: HIAD 8401, 8420, 8422, 8541, and 6 elective hours approved by the student's advisory committee.
 - b. 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:
 - a. Graduate students must complete the doctoral program within ten (10) calendar years.
 - b. A maximum of twelve (12) hours of transfer credit/credits earned as nondegree can be counted toward the degree.

V. Certificate in Community College Teaching and Leadership

The department offers a certificate for individuals interested in either a teaching or an administrative position in a community college. Consisting of 18 hours of course work, this program can be applied to or taken simultaneously with a Master of Science in Leadership or a Doctor of Education in Higher and Adult Education. Students not pursuing a degree should apply for admission to the Graduate School as non-degree seeking. For more information call 678-3531.

A. Course 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)

LEADERSHIP (LEAD)

6000. Foundational Studies: Education, Schooling, and American 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.)

6044. Special Education 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.

7000. Introduction to Educational Leadership. (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.

7006-8006. History of American Education, PreK-12. (3). Includes study of external historical influences, emphasizing theoretical interpretations, sources of policy, current issues of historical importance, and future expectations.

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.

◆**7061-8061 . Practicum in Leadership. (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.

◆**7070-8070. 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.

The following courses consist of readings and reports to survey the literature on the topic. May be repeated with departmental permission.

◆**7080-8080. Readings and Research in the Philosophy of Education. (1-3).**

◆**7081-8081. Readings and Research in Higher and Adult Education. (1-3). (EDAS 7790-8790).**

◆**7082-8082. Readings and Research in Educational Leadership. (1-3). (EDAS 7710-8710).**

◆**7083-8083. Readings and Research in Educational Policy. (1-3). (EDFD 7008-8008).**

◆**7084-8084. Readings and Research in School and Community Relations. (1-3). (EDAS 7700-8700).**

◆**7085-8085. Readings and Research in Educational Supervision. (1-3). (EDAS 7750-8750).**

◆**7086-8086. Readings and Research in Educational Finance and Business Management. (1-3). (EDAS 7730-8730).**

◆**7087-8087. Readings and Research in Educational Personnel and Negotiations. (1-3). (EDAS 7760-8760).**

◆**7088-8088. Readings and Research in Educational Law. (1-3). (EDAS 7780-8780).**

◆**7089-8089. Readings and Research in Educational Plant and Transportation. (1-3). (EDAS 7740-8740).**

◆**7090-8090. Readings and Research in the History of Education. (1-3).**

7100. Education and 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.

◆**7210-8210. 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.

7500-8500. Adult Learning and 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.

◆**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.

◆**8000. Specialist Culminating Experience. (1-6).** Thesis, internship, field of study, or special project designed under direction of student's committee; capstone experience in Education Specialist program.

8001. Educational Leadership in Organizations. (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.

8002. American Society and Educational Policies. (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.

8003. Policy-Oriented Research. (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.

8140. Planning of Educational 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.

◆9000. Doctoral Dissertation. (1-9). (EDAS 9000).

HIGHER AND ADULT EDUCATION (HIAD)

◆7060-8060. Internship in Higher and Adult Education. (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. PREREQUISITE: Permission of instructor.

7403-8403. Research in Higher and Adult Education. (3). Current topics, research problems, new studies, and needed inquiries in higher and adult education. PREREQUISITES: EDPR 7/851, 7/8542, 8415, 1 additional methods course approved by advisor.

7404-8404. 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.

7410. Overview of Higher Education. (3). (EDAS 7190-8190). Higher education in social and historical contexts; organization and administration of colleges and universities.

7411-8411. 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.

7415-8415. IT Trends and Issues in Higher and Adult Education. (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.

7430-8430. 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.

7440-8440. Student Personnel Services in Higher Education. (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.

7441-8441. College Students and College Cultures. (3). (COUN 7672-8672). College student characteristics and differing life patterns in institutional perspective; variations in student and college cultures in types of institutions.

7442-8442. College Student Development. (3). (Same as COUN 7622-8622.) Comprehensive study of traditional and non-traditional college students; emphasis on identification of development needs.

7443-8443. 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.

7444. Multiculturalism on College Campuses. (3). Develops knowledge and skills necessary for leadership in diverse educational backgrounds.

7445. Group Work in Student Personnel. (3). Information and experiential opportunities about working with groups for leaders in diverse educational settings.

7450-8450. College and University Curriculum. (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.

7452. Developmental Education (3). (HIAD 7204-8204). Developmental education programs in colleges and universities; focus on policy, administration, and instruction.

7510-8510. Overview of Adult Education. (3). (HIAD 7250). Historical development of adult education; scope of field, including non-formal, post-secondary education, and human resource development.

7511-8511. Administration and Governance in the Community College. (3). Clinical examination of structure, governance, management, and institutional culture in the context of accepted administrative practice in the contemporary community college.

7512-8512. Developing and Funding Leadership Programs. (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.

7530-8530. Continuing Professional Education. (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.

7541-8541. College Teaching. (3). (HIAD 7201-8201). Issues and trends in teaching and learning in higher education; analysis of various classroom teaching approaches designed for diverse student populations in higher education.

7542-8542. International and Comparative Higher and Adult Education. (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.

8401. Higher Education Administration. (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.

8405. Seminar in Higher and Adult Education. (3). (HIAD 7258-8258). Culminating experience for doctoral students; examination of current issues using cross-disciplinary perspectives derived from previous coursework.

8412. Historical and Policy Perspectives in Higher Education. (3). (EDFD 7002-8002). Historical development of higher education in the United States; current higher education policy issues in relation to this development.

8420. Higher Education Law. (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.

8422. Higher Education 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.

8991. Teaching in Higher Education for Graduate Assistants. (1-3). Overview and practical demonstration of the art of teaching in higher education and lifelong learning. Restricted to graduate assistants. May be repeated up to 12 hours credit.

LEADERSHIP AND POLICY STUDIES (LDPS)

7110. Leadership Exploration Seminar. (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.

7112-8112. Management of Educational Grants and Projects. (3). Planning and management of field-based educational projects, grants, and consulting services. Emphasis on team and group efforts; computer applications in project management.

7120. The 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.

7121-8121. Personnel Administration. (3). (EDAS 7160-8160). Educational personnel administration and policy including: human resource management, staffing goals, policies, recruitment, induction, roles, and professional development.

7131. School Business Management. (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.

7132-8132. 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.

7140-8140. Participatory Governance and Change. (3). Theory, research, policy, and practice in educational restructuring and participatory governance; strategies and procedures for implementation including role clarification, participatory decision making, group problem solving, communication, team building, evaluation, development of parent-community partnerships; mission setting and ethical and moral principles of governance.

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.

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.

7171-8171. Continuing and Adult Education Administration. (3). (EDAS 7612-8612). 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.

7180-8180. Politics and Power in Educational Leadership. (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.

7181-8181. Policy Implementation in Educational Administration. (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.

7305-8305. Issues in Educational Policy. (3). Special issues of current interest related to American educational policies and practices.

7311-8311. Issues in Philosophy of Education. (3). (EDFD 7021-8021). Critical examination of issues in the philosophy of education; history of issues and their effect on modern public schools.

7320-8320. Urban Education: Historical and Contemporary Perspectives. (3). Sociological and cultural dimensions of urban society and education with emphasis on contemporary issues and recent policy developments.

7330-8330. Race, Ethnicity, Gender, and American Education. (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.

7350-8350. Policies and Politics of Contemporary American Education. (3). (EDFD 7033-8033). Conceptual and empirical analyses of political and social issues related to US education.

8111. Educational Administration Performance Laboratory. (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.

8115. Educational Leadership Seminar. (3). (EDAS 7510-8510). Problems and issues derived from trends in contemporary culture that impact on educational leadership; emphasis on instructional leadership.

8133. Economics of Education. (3). (EDAS 8220). Economic aspects of education in the United States and other developed nations.

8155. Seminar in Education Law. (3). Analysis of current legislation and case law and its impact on education. PREREQUISITE: LDPS 7150 or permission of instructor.

8310. Philosophical Analysis and Educational Policy. (3). (EDFD 7022-8022). Exploration and use of philosophical analytical skills for assessing educational policies and practices.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

THE HERFF COLLEGE OF ENGINEERING

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GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentration	Degree Offered
Biomedical Engineering*	Biomedical Engineering*		Master of Science (MS) Doctor of Philosophy (PhD)
Civil Engineering	Civil Engineering	(1) Environmental Engineering (2) Geotechnical Engineering (3) Structural Engineering (4) Transportation Engineering (5) Water Resources Engineering	Master of Science (MS)
Electrical and Computer Engineering	Electrical and Computer Engineering	(1) Electrical Engineering (2) Computer Engineering	Master of Science (MS)
Engineering Technology	Engineering Technology	(1) Computer Engineering Technology (2) Electronics Engineering Technology (3) Manufacturing Engineering Technology	Master of Science (MS)
Mechanical Engineering	Mechanical Engineering	(1) Design and Mechanical Systems (2) Energy Systems (3) Mechanical Systems (4) Power Systems	Master of Science (MS)
Interdepartmental	Engineering	(1) Civil Engineering (2) Computer Engineering (3) Electrical Engineering (4) Mechanical Engineering	Doctor of Philosophy (PhD)

***NOTE: The Master of Science and the Doctor of Philosophy degree in Biomedical Engineering are offered through a joint academic program with The University of Tennessee, Memphis, School of Biomedical Engineering.**

Individual program requirements described in The University of Memphis Graduate Catalog, 2007-2008, 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).

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. In addition, a masters program in engineering technology is offered through the Department of Engineering Technology. 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 four areas: biomedical, civil, electrical, or mechanical engineering. Candidates for all degrees must follow a curriculum plan that has been approved at the departmental level and by the Director of Graduate Studies of the College.

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 of at least 2.5.
3. an acceptable score on the verbal and quantitative portions of the GRE as established by their department or program of study.

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 score at least 550 (or 210 computer-based) on the Test of English as a Foreign Language (TOEFL). 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 biomedical, civil, electrical, or mechanical engineering. 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 University of Tennessee, Memphis School of Biomedical Engineering.

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 Ph.D. 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 letters of recommendation. 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).

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. The following criteria will be applied according to the applicants 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 the GRE Verbal score is at least 450 and the GRE Quantitative score is at least 600. In addition, the product of the graduate GPA and the GRE score must equal at least 3500, i.e., $[GPA \times GRE > 3500]$.

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 field other than Engineering: Applicants in this category will be considered for admission provided they have an undergraduate GPA of at least 3.75, a GRE verbal score of at least 500, and a GRE quantitative score

of at least 650.

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.

In addition to the above requirements, all applicants must submit an application for admission to The University of Memphis along with three letters of recommendation from previous instructors attesting to the applicants academic ability and potential for success in a doctoral program. Applicants whose native language is other than English must score at least 550 (or 210 on the computer-based) on the Test of English as a Foreign Language (TOEFL).

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 may require additional coursework to prepare the student for doctoral studies.

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 2.0 or lower will result in dismissal from the program, i.e., a student who accumulates 6 hours of graduate coursework with a grade of 2.0 or lower in a masters program is permitted only one additional hour with a grade of 2.0 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.

Graduation Requirements

General Requirements: Each student must earn at least 90 semester hours beyond the bachelors degree or 57 beyond the masters degree. Credit for the dissertation will range from 18 to 30 semester hours with the decision concerning the credit allowance being made by the student's advisory committee. Early in each student's program of study, a committee composed of graduate faculty in the college will be appointed by the Director of Graduate Studies upon recommendation of the departmental chair.

At least 66 of the 90 semester hours required, including dissertation and research credit, must be in engineering and at least 57 in biomedical, civil, computer, electrical, or mechanical engineering. No more than 15 semester hours credit of 6000 level courses will count toward the 90-hour PhD degree.

Residency Requirements: A minimum of 24 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 eighteen semester hours in two successive regular semesters. A student is not eligible to complete the residency requirement until a minimum of thirty semester hours of graduate study have been successfully completed.

Language Requirements: Students will be required to demonstrate foreign language skills sufficient to understand the major body of pertinent literature in the chosen field of study and to conduct the research necessary for completion of the dissertation or other research as may be required by the advisory committee.

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 given only after the student has completed at least thirty semester hours of graduate study. Hence, for students entering the program with a masters degree, the exam will occur shortly after the beginning of the program. 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.

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 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 57 semester hours of coursework and research including the dissertation in the chosen field of study. Each student's program of study will be developed with the advisory committee.

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BIOMEDICAL ENGINEERING
Room 330, Engineering Technology
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EUGENE C. ECKSTEIN, PhD
Chair

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I. The Department of Biomedical Engineering at The University of Memphis and the School of 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.

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 M.S. 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 established by the Joint Program:

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. minimum scores of at least 500 on both the verbal and quantitative sections of the GRE, and a minimum score of 4 on the analytical 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 qualified students to earn a bachelors degree in an approved undergraduate discipline and a masters degree in Biomedical Engineering (BME) in five years. Students with advanced placement credits may require less time. Students will join research teams organized through the Joint Graduate Program in Biomedical Engineering, which is shared by The University of Memphis and The University of Tennessee Health Science Center.

Students may apply once they have completed one semester of junior course work. In addition to an application form, students must submit one letter of reference and a copy of their transcript to the BME department. Each applicant will be required to complete an interview with a pre-graduate advisor in the BME department. In order to remain in the program past the junior year, students must maintain a GPA of at least 3.25. Students in their senior year will become eligible to apply for combination senior status, allowing them to take graduate courses in BME. To continue in the program past the BS, students must submit a **◆Change of Status◆** application with Graduate Admissions.

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](#) before starting to write.
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.

BIOMEDICAL ENGINEERING (BIOM)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6205. Introduction to Chemical Sensors and Biosensors. (3). Measurement techniques, recognition processes; application of chemical sensors and biosensors for analysis of real samples.

6210. Research Studies. (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.

6702. The Tools of Biomedical Engineering Research. (3). Lectures and laboratory work covering basic biochemical and biophysical measurement techniques used by biomedical engineers; topics include light spectroscopy, gel exclusion and affinity chromatography, electrophoresis, immunoblotting, and radioisotopic methods. PREREQUISITE: Permission of instructor.

6900-6919. Special Topics in Biomedical Engineering I. (1-3). Topics are varied and are announced in the online class listings.

7004-8004. Life Sciences for Biomedical Engineering 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.

7005-8005. Life Sciences for Biomedical Engineering 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.

7101-8101. Biomedical Engineering 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.

7103-8103. Theory of 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.

7105-8105. Physiological Control Systems. (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.

7107-8107. Membrane Modeling: Computational Modeling of Cellular Systems. (3). Modeling, representation, and analysis of various cellular systems with applications in smooth, skeletal, and cardiac cells, and neurons; introduces basic concepts of mathematical modeling along with numerical methods; discusses various biological systems and models of electrical and chemical activities within and between these biological systems (i.e. cells).

7110-8110. Biostatistics. (3). Introduction to statistical techniques used for analysis of basic and clinical biomedical engineering data; sampling theory, hypothesis testing, ANOVA, and nonparametric techniques.

7114-8114. Professional Development. (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.

7116-8116. Mathematical Modeling of Biological Phenomena. (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.

7203-8203. Bioelectricity. (3). Introduction to electrical propagation through human tissue; membrane biophysics, action potentials, subthreshold stimuli, electrophysiology of heart, and neuromuscular junction.

7209-8209. Biomedical Measurements and Instrumentation. (3). Measurement techniques applicable in biomedical engineering; data acquisition system, mechanical instrumentation, interface systems, signal analyses; biocompatibility requirements.

7210-8210. Nervous System Function. (3). The function of the nervous system with specific emphasis on applications in biomedical engineering; topics include information handling, effector mechanisms, and control systems.

7215-8215. Advanced Cardiac Electrophysiology. (3). Covers individual channels and bulk transmembrane current flow; passive property modulation; reentrant and automatic arrhythmias; arrhythmogenesis in the acute, subacute and late phase of ischemia and infarction. Students will be expected to prepare and present recent research results.

7220-8220. Advanced Instrumentation and Measurements in Electrophysiology. (3). Advanced instrumentation and measurement techniques in electrophysiology; theory and application of non-invasive measurements of temperature, respiration, and the electrocardiogram; invasive techniques including pacing, defibrillation, and arrhythmia induction and termination.

7222-8222. 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.

7303-8303. Movement, Joint, and Implant Mechanics. (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.

7304-8304. Skeletal Tissue Mechanics. (3). Provides students with a conceptual framework of the field of musculoskeletal system so that the students may be able to (1) design more advanced instruments of diagnosis, (2) make measurements of physiological parameters, as well as (3) design biomaterials to replace skeletal and other components.

7305-8305. Advanced Imaging Instrumentation. (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.

7310-8310. Biomechanics I. (3). Introduction to physiological systems with emphasis on structure and function of tissue and organs; application of continuum mechanics to understanding of tissue and organ behavior at microscopic and macroscopic levels; design analyses of surgical procedures and prosthetic devices.

7313-8313. Biomechanics II. (3). Modern development of biomechanics at advanced mathematical level; dynamics of the lung, blood flow, microcirculation, and muscle mechanics.

7331-8331. Advances in Orthopedic Biomechanics. (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.

7340-8340. Computational Orthopedic Biomechanics. (3). Application of computational methods to analyze orthopedic biomechanic problems of the musculoskeletal system; fundamental principles and numerical techniques to analyze cases of the muscular skeletal system, including joint motions, function and design of implants and trauma fixation devices, and analysis of upper and lower extremity motion. PREREQUISITE: Permission of instructor.

7408-8408. 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.

7409-8409. Cardiovascular Fluid Dynamics. (3). Mechanics of blood circulation, fluid mechanics of the heart, blood flow in arteries, unsteady flow in veins, current concepts in circulatory assist devices and other selected topics.

7425-8425. Artificial Organs. (3). Basic concepts of blood contacting devices used as replacement for natural organs; artificial kidney, lung, heart-lung bypass, total hearts, pancreas.

7430-8430. Biomaterials. (3). Introduction to materials used in biomedical engineering; biocompatibility and uses of implantable materials such as ceramics, polyethylene, metals, composites and other materials.

7432-8432. Advanced Biomaterials. (3). Materials used in biomedical applications in relationship to corrosion, crack propagation, creep, and related topics; tissue ingrowth into materials.

7452-8452. Fluid Mechanics for Biomedical Engineers. (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.

7454-8454. Mass Transport for Biomedical Engineers. (3). Basic principles of mass transport applied to biological systems with particular emphasis on blood surface interactions, especially related to blood coagulation and thrombosis.

7460-8460. 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.

7470-8470. 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.

7480-8480. Experimental Techniques in Cell and Tissue Engineering. (3). Theory and application of basic biochemical and biophysical measurements and instrumentation; topics include light spectroscopy, centrifugation, radiochemical techniques, protein purification, chromatography, electrophoresis, flow cytometry, and immunoblotting.

7501-8501. Medical Imaging I. (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.

7502-8502. 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.

7506-8506. Advanced Imaging Techniques. (3). In-depth treatment of advanced techniques of image

processing and system performance analysis applied to medical image systems. Selected topics may include systematic corrections for digital image acquisition, image reconstruction in the presence of noise, feature enhancement techniques, computed tomography algorithms, and analysis of system/reader performance in diagnostic imaging.

7550-8550. Clinical Foundations of Medical Imaging. (3). Introduction to full spectrum of medical imaging applications for patient care; emphasizing clinical functions dependent on imaging devices and engineering challenges required to extend effectiveness of current state-of-the-art medical imaging techniques; lectures by practitioners in respective medical fields with support of instrumentation engineering experts as needed. PREREQUISITES: BIOM 7501-8501 or BIOM 7502-8502.

7560-8560. Engineering Analysis in Medical Imaging. (3). Basic mathematical techniques used in medical image analysis; Part I covers modality-independent analysis including image representations, analog and digital signals, linearity and shift-variance, imaging parameters, an overview of image reconstruction techniques, and experimental diagnostic accuracy; Part II covers modality-dependent analysis including applications of image reconstruction, examples of special analysis techniques and imaging instrumentation analysis, and simulation of photon generation and transport. PREREQUISITES: BIOM 7501-8501 or BIOM 7502-8502 or permission of instructor.

7580-8580. Molecular Imaging. (3).

◆**7721-8721. Clinical/Industrial Internships in Biomedical Engineering. (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.

◆**7730-8730. 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.

◆**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.

7900-7920◆8900-8920. Special Topics in Biomedical Engineering. (1-3). Topics are varied and announced in online class listings.

◆**7991-8991. 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.

◆**7992-8992. 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.

◆**7996. Master's Thesis. (1-12)**

◆**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.

◆**9000. Doctoral Dissertation. (1-12).**

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

CIVIL ENGINEERING
Room 104A, Engineering Science Building
(901) 678-2746

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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 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.

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. In addition, non-thesis students must pass a written Civil Engineering Master of Science Examination. This examination will be offered in November and April of each year. This exam will be taken in the student's final semester.
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 five areas: (No special concentration is required.)
 - a. Environmental Engineering: 6140, 6143, 6144, 7140, 7141, 7142, 7143, 7144, 7145, 7146, 7147, 7185, 7195, 7196, 7991, 7996.
 - b. Geotechnical Engineering: 6136, 7132, 7133, 7134, 7182, 7991, 7996, 7130.
 - c. Structural Engineering: 6131, 6136, 7001, 7111, 7115, 7116, 7117, 7118, 7119, 7112, 7113, 7991, 7996.
 - d. Transportation Engineering: 6162, 6163, 6164, 7001, 7162, 7163, 7164, 7165, 7166, 7168,

7169, 7991, 7996.

- e. Water Resources Engineering: 6180, 6190, 7133, 7153, 7163, 7181, 7182, 7185, 7191, 7192, 7193, 7194, 7195, 7196, 7197, 7991, 7996.

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 average of 3.00 or above will then be subject to the retention criteria listed in 2 above.
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.

III. PhD Degree Program

See the beginning of the College section for admission, retention, program objectives and graduation requirements.

CIVIL ENGINEERING (CIVL)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6122. Structural Analysis II. (3). Analytical and numerical solutions for statically indeterminate structures. Three lecture hour a week. PREREQUISITES: CIVL 3121, 3322.

6131. Intermediate Steel Design. (3). Design of plate girders and composite beams; moment connections; building design. PREREQUISITE: CIVL 3131.

6136. Intermediate Reinforced Concrete Design. (3). Design of two-way slab systems; column design including length effects; integrated building design using current code provisions. PREREQUISITES: CIVL 4122, 4135.

6140. Environmental Engineering 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.

6143. Physical-Chemical 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.

6144. Biological Wastewater Treatment. (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.

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.

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.

6163. Airport Planning and 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.

6164. Route Location and 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.

6180. Advanced Hydrology and 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.

6190. Water Resources Planning and Design. (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.

6900-6910. Special Topics in Civil Engineering. (1-3). Topics are varied and announced in the online class listings.

7001-8001. 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.

7012-8012. Probabilistic Methods in Engineering. (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.

7111-8111. Computational Mechanics. (3). Advanced mathematical modeling techniques using finite difference, finite element, and boundary element formulations to solve civil engineering problems. PREREQUISITE: Permission of instructor.

7112-8112. Plastic Design of Steel Structures. (3). (7122). Plastic analysis and design of steel structures; application to multistory buildings. PREREQUISITE: Permission of instructor.

7113-8113. Prestressed Concrete Design. (3). (7121). Theory of prestressing; design of prestressed concrete beams, slabs, and box girders; statically determinate and indeterminate structures. PREREQUISITE: Permission of instructor.

7114-8114. Elastic Stability. (3). Classical theory of buckling of rods, plates, and shells. PREREQUISITE: Permission of instructor.

7115-8115. Plate and Shell Structures. (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.

- 7116-8116. 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.
- 7117-8117. Finite Element Methods in Structural Mechanics. (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.
- 7119-8119. Earthquake Resistant Design. (3).** Earthquake strong motion; response spectrum analysis; seismic design of buildings. PREREQUISITE: Permission of instructor.
- 7123. Seismic Risk Assessment of Structures. (3).** Evaluation of seismic hazard and site-specific ground motion for critical facilities; analysis of structural reliability and seismic risk. PREREQUISITE: Permission of instructor.
- 7124-8124. Computational Software Development. (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.
- 7130-8130. Foundation Analysis. (3).** Analysis of footing, raft, pile, and pier foundations; analysis of earth pressures on retaining walls, rigid bulkheads, flexible bulkheads, and braced excavations.
- 7132-8132. Advanced Soil Mechanics. (3).** Stresses in soil masses; pore-water stresses; consolidation and settlement; shear strength; applications to problem solution.
- 7133-8133. Earth Structures. (3).** Analysis, design, and construction of earth dams, levees, embankments and slopes; soil stabilization; seepage, drainage, and flow nets. PREREQUISITE: CIVL 7132-8132.
- 7134-8134. Foundation Engineering. (3).** Critical study of foundation design of completed projects using case records; emphasis on failures and performance records. PREREQUISITE: CIVL 7130-8130, 7132-8132.
- 7135-8135. 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.
- 7137-8137. Geotechnical Earthquake Engineering. (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.
- 7141-8141. Water Treatment Plant Design. (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.
- 7142-8142. Wastewater Treatment Plant Design. (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.
- 7143-8143. Solid Waste Management. (3).** Systems approach to solid waste generation, characterization, collection, transportation, and disposal; emphasizes both domestic and industrial wastes. PREREQUISITE: Permission of instructor.
- 7144-8144. Residuals Management and Resource Recovery/Recycling. (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.

7145-8145. Advanced Biological Treatment. (3). In-depth study of biokinetics applicable to waste management; model evaluations; hazardous and non-hazardous wastes. PREREQUISITE: CIVL 6144.

7146-8146. Advanced Physical/Chemical Treatment. (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.

7147-8147. Hazardous Waste Management. (3). Design of hazardous waste management systems; application of current design theories; review of regulatory requirements. PREREQUISITE: Permission of instructor.

7154-8154. Industrial Wastewater Treatment. (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.

7162-8162. Transportation Systems Evaluation. (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.

7164-8164. Urban Transportation Engineering. (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.

7165-8165. Geometric Design of Transportation Systems. (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.

7166-8166. Design of Highway and Airport Pavements. (3). Design practices, materials, and testing of flexible and rigid pavements. PREREQUISITE: Permission of instructor.

7168-8168. Traffic Engineering 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.

7169-8169. 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.

7170-8170. Ground Water Contaminant Fate and 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.

7173. Environmental Geochemistry. (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.

7177-8177. Quantitative Hydrogeology. (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.

7181-8181. Statistical Hydrologic Modeling. (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.

7182-8182. Engineering Aspects of Sedimentation and 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.

7185-8185. Hydraulics of 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.

7191-8191. Computer Application in Water Resources. (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.

7192-8192. 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.

7193-8193. Hydraulics of Sediment Transport in Rivers and Lakes. (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.


7194-8194. Computation 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.


7195-8195. 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.

7196-8196. 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.

7197-8197. Ground Water Quality Control. (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.

7900-10  **8900-10. Special Topics in Civil Engineering. (1-3).** Topics are varied and announced in the online class listings.

 **7991-8991. Projects. (3).** Independent investigation of problem selected in consultation with instructor; report required. Nine laboratory hours per week.

 **7993-8993. Project and 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.

◆ **7996. Thesis. (1, 3, or 6).**

◆ **9000. Dissertation. (1-12).**

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

ELECTRICAL AND COMPUTER ENGINEERING

Room 206, Engineering Sciences Building

(901) 678-2175

DAVID RUSSOMANNO, PhD

Chair

STEVEN T. GRIFFIN, PhD

Coordinator of Graduate Studies

Room 205, Engineering Building

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I. The Department of Electrical and Computer Engineering 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 M.S. graduates; and (3) preparation to pursue additional advanced studies if so desired.

II. MS Degree Program

A. Admission Requirements

The department uses the college admission criteria with selected terms defined below.

1. Appropriate bachelor's degree. An official transcript showing a bachelor's degree awarded by an accredited college or university with an acceptable grade point average will be used by the department to determine an appropriate bachelor's degree. An applicant who lacks an appropriate bachelor's 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 Electrical or Computer Engineering before seeking admission to the graduate program. Appropriate bachelor's degree is defined as an ABET accredited degree in Electrical or Computer Engineering. Material equivalent to the intersection of the undergraduate programs in electrical or computer engineering will be required of applicants without the appropriate bachelor's degree.
2. Deficiency courses may be appealed by the following steps:
 - a. The student contacts his or her academic advisor requesting that specific deficiency courses not be required.
 - b. If in agreement, the student's academic advisor forms an appeals committee composed of at least three members of the graduate faculty.
 - c. The appeals committee meets, considers the request, and forwards a recommendation in writing to the graduate coordinator.
 - d. If the graduate coordinator disagrees with the recommendation, the student is referred to the department chair for disposition of the matter.

B. Program Requirements

1. Students pursuing the Master of Science in Electrical and Computer Engineering must take EECE 7100 or EECE 7251, and elect to pursue either a computer engineering or an electrical engineering concentration (multiple concentrations are not permitted).
 - a. 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.

- b. 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, 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.
 - a. No more than 9 semester hours may be taken outside the department. Advisor's approval is required.
 - b. 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.
 - a. No more than 9 semester hours may be taken outside the department. Advisor's approval is required.
 - b. Each student will be required to complete EECE 7991 or EECE 7992 for a total of at least 3 hours.
 - c. 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 or higher will be considered to be in good standing if no more than two (2) grades of 2.00 or lower have been earned. (See item 3 below).
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 two (2) grades of 2.00 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 2.00 or lower is earned.
4. A student who has been dropped from the graduate program in the Department of Electrical and Computer Engineering will be denied permission to enroll in Electrical and Computer Engineering courses in semesters subsequent to dismissal from the department.
5. 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 entering the PhD program at the master's level must take the PhD Qualifying Examination prior to registering for their third semester in the PhD program. Failure to do so may prevent the student from registering for the third semester.

ELECTRICAL AND COMPUTER ENGINEERING (EECE)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6202. Electrical Power Systems. (3). Investigation of problems associated with the transmission of electrical energy; load-flow studies, and fault analysis by use of symmetrical components.

6204. Power Distribution Systems. (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.

6213. Antenna Theory and Design (3). Theory of operation and design of antennas; determination of antenna radiation characteristics; introduction to antenna array theory. PREREQUISITE: Permission of instructor.

6214. EM Fields Laboratory. (1). Laboratory techniques associated with frequencies above 100 MHz. COREQUISITE: EECE 6215 or permission of instructor.

6215. EM Fields Applied to Telecommunications. (3). Steady state and transient solutions of transmission line equations; plane waves; antennas in telecommunications. PREREQUISITE: Permission of instructor.

6221. Electronics III. (4). Applications of analog and digital electronic circuits; special purpose circuits and devices. Three lecture, three laboratory hours per week.

6222. Digital Logic and Computer Design. (3). Applications of digital system design using MSI, LSI, and VLSI circuits; design of arithmetic logic units, multiple input controllers, and practical interfacing techniques.

6230. Data Communications Systems. (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.

6231. Communication Theory. (3). Frequency and time domain; modulation, random signal theory; autocorrelation; noise, communication systems. PREREQUISITES: EECE 3202 and MATH 4635.

6232. Discrete Signal Processing. (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. PREREQUISITES: EECE 3202 and MATH 4635.

6235. Probabilistic System Analysis. (3). Analysis of discrete signals and analog signals with random components; autocorrelation, cross-correlation, and power spectra applied to various signals; effects of filters are determined; measuring, modeling, and predicting performance of computer systems; entropy and optimum algorithm development; Markovian queuing systems and networks.

6241. Solid State Physical Electronics. (3). Quantum concepts; statistics; crystal structure; conduction processes in solids; p-n junctions and devices; field effect devices; charge transfer devices. PREREQUISITE: EECE 3211.

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.

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.

6251. Control System Engineering. (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.

- 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.
- 6253. Control Systems Laboratory. (1).** Investigation of fundamental properties associated with analysis of control systems, compensating networks, analog and digital computer simulations. COREQUISITE: EECE 6251 or 6252.
- 6254. Digital Control Systems Laboratory. (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.
- 6272. Engineering Software. (3).** Procedural and object-oriented programming techniques using C and C++. Introduction to Unix. PREREQUISITE: Permission of instructor.
- 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. PREREQUISITES: COMP 3160 or permission of instructor.
- 6275. Network Programming. (3).** Introduction to engineering of computer networks, network hardware, and network software; design of software systems for network applications. PREREQUISITES: EECE 1207 and EECE 3221.
- 6276. Advanced 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 4275 or permission of instructor.
- 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. PREREQUISITES: EECE 2222 and EECE 3202.
- 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. PREREQUISITES: EECE 2222 and either COMP 2150 or EECE 4272.
- 6710. Computer Architecture. (3).** Architecture and design of computers, performance measure, instruction sets, datapaths, I/O systems, and memory hierarchies. PREREQUISITE: EECE 6278.
- 6711. Fault-Tolerant Computer Design. (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.
- 6731. Introduction to 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.
- 6720. Introduction to Artificial Intelligence. (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.
- 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.

6900-09. Special Topics in Electrical and Computer Engineering. (1-3). Topics are varied and announced in online class listings.

7001-8001. Professional Development. (3). Weekly presentations of electrical and computer engineering research and development issues by visiting faculty and invited speakers; weekly presentations by graduate students and discussions of graduate student research. May be repeated by permission. NOTE: Electrical engineering majors may not use this course to fulfill degree requirements.

7100-8100. Linear Systems Analysis. (3). Systems concepts and mathematical tools including Z-transforms; analysis of systems, both continuous and discrete, in the time domain and frequency domain.

7211-8211. Advanced Electromagnetic Field Theory. (3). Advanced studies in electromagnetic fields, radiation, and propagation of energy.

7012-8012. Foundations in Software Engineering. (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. PREREQUISITE: COMP 3160 or permission of instructor.

7214-8214. 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.

7215-8215. Digital Signal Processing. (3). Application of discrete transform theory to spectral analysis, digital filters, random signal analysis. PREREQUISITE: Permission of instructor.

7216-8216. Computer Vision. (3). Principles and applications of computer vision, advanced image processing techniques as applied to computer vision, shape analysis, and object recognition.

7217-8217. Multimedia Information Processing. (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.

7230-8230. 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.

7231-8231. 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.

7232-8232. Analog Communication Circuit Design. (3). Design and applications of analog communication systems; transmitter and receiver technologies. PREREQUISITE: EECE 7231 or permission.

7233-8233. Power Electronics. (3). Power semiconductor switches, rectifiers, phase-controlled rectifiers, and other power control devices; power control applications.

7243-8243. 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.

7245-8245. 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.

7251-8251. Random Signals and Noise. (3). Statistical methods for describing and analyzing random signals and noise; auto-correlation, cross-correlation, and spectral density functions; optimal linear filter

theory.

7252-8252. 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.

7253-8253. Wireless Telecommunications. (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).

7254-8254. Modern Telecommunications. (3). Implementation and standards for communications systems; cellular telephony standards and/or wireless data standards utilizing CDMA techniques.

7255-8255. Digital Communications. (3). Source coding, signal representations, optimum receivers for A WGN channels, channel capacity issues, block codes, and convolution codes.

7261-8261. Architecture and Design of Digital Computers. (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.

7262-8262. Logical Foundations of Artificial Intelligence. (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.

7266-8266. PROLOG Processing for Intelligent Systems. (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.

7267-8267. LISP Processing for AI Applications. (3). Fundamentals of LISP programming, symbolic processing, searching, goal reduction, matching, problems and problem spaces, problem solving methods, and AI applications.

7268-8268. Object-Oriented Data Engineering. (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.

7273-8273. Modern Microprocessors. (3). Introduction to capabilities of state-of-the-art microprocessors and their supporting components.

7521-8521. Advanced Control System Engineering. (3). Cascade and feedback compensation; analysis and control of nonlinear systems; introduction to optimal techniques. PREREQUISITE: EECE 6251 or permission.

7522-8522. Stochastic and Adaptive Controls Theory. (3). Principles and applications of deterministic and statistical design; random processes in automatic control.

7523-8523. Theory of Optimal Control Systems. (3). State variable description of systems, maximum principle of Pontryagin, optimization of linear systems with quadratic performance measures, time and field optimal systems.

7524-8524. Parameter Estimation and Controls. (3). Principles of parameter estimation and application to systems engineering.

7720-8720. 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.

7740-8740. 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.

7900-10 **8900-10. Special Topics in Electrical Engineering. (1-3).** Topics are varied and announced in online class listings.

7991-8991. Projects I. (1-3). Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by permission.

7992-8992. Projects II. (1-3). Independent investigation of a problem selected in consultation with instructor; report required. Repeatable by permission.

7996. Thesis. (1-12). Master's thesis. Only six hours are applicable to the degree.

8990. Research Practicum. (6). Problem-solving research activities in engineering. Student assigned a project that is either being conducted currently by faculty member or one developed under supervision of faculty member. Whenever possible, project will be within student's major field of study.

9000. Dissertation. (1-12).

Grades of S, U, or IP will be given.

Grades of A-F, or IP will be given.

ENGINEERING TECHNOLOGY

Room 203 Technology Building
(901) 678-2225

DEBORAH J. HOCHSTEIN, MSE
Chair

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I. The Department of Engineering Technology offers a graduate program leading to the Master of Science degree with a major in Engineering Technology. Concentrations are available in Computer, Electronics and Manufacturing.

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.

II. MS Degree Program

A. Program Admissions

Admission requirements of the College.

B. Program Prerequisites

Applicant must have completed a minimum of 18 semester hours of upper division credit in an appropriate area of Technology or related area.

Students with deficiencies in their undergraduate work will be required to pass appropriate undergraduate courses with a grade of C or better to eliminate the deficiencies. Appropriate courses will be determined at the first advising session and will be based on the Graduate Coordinator's evaluation of undergraduate course work provided to Graduate Admissions.

C. Program Requirements

1. Non-thesis option: A minimum of 33 semester hours. Students selecting the non-thesis option must complete TECH 7991, Projects I.
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: TECH 7015, TECH 7020, and either MGMT 7030, TECH 7105, or METH 6381.
4. A minimum of 12 semester hours must be taken in one concentration area.
5. Concentrations may be made by selection of courses from the following areas:
 - a. Computer: CETH 6241, 6242, 6262, 6263, 6272, 6281, 7233, 7263, 7273, 7283; EETH 7801, 7831, 7841.
 - b. Electronics: EETH 7801, 7811, 7821, 7822, 7831, 7841; CETH 6281, 7263, 7273.
 - c. Manufacturing: METH 6381, 6460, 6464, 6466, 6472, 6474, 6476, 7401, 7402, 7404, 7406, 7408, 7414; EETH 7801, 7822.
6. Electives can be any 6000 or 7000 level course and must be from any one of the concentration areas

in the department. With permission, electives can be taken from other departments in the College of Engineering.

7. A maximum of three 6000-level courses will count toward the degree.
8. Candidates for the degree must average a 3.0 in all Technology courses.
9. Candidates for the degree must pass a comprehensive examination.
 - a. 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.
 - b. The comprehensive written examination will be administered Monday of the tenth week of classes during the fall and spring semesters.
 - c. A follow-up oral examination is optional with the examining committee.
10. 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. Two professional letters of recommendation describing pertinent work experience to the Graduate Coordinator for the Department of Engineering Technology, to be used when considering waiving a course prerequisite.

B. Program Requirements

Completion of 12 semester hours distributed as follows:

1. Required courses: Total 6 credits
TECH 7105, Project Planning and Scheduling
METH 7401*, Advanced Work Design and Measurement
*Course prerequisites will be waived for students who have demonstrated relevant work experience
2. Electives: 6 credit hours chosen from the following:
METH 7404*, World-Class Manufacturing
METH 7406*, Materials Handling and Automation
METH 7408, Production Processes
METH 7414*, Manufacturing Strategy and System Design
*Course prerequisites will be waived for students who have demonstrated relevant work experience

Students may enroll in 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 6 credit hours of the certificate program may be shared with a master's program.

3. Graduation:
 - a. Students must file an "Intent to Graduate" with the Graduate School at the beginning of the semester in which they will complete their 12-semester-hour requirement.
 - b. A minimum grade of "B" in each course applicable to the certificate and a minimum overall GPA of 3.0 is required.
 - c. Students must also submit a Candidacy Form, complete with courses, grades, and required signatures, to the Graduate School.

COMPUTER ENGINEERING TECHNOLOGY (CETH)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6241. Internet Technology. (3). Internet servers and protocols: Internet e-mail using Simple Mail Transfer Protocol, STMP; World Wide Web, WWW; Transmission Control Protocol/Internet Protocol, TCP/IP; Telnet Protocol; Hypertext Transport Protocol, HTTP; Hypertext Markup Language, HTML; File Transfer Protocol, FTP; Uniform Resource Locator, URL. PREREQUISITE: CETH 2251.

6242. Client Application Technology. (3). Hypertext Markup Language (HTML), XML, and script languages. PREREQUISITE: CETH 4241 or permission of instructor.

6262. Modern Programming. (4). Application of Java programming language to problems from selected area of engineering technology; includes data collecting, modeling techniques, constraints, program development and validation, and interfacing with peripherals and machine language. *Three lectures, three laboratory hours per week.* PREREQUISITES: CETH 2261.

6263. Server Application Technology. (4). Java exception handling, multithreading, files and streams, JDBC, Servlets, JSP, and JavaBeans server side software. *Three lecture, three laboratory hours per week.* PREREQUISITE: CETH 4262 or permission of instructor.

6272. Operating Systems. (4). Memory management, processor management, device management, and file management; MS-DOS operating system, Windows NT, UNIX operating system, VAX/VMS operating system. *Three lecture, three laboratory hours per week.* PREREQUISITES: CETH 2261 and 3233 or permission of instructor.

6281. Computer Network Technology. (4). Local-area networks; interconnecting computers and peripherals; installation of network hardware and software; communications between computers; sharing peripherals. *Three lecture, three laboratory hours per week.* PREREQUISITE: CETH 3233, EETH 2820.

7233. Advanced Software Applications. (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.

7263. Advanced Digital Circuits and Applications. (3). (TECH 7263). Pragmatic treatment of analysis, synthesis, and applications of digital integrated circuits and systems. *Two lecture, three laboratory hours per week.* PREREQUISITE: Permission of instructor.

7273. Advanced Microprocessor Architecture. (3). (TECH 7273). 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.

7283. Advanced Data Acquisition. (3). (TECH 7283). 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.

ELECTRONICS ENGINEERING TECHNOLOGY (EETH)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6823. Advanced Programmable Logic Controllers. (3). Advanced applications of programmable logic controllers, including analog I/O techniques and computer interfacing. *Two lecture hours, three laboratory hours per week.* PREREQUISITE: EETH 3822 or permission of instructor.

7801. Advanced Instrumentation. (3). (TECH 7801). Review of linear and electronics fundamentals; analysis, synthesis, specifications, and applications of electronic test equipment and systems. *Two lecture, three laboratory hours per week.* PREREQUISITE: Permission of instructor.

7811. Technology of Electronic Communication Systems. (3). (TECH 7811). Engineering and economic aspects in the design and operation of publicly and privately owned communication systems. PREREQUISITE: Permission of instructor.

7821. Advanced Microwave Technology. (3). (TECH 7821). Microwave theory and equipment applications, including techniques for measuring power, frequency, frequency spectrums, impedance, VSWR, reflection coefficient, circuit Q, noise, and antenna gain. *Two lecture, three laboratory hours per week.* PREREQUISITE: Permission of instructor.

7822. Industrial Process Control Systems. (3). (TECH 7822). 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.

7831. Advanced Integrated Circuits Technology. (3). (TECH 7831). 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.

7841. Fiber Optics in Communication and Other Applications (3).(TECH 7841). Practical approach and theoretical analysis of fiber optics; emphasis on fiber optics transmission and system performance; practical aspects of fibers connection and loss encountered; fiber optics components such as couplers and switches. PREREQUISITE: EETH 3811 or permission of instructor.

MANUFACTURING ENGINEERING TECHNOLOGY (METH)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6381. Principles of Supervision. (3). Practical approach to supervisory management, including planning, organization, staffing, and employee motivation; covers contemporary issues including legal aspects of supervision as well as other regulatory concerns such as occupational safety and health and labor relations.

6460. Work Design, Improvement, and Measurement. (3). 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.

6462. Statistical Quality Control. (3). Statistical methods for quality analysis and improvement; control charts for variables and attributes, industrial sampling; defect prevention using Poka-Yoke System; reliability; acceptance sampling; quality standards, continuous improvement; use of computer software for data analysis and presentation. PREREQUISITE: TECH 3044.

6464. Production Control Systems. (3). Functions of planning and controlling production and distribution operations; concepts of JIT, MRP, MRP II, ERP, and Japanese manufacturing techniques; analytical techniques and concepts on line balancing, production and process control, demand management, project management. PREREQUISITE: METH 4/6460 or equivalent, or permission of instructor.

6466. Facility Design. (3). Integrated systems approach to design and layout for production and distribution with respect to workstation design, material handling, project and resource planning, automation, quality, work measurement, safety, process and production control; use of Computer Aided Design, scheduling and analytical software; team projects, reports, and presentations. PREREQUISITE: METH 4/6460 and 4/6464, or permission of instructor.

6472. Computer Aided Drafting and Design. (3). Overview of CADD Technology, hardware and software options (two and three dimensional principles) and applications to produce computer generated designing and working drawings. PREREQUISITE: TECH 1521, METH 1711, 3401.

6474. Automation and Robotics. (3). (TECH 6474). Concepts of automation applied to production, distribution, and industrial robotics. *Two lecture, three laboratory hours per week.* PREREQUISITE: TECH 1010 or CETH 1211.

6476. Computer Aided Manufacturing. (3). Computer numerical control programming by manual data input and distributed numerical control by computer assistance; system assessment of CNC machines and components for integrated manufacturing environment. *Two lecture, three laboratory hours per week.* PREREQUISITES: METH 1711, 3421, 4472, and MATH 1730.

7401. Advanced Work Design and Measurement. (3). (TECH 7401). Philosophy and practice of lean concepts and practices in production and distribution operations; advanced study of work measurement techniques, performance rating, standard data ergonomics, learning curves, time formula construction, and work sampling. PREREQUISITE: METH 4/6460 or equivalent, or permission of instructor.

7402. Advanced Statistical Quality Control. (3). (TECH 7402). 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: METH 4/6462 or equivalent, or permission of instructor.

7404. World-Class Manufacturing. (3). (TECH 7404). World-class manufacturing concepts and companies that have successfully implemented Just-in-Time, total quality control, and continuous improvement techniques. PREREQUISITE: METH 4/6464 or permission of instructor.

7406. Materials Handling and Automation. (3). (TECH 7406). Analysis, design, and evaluation of traditional and contemporary approaches to materials handling; analytical and computer procedures for designing handling systems. PREREQUISITE: Permission of instructor.

7408. Production Processes. (3). (TECH 7408). 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.

7414. Manufacturing Strategy and Systems Design. (3). (TECH 7414). Applications of Group Technology (GT) and Computer-Integrated Manufacturing (CIM); integrating materials management and shop-floor data acquisition and control. PREREQUISITE: METH 4/6474 or permission of instructor.

TECHNOLOGY (TECH)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

7015. Applied Statistical Methods of 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.

7020. Technical Research Writing. (3). Investigations into the development and writing of technical research, emphasizing literature review, data collection, data analysis, and presentation of findings in a proposal format; written and oral presentations will be stressed in the course. PREREQUISITE: Permission of instructor.

7105. Project Planning and Scheduling. (3). Contemporary methods used in project planning and scheduling; emphasis on critical path method (CPM) with computer application; solution of actual problems stressed.

◆**7991. Projects I. (1-3).** Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITE: Written proposal and permission of instructor.

◆**7992. Projects II. (3).** Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITE: Written proposal and permission of instructor.

◆**7993. Internship in Engineering Technology. (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. Must take at least 3 credit hours to count 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 and permission of instructor.

◆**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.

◆**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.

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

MECHANICAL ENGINEERING
Room 312, Engineering Science Building
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JOHN I. HOCHSTEIN, PhD
Chair

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I. The department of Mechanical Engineering offers a graduate program leading to the Master of Science degree with a major in Mechanical Engineering. Concentrations are available in design and manufacturing, energy systems, mechanical systems, and power systems.

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.

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 734. 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 this College section for admission, retention, program objectives, and graduation requirements. A more detailed description of the information will be given by the Coordinator of Graduate Studies to students admitted into the Mechanical Engineering concentration.

MECHANICAL ENGINEERING (MECH)

NOTE: Students taking Engineering courses will be charged an additional \$25 per credit hour.

6305. Intermediate Fluid Mechanics. (3). Continuation of MECH 3331. Introduction to various topics in advanced fluid mechanics, including flow over immersed bodies; open channel hydraulics; compressible fluid flow; turbomachinery; measurements in fluid mechanics; and inviscid flow. PREREQUISITE: MECH 3331.

6309. Gas Dynamics (3). Concepts in compressible flow; emphasis on real and ideal gas dynamic effects and non-equilibrium flow; application of numerical methods. PREREQUISITES: MECH 3312, 3331.

6313. Heat Transfer II. (3). Principles of boiling, condensing, and radiation heat transfer; fundamentals of heat exchanger design. PREREQUISITE: MECH 4311.

6315. Heating, Ventilation, and Air Conditioning. (3). Psychometric analyses, heating and cooling loads of buildings, and analyses of air conditioning systems. PREREQUISITE: MECH 4311.

6324. Computer Methods in 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.

6325. Advanced Mechanics of Materials. (3). Biaxial stresses, torsion, unsymmetrical bending of beams, shear centers, contact stresses, failure theory, and other selected topics. PREREQUISITE: MECH 3322.

6326. Biomedical Systems Analysis-Mechanical. (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.

6330. Introduction to Composite Materials. (3). Introduction to fiber reinforced composite materials; mechanical behavior, strength, design methodology, and implementation of computer aided design. PREREQUISITES: MECH 3320, 3322.

6331. Turbomachinery. (3). Basic principles of fluid mechanics and thermodynamics with application to rotating devices; ideal and actual operating characteristics of pumps, fans, turbines, and compressors; constraints on design of real systems. PREREQUISITE: MECH 3331.

6333. Aerospace Propulsion Systems. (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.

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.

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.

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, 4322.

6346. Advanced Mechanical Controls. (3). Advanced modeling of mechanical control systems; review of digital and optimal control systems, and simulation of control systems. PREREQUISITE: MECH 4344.

6350. Principles 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.

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.

6383. Nondestructive Testing and Evaluation 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.

6384. Nondestructive Testing and Evaluation 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.

6990-6998. Special Topics in Mechanical Engineering. (1-3). Topics are varied and announced in the online class listings.

7302-8302. Theory of 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.

7303-8303. 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.

7305-8305. 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.

7306-8306. 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.

7307-8307. Advanced 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.

7323-8323. Conduction Heat Transfer. (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.

7324-8324. Radiation Heat Transfer. (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.

7325-8325. Convection 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.

7332-8332. 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.

7341-8341. 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.

7342-8342. Engineering Analysis II. (3). Continuation of MECH 7341. Matrices and determinants, complex analysis, conformal mapping techniques, applications to thermal/fluid and applied mechanics problems, engineering applications of probability and statistics.

7355-8355. 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.

7361-8361. 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.

7363-8363. 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.

7365-8365. Corrosion. (3). Fundamental causes and mechanisms; corrosion control; study of specific corrosion problems. PREREQUISITE: MECH 3320.

7371-8371. Advanced Mechanical Vibrations. (3). Modeling of linear and nonlinear vibrational systems; control, measurement, and stability of vibrational systems. PREREQUISITES: MECH 6371, 7342-8342.

7378-8378. Introduction to Computational Fluid Dynamics. (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.

7379-8379. Advanced Computational Fluid Dynamics. (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.

7381-8381. 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.

7382-8382. Computational Software Development. (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.

◆**7900. Seminar. (1).** Graduate students must attend seminars regularly organized by the department.

7901-7909◆8901-8909. Special Topics in Mechanical Engineering. (1-3). Topics are varied and announced in the online class listings.

◆**7979. Contemporary Issues in Mechanical Engineering. (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.

◆**7990-8990. Engineering Practicum. (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.

◆**7991-8991. Research Proposal. (1-3).** Exhaustive literature search and presentation of both written and oral proposals on engineering topics under supervision of instructor.

◆**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.

◆**7996. Thesis. (1-6).**

◆**9000. Dissertation. (1-12).**

◆ **Grades of S, U, or IP will be given.**

◆ **Grades of A-F, or IP will be given.**

LOEWENBERG SCHOOL OF NURSING

*Room 102, Newport Hall
(901) 678-2003*

MARJORIE F. LUTTRELL, PhD
Dean

ROBERT KOCH, DNSc
Associate Dean, Director of Graduate Studies

<http://nursing.memphis.edu/>

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, and (3) Advanced Practice Nursing (Family Nurse Practitioner), and 4) Nursing Informatics. A post-master's certificate is also offered in the area of advanced practice nursing (Family Nurse Practitioner).

Program objectives are: (1) ability to use theory and research from nursing and other disciplines to improve health care and the systems in which it is provided; (2) advance the profession and health care through the use of core nursing competencies* in advanced professional practice as nurse practitioners, nurse educators, or nurse executives; (3) develop professional practice sites that are ethically grounded, committed to excellence, evidence-based, and valued by the consumer; (4) influence health policy to ensure the health and well-being of individuals, aggregates, and communities.

*Core Nursing Competencies include: a) critical thinking, b) communication, c) assessment, d) technical skills, e) teaching, f) caring, g) management, h) leadership, and i) knowledge integration skills.

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.

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. MSN Degree Program

A. 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, undergraduate and graduate grade point averages, professional experience, applicant interview, and letters of recommendation.

1. Admission Requirements for all MSN Applicants:
 - a. Admission to the University of Memphis Graduate School
 - b. Admission to the Loewenberg School of Nursing graduate nursing program.
 - c. A minimum score of 250 computer based or 100 internet based score on the TOEFL (students for whom English is a second language)
 - d. An undergraduate minimum cumulative grade point average of 2.8 on a 4.0 scale.
 - e. Letters of recommendation from three persons qualified to judge the applicant's ability to practice in an advanced role.
 - f. Interview with LSON graduate faculty.

2. Students admitted to graduate coursework must have and maintain while in the program:
 - a. An unrestricted license to practice as a registered nurse in Tennessee;
 - b. Current CPR certification;
 - c. Evidence of Heptavax, MMR, polio, and tetanus vaccination;
 - d. Rubella and varicella titers;
 - e. Freedom from tuberculosis as evidenced by a negative PPD or health provider examination;
 - f. Evidence of current professional malpractice insurance in the amount of \$1,000,000 per occurrence and \$3,000,000 in the aggregate.
3. Standardized Admission Test
The standardized admission test is successful completion of the NCLEX licensing examination.
4. Admission Requirements for BSN Applicants
 - a. Completion of BSN
 - b. An unrestricted registered nursing license to practice in Tennessee
5. Admission Requirements for RN/MSN Applicants with a BA/BS non-nursing major
 - a. An unrestricted registered nursing license to practice in Tennessee
 - b. Completion of a 13-unit RN/MSN nursing bridge sequence: NURS 3107, NURS 4120/6120, NURS 4127/6127, NURS 4110/6110; NURS 4327/6327. RN/MSN graduates will not be awarded the BSN degree.
6. Admission Requirements for Generic MSN (non-registered nurse) applicants to MSN courses
 - a. Completion of (12 hour) nursing support sequence: BIOL 2010/2011, BIOL 2020/2021, MMCS 1230/1231 with a grade of 3.0 or higher.
 - b. Completion of undergraduate foundation, provider of care, coordinator of care courses with a cumulative grade point average of 2.8 or higher. The BSN degree will be awarded when these undergraduate courses and the TBR minimum general education degree requirements are completed.
 - c. Unrestricted license to practice as a registered nurse in Tennessee.

B. Program Requirements

1. 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. Six hours (6) are in the core curriculum with the remaining required hours in a specialty concentration.
 - a. Core Curriculum:
 - NURS 7001 Healthcare Policy
 - NURS 7990 Scholarly Synthesis
 - b. Nursing Administration:
 - NURS 7000 Theoretical Foundations for Advanced Practice
 - NURS 7002 Advanced Nursing Research
 - NURS 7003 Advanced Role Development
 - NURS 7301 Nursing Administration I
 - NURS 7302 Nursing Administration II
 - NURS 7305 Quality Management
 - NURS 7309 Administrative Residency

Nursing Administration concentration students must select one of the following administrative course combinations:

 - ACCT 7000 Fundamentals of Accounting and ACCT 7010 Accounting Decision Making
 - ACCT 7000 Fundamentals of Accounting and NURS 7332 Resource Allocation in Nursing
 - NURS 7303 Healthcare Finance and NURS 75304 Human Resource Management
 - c. Nursing Education:
 - NURS 7000 Theoretical Foundations for Advanced Practice
 - NURS 7002 Advanced Nursing Research
 - NURS 7003 Advanced Role Development
 - NURS 7203 Curriculum Design in Nursing
 - NURS 7209 Education Residency

Nursing Education concentration students must select one of the following education course combinations:

NURS 7201 Theories of Nursing Education and NURS 7202 Educational Strategies for Nursing Education
NURS 7242 Educational Strategies for Nursing Education and NURS 7244 Evaluation Methods in Nursing Education

Students in this concentration also must complete one of the following clinical course combinations:

NURS 7501 Advanced Adult Health Nursing I and 7503 Advanced Adult Health Nursing II
NURS 7511 Psychiatric Nursing Care I and 7513 Psychiatric Nursing Care II
NURS 7522 Critical Care I and 7523 Critical Care II
NURS 7541 Women's Health and Perinatal Nursing I and 7543 Women's Health and Perinatal Nursing II
NURS 7631 Pediatric Nursing I and NURS 7633 Pediatric Nursing II

d. Advanced Practice (Family Nurse Practitioner):

NURS 7000 Theoretical Foundations for Advanced Practice
NURS 7002 Advanced Nursing Research
NURS 7003 Advanced Role Development
NURS 7101/02 Advanced Health Assessment/Advanced Health Assessment Clinic
NURS 7103 Advanced Pathophysiology
NURS7104 Advanced Pharmacology
NURS 7601/02 Family Nurse Practitioner I/ Family Nurse Practitioner I Clinic
NURS 7603/04 Family Nurse Practitioner II/ Family Nurse Practitioner II Clinic
NURS 7605/06 Family Nurse Practitioner III/ Family Nurse Practitioner III Clinic
NURS 7059 Advanced Practice Residency

e. Nursing Informatics:

NURS 7000 Theoretical Foundations for Advanced Practice
NURS 7002 Advanced Nursing Research
NURS 7003 Advanced Role Development
NURS 7401 Informatics and Information Management
NURS7402 Health Care Information Systems
NURS7403 Analysis/Design of Health Care Information Systems
NURS7404 Evaluation of Health Care Information Systems
NURS7405 Health Care Data Analysis Techniques
NURS7407 Informatics Applications Practicum I
NURS7409 Informatics Applications Practicum I

2. 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. 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.
3. Family Nurse Practitioner students must complete a minimum of 500 clock hours to meet the academic and practicum requirement for national certification. All requirements for the MSN degree must be completed in 5 calendar years.

C. *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. Academic disqualification from the graduate nursing major will occur when the student:
 - a. fails to maintain a 3.0 GPA in graduate school.
 - b. fails to earn a grade of "B" (3.0) or better when repeating a course.
 - c. willfully misrepresents patient data or clinical practice.
 - d. willfully places any patient in physical or emotional jeopardy.
 - e. is placed on probation by the Tennessee Board of Nursing.
 - f. fails to disclose a felony conviction.
 - g. fails to disclose disciplinary action or diversion by the Tennessee Board of Nursing.
 - h. fails to complete all degree requirements within five years of entering graduate nursing coursework.

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. In order to be eligible to take the 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 them to complete a second master's degree.

A. Prerequisites

The following prerequisite courses must be completed at the master's level with a grade of "B" or better prior to admission.

Advanced Health Assessment, 3 credit hours
Advanced Health Assessment, Clinical or Lab
Advanced Pathophysiology, 3 credit hours
Advanced Pharmacology, 3 credit hours

B. Program Requirements (21 credit hours total)

NURS 7601/02 Family Nurse Practitioner I/Clinic (3/2 credit hours)
NURS 7603/04 Family Nurse Practitioner II/Clinic (3/4 credit hours)
NURS 7605/06 Family Nurse Practitioner III/Clinic (3/2 credit hours)
NURS 7059 Advanced Practice Residency (4 credit hours)

C. Retention Requirements

Retention Requirements are the same as for the MSN.

NURSING (NURS)

6110. Nursing Research. (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.

6120. Contemporary Issues and Trends in Nursing and Health Care. (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.

6127. Community Health Nursing. (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 nursing role to coordinator of care. PREREQUISITE:

Admission to MSN program.

6327. Nursing Leadership and Management for RNs. (3). Theories of leadership, management, and change basic to functioning within existing systems; applications of conceptual models of nursing to contemporary practice. PREREQUISITE: Admission to MSN program.

7000. Theoretical Foundations for Advanced Nursing Practice. (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.

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.

7002. Advanced 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.

7003. Advanced 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 program or permission of instructor

7059. Advanced Practice Residency. (4). Supervised full-time advanced clinical practice in a primary care setting with immersion into role of Family Nurse Practitioner; allows for role synthesis and application of concepts in the practice setting. PREREQUISITES; NURS, 7030, 7039, ECON 7710; PRE- OR COREQUISITE: NURS 7050.

7101. Advanced 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.

7102 Advanced Health Assessment Clinical (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

7103. Pathophysiology for Advanced Practice. (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.

7104. Pharmacology for Advanced Practice. (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.

7201. Theories of Nursing Education. (3). Explores major research-based theories of adult and nursing education and applies them to a variety of settings and/or levels of education.

7202. Teaching Strategies and Evaluation Methods. (3). Provides knowledge necessary for competent classroom and clinical teaching; explores methods of teaching at university, community college, and health-care settings in classroom, seminar, and electronic formats; includes evaluation methods for classroom and clinical instruction.

7203. Curriculum Design in Nursing. (3). (7240). Principles of developing and organizing curriculum designs for multiple health-care settings and nursing education systems; includes analysis and comparison of associate, baccalaureate, graduate, and service-based nursing curricula. PREREQUISITE: Admission to MSN Nursing Education or permission of instructor.

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.

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.

7242. Educational Strategies for Nursing Education. (3). Instructional strategies relevant to teaching across selected nursing and health-care settings; analysis of instruction and teaching practices including classroom, seminar, and electronic formats. PREREQUISITE: Admission to MSN Nursing Education.

7244. Evaluation Methods in Nursing Education. (3). Analysis of testing, benchmarking, and evaluation methods in the clinical practice of nursing across classroom, seminar, and electronic formats; includes evaluation methods to ensure competency in the clinical area. PREREQUISITES NURS 7240, 7242.

7301. Nursing Administration 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.

7302. Nursing Administration 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.

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.

7304. Human Resources Management. (3). Personnel and human resource issues, including labor management in nursing and health care settings.

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.

7309. Nursing Administration Practicum. (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.

7332. Resource Allocation in Nursing and Health 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.

7401. Informatics and Information Management. (2). 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.

7402. Health Care Information Systems. (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.

7403. Analysis and Design of Health-Care Information Systems. (3). Provides knowledge and skills to analyze and design health-care information systems; discusses informatic models, conceptual frameworks, and practice activities.

7404. Evaluation of Health-Care Information Systems. (3). Provides advanced knowledge and skills for implementing and evaluating health-care information systems in practice; emphasizes emerging technologies.

7405. Health-Care Data Analysis Techniques. (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.

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.

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.

7501. Advanced Adult Health Nursing I. (3). Focuses on application of educational theory and principles to develop the role of a professional nurse educator in adult health settings.

7503. Advanced Adult Health Nursing II. (3). Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in the adult healthcare setting.

7511. Psychiatric Nursing Care I. (3). Focuses on application of educational theory and principles to develop the role of a professional nurse educator in psychiatric and mental health settings.

7513. Psychiatric Nursing Care II. (3). Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in psychiatric and mental health settings.

7521. Advanced Concepts in Critical Care. (3). Focuses on advanced concepts related to multi-organ/system function and dysfunction; addresses physiology, assessment, pathophysiology, system failure, and clinical management of endocrine and defense systems; uses detailed overviews of multi-system dysfunction in shock, trauma, and burns to integrate core concepts with more complex pathophysiology and advanced treatment modalities.

7522. Critical Care I. (3). Focuses on application of educational theory and principles to develop the role of a professional nurse educator in critical care settings.

7523. Core Concepts in Critical Care II. (3). Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in critical care settings.

7541. Maternal Child Nursing I. (3). Focuses on application of educational theory and principles to develop the role of a professional nurse educator in maternal-child settings.

7543. Maternal Child Nursing II. (3). Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in maternal-child settings.

7601. Family Nurse Practitioner 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.

7602. Family Nurse Practitioner I Clinical. (2). (7029). Focuses on delivery of advanced nursing care to women; employs various clinical settings with diverse populations for clinical practice. COREQUISITE: NURS 7601.

7603. Family Nurse Practitioner 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.

7604. Family Nurse Practitioner II Clinical. (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.

7605. Family Nurse Practitioner 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.

7606. Family Nurse Practitioner III Clinical. (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.

7631. Pediatric Nursing I. (3). Focuses on application of educational theory and principles to develop the role of a professional nurse educator in pediatric settings.

7633. Pediatric Nursing II. (3). Focuses on application of educational theory and principles to develop the leadership role of the professional nurse educator in pediatric settings.

7810-7820. Special Topics in Nursing. (3). Topics are varied and announced in online course listings.

7901. Communication and Relationship Building for the Nurse Executive. (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.

7902. Developing Organizational Leadership. (3). Creates nurse executive skills including foundational thinking skills, personal journey disciplines, systems thinking, succession planning, and change management. COREQUISITE: NURS 7901.

7903. Accountability, Advocacy, and 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: NURS 7901, 7902.

7904. Financial and Human Resources for 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: NURS 7001, 7901, 7902, 7903; ACCT 7000, 7110; COREQUISITE: NURS 7905.

7905. Improving Patient Care Delivery. (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: NURS 7001, 7901, 7902, 7903; ACCT 7000, 7110; COREQUISITE: NURS 7904.

7907. Evidence-Based Leadership Practices. (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: NURS 7001, 7901, 7902, 7903, 7904 7905; ACCT 7000, 7110.

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, 7901, 7902, 7903, 7904 7905 7907; HADM 7103; ACCT 7000, 7110.

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.

◆**7996. Thesis. (3).** Directed study in the completion of the thesis. PREREQUISITE: Permission of instructor.

◆**Grades of S, U, or IP will be given.**

**THE SCHOOL OF AUDIOLOGY
AND SPEECH-LANGUAGE PATHOLOGY**

MAURICE I. MENDEL, PhD
Dean

WALTER H. MANNING, PhD
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Individual program requirements described in *The University of Memphis Graduate Bulletin, 2008-2009*, 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*. 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.

I. The School of Audiology and Speech-Language Pathology offers graduate programs leading to the PhD degree with a major in Audiology and Speech Pathology and concentrations in (1) Audiology or (2) Speech-Language Pathology, 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 packets and instructions are available by request in the fall semester for the next admission class. 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. Prerequisite 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. Assumed Coursework; may be taken at The University of Memphis.
 - a. Biological/Physical Science (3)
 - b. Mathematics (3)
 - c. Behavioral/Social Science (6)
 - d. Physical Science (minimum 1 credit)

C. General Program Requirements

1. Students must complete a minimum of 50 credit hours and meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association. Most students complete between 50-60 credit hours in their graduate program. Additional coursework will be required for those students without undergraduate preparation in audiology/speech-language pathology.
2. Students must complete a minimum of nine semester hours of clinical practicum with a grade of B or above and must obtain a B or above in their last two semesters. Maximum of 8 credit hours of A USP 7208 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 USP 7990 (Special Project). 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 Audiology and Speech-Language Pathology 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 2.0 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 3.0 at the end of each semester of enrollment in all course work 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 2.0 or less was earned. After exhausting this option, students are permitted to count only two grades of 2.0 toward graduation. A student will be dismissed at the end of the semester in which a third grade of 2.0 or less is earned.

E. Core Requirements (20 hours)

A USP 7000 Speech Science (3)
 A USP 7007 Communicative Interaction (3)
 A USP 7208 Clinical Experience in Speech-Language Pathology (8)
 A USP 7500 Evaluating Research in Communication Disorders (3)
 A USP 7990 Special Project or A USP 7996 Thesis (3)

F. Specific Requirements

1. Assumed Background Coursework (12 hours); may be taken at The University of Memphis:
 - a. Anatomy and Physiology of the Speech Mechanism (3)
 - b. Basic Communication Processes or Speech/Language Disorders (3)
 - c. Audiology: Hearing Disorders/Evaluation (3); Habilitation/Rehabilitation (3)
2. Speech-Language Pathology Course Requirements (Specific - 13 hours)
 - A USP 7003 Anatomy and Physiology of the Speech Mechanism
 - A USP 7006 Language & Speech Development
 - A USP 7010 Neurological Bases of Communication

AUSP 7015 Grammar in Professional Writing in Communication Disorders
 AUSP 7200 Introduction to Clinical Practice in Speech-Language Pathology
 AUSP 7501 Phonetic Transcription

3. Speech-Language Pathology Course Requirements (General - 24 hours)
 - a. Basic Communication Processes (minimum 3 hours):
 - AUSP 7002 Seminar in Communication Sciences
 - AUSP 7003 Anatomy and Physiology of the Speech Mechanism
 - AUSP 7008 Acoustic and Perceptual Phonetics
 - AUSP 7010 Neurological Bases of Communication
 - AUSP 7011 Psycholinguistics
 - AUSP 7016 Socio-Cultural Bases of Communication
 - b. 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
 - c. 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

III. Teacher Certification Requirements

School degree requirements meet all requirements for teacher certification.

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 packets and instructions are available by request in the fall semester for the next admission class. 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. Prerequisite 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. Assumed Coursework; may be taken at The University of Memphis:
 - Biological (3)
 - Mathematics (3)
 - Behavioral/Social Sciences (6)

Physical Science (minimum 1 credit)

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 Course work will be required for those students without undergraduate preparation in audiology/speech-language pathology.
2. All students must complete an individual research project (AUSP 8121) for a minimum of 4 hours credit.
3. All students must successfully complete a comprehensive examination containing both written and oral components.

D. Retention Requirements

All students enrolled in the School of Audiology and Speech-Language Pathology 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 2.0 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 3.0 at the end of each semester of enrollment in all course work 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 2.0 or less was earned. After exhausting this option, students are permitted to count only two grades of 2.0 toward graduation. A student will be dismissed at the end of the semester in which a third grade of 2.0 or less is earned.

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 course work and successfully completed 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

1. Assumed Background Coursework (9 hours); may be taken at The University of Memphis:
 - Basic Communication Processes: Normal Speech/Language development (3).
 - Speech-Language Pathology: Speech Disorders (3); Language Disorders (3).
2. Audiology Degree Requirements (99-102 hours):
 - a. Basic Science Coursework (18 Hours):
 - AUSP 8001 Hearing Science
 - AUSP 8007 Communicative Interaction
 - AUSP 8008 Acoustic and Perceptual Phonetics
 - AUSP 8012 Measurement Techniques
 - AUSP 8019 Anatomy and Physiology of the Auditory System I
 - AUSP 8020 Anatomy and Physiology of the Auditory System II
 - b. Major Area Coursework (47 Hours):
 - AUSP 8101 Audiological Concepts

- AUSP 8103 Diagnostic and Medical Audiology
- AUSP 8105 Vestibular Assessment and Rehabilitation
- AUSP 8107 Cochlear Implants
- AUSP 8110 Gerald A. Studebaker Lectures
- AUSP 8113 Rehabilitative Audiology I
- AUSP 8114 Introduction to Hearing Aids
- AUSP 8115 Pediatric Audiology
- AUSP 8116 Hearing Aid Provision
- AUSP 8118 Electrophysiologic Assessment of the Auditory System
- AUSP 8119 Hearing Conservation
- AUSP 8121 Individual Projects in Audiology
- AUSP 7123 Manual English
- AUSP 8127 Rehabilitative Audiology II
- AUSP 8128 Evidence-Based Practice in Amplification
- AUSP 8129 Psychosocial Adjustment to Hearing Impairment
- c. Clinical Practicum (30 Hours):
 - AUSP 8104 Clinical Experience in Audiology (24)
 - AUSP 8125 Clinical Externship in Audiology (6)
- d. Other course requirements (4 hours):
 - AUSP 7015 Professional Writing in Communication Disorders (1 hour).

Students will be required to take a three-credit hour course in statistics. The specific course in this area must be approved by the student's academic advisor.

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 Audiology and Speech-Language Pathology.
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. 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 Audiology and Speech-Language Pathology. This requirement is waived for post-AuD students in the Audiology concentration.
8. *Core Requirements:* 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
 - 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 Audiology and Speech-Language Pathology. 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*
 - a. All PhD students are expected to be active in research collaboratively with members of the School faculty each semester they are enrolled.
 - b. Students may be permitted to complete the requirements for clinical certification with the approval of their planning committee.
 - c. 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 Audiology and Speech-Language Pathology. 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 Audiology and Speech-Language Pathology 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 2.0 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 3.0 at the end of each semester of enrollment in all course work 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 2.0 or less was earned. After exhausting this option, students are permitted to count only two grades of 2.0 toward graduation. A student will be dismissed at the end of the semester in which a third grade of 2.0 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 Audiology and Speech-Language Pathology and one from an academic unit outside the School of Audiology and Speech-Language Pathology.

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 Audiology and Speech-Language Pathology. 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.

AUDIOLOGY AND SPEECH PATHOLOGY (AUSP)

7000-8000. 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.

7001-8001. Hearing Science. (3). Basic acoustics, psychoacoustical methods, and psychoacoustical findings presented with emphasis on matters of greatest importance for foundations of audiological practice.

7002-8002. Seminar in Communication Sciences. (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.

7003-8003. Anatomy and Physiology of the Speech Mechanism. (3). Structure and function of bodily organs related to the processes of speech production.

7004-8004. Anatomy and Physiology of the Hearing Mechanism. (3). Structure and function of outer, middle, inner ear, and auditory neural pathways; formation of auditory system in context of general prenatal development.

7006-8006. Language and Speech Development. (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.

7007-8007. Communicative Interaction. (3). Concepts and processes fundamental to communicative interaction; emphasis on application of such concepts and processes to the student's own communicative interactions.

7008-8008. Acoustic and Perceptual Phonetics. (3). Survey of experimental phonetics: acoustic phonetic theory; speech perception theory and research; techniques of acoustic analysis and synthesis. PREREQUISITE: Permission of instructor.

7010-8010. Neurological Bases of Communication. (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.

7011-8011. 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.

7012-8012. 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, measurement of environmental noise, and electroacoustic characteristics of hearing aids. Laboratory experience is provided. PREREQUISITE: AUSP 7/8001, 7/8010, or permission of instructor.

7015. Professional Writing in Communication Disorders. (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.

7016-8016. Socio-Cultural Bases of Communication. (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.

8017. Digital Signal Processing for Speech and Hearing. (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.

8019. Anatomy and Physiology of the Auditory System I. (3). Basic anatomy and physiology of the outer ear, middle ear, and cochlea; embryologic origins and development of structures related to body systems.

8020. Anatomy and Physiology of the Auditory System II. (3). Basic anatomy and physiology of the vestibular system, nervous system, visual and proprioceptive systems as they relate to hearing and balance. PREREQUISITE: A USP 8004 or permission of instructor.

8021. Professional Preparation for 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.

Audiology

7101-8101. Audiological 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.

◆**7104-8104. Clinical Experience in 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.

7106. Introductory Survey 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.

7107-8107. 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.

7113-8113. Rehabilitative Audiology 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: A USP 7101 or permission of instructor.

◆**7117-8117. Individual Study in Audiology for Speech Pathologists. (3).** Directed topics include physics of sound, hearing loss, basic audiometric testing and hearing conservation.

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.

7127-8127. Rehabilitative Audiology 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.

7129-8129. Psychosocial Adjustment to Hearing Impairment. (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.

◆**7700. Individual Readings in Audiology. (1-3).** Directed independent study of literature in an area of audiology. May be repeated as often as desired.

7990. Special Projects. (1-3). Individual needs of students who wish to explore an area with faculty guidance. Students may pursue a pilot study. May be taken twice. PREREQUISITE: Permission of individual faculty members to be involved.

◆**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.

◆**8100. Individual Readings in Audiology. (1-6).** Directed independent study of literature in an area of audiology. May be repeated for a maximum of 6 credit hours.

8103. Diagnostic and 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.

8105. Vestibular Assessment and Rehabilitation. (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.

8110. Gerald A. Studebaker Lectures. (3). Lecture series covering broad range of topics presented by nationally and internationally recognized scholars in the areas of audiology, hearing science, and medicine.

8112. Seminar in 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.

8114. Introduction to 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.

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 7103 or permission of instructor.

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.

8118. Electrophysiologic Assessment of the Auditory System. (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 7/8020 or permission of instructor.

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 7012-8012 or permission of instructor.

◆**8121. Individual Projects in 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.

◆**8124. Clinical Supervision Experience in Communication 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.

8125. Clinical Externship in Audiology. (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.

8128. Evidence-Based Practice in Amplification. (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.

◆**9000. Dissertation. (1-6).** 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.

Speech and Language Pathology

7200. Introduction to Clinical Practice in Speech-Language Pathology. (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.

7201-8201. Cleft Palate and Craniofacial Disorders. (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.

7202-8202. Motor Speech Disorders in Children. (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.

7203-8203. 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.

7204-8204. Disorders of Phonology and Articulation. (3). Current research in disorders of phonology and articulation, including assessment, production, and remediation procedures.

7205-8205. Fluency Disorders. (3). Review, evaluation, and synthesis of information regarding the definition of stuttering, theories of etiology, symptomatology, therapy approaches, and methods of research.

7206-8206. Neuromotor Speech Disorders in Adults. (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.

7207-8207. 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.

◆**7208-8208. Clinical Experience in Speech and Language Pathology. (3).** Supervised clinical practice with clients. Designed to meet student's individual needs. May be repeated as often as desired.

7209-8209. Dysphagia and Related Disorders. (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.

7210-8210. Seminar in Speech Pathology. (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.

◆**7211. Clinical Experience for Public School Personnel. (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.

7212-8212. Autism Spectrum Disorders and Related Disabilities. (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.

7300-8300. Language Disorders 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).

7302-8302. Language Disorders in 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.

7303-8303. Language Disorders in 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.

7304-8304. Seminar in Language Disorders. (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.

7305-8305. 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.

7308-8308. Augmentative Communication (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.

7309-8309. Speech Rehabilitation for Head/Neck Pathologies. (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.

7500. Evaluating Research in Communication Disorders. (3). (7005). Introduction to research applicable to speech pathology and audiology and theories of measurement, including statistical and behavioral designs, reliability and judgements, and replicability.

7501. Phonetic Transcription. (1). Broad and narrow transcription techniques and opportunities for transcription practice with normal and disordered populations.

◆**7800. Individual Readings in Speech Pathology. (1-3).** Directed independent study of literature in an area of speech pathology. May be repeated as often as desired.

◆**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.

◆**7996. Thesis. (1-3).** Academic credit for thesis may be taken for a maximum of 6 hours and a minimum of 3 hours credit. Only 3 hours of credit may be applied toward degree requirements for the master's degree.

◆**8200. Individual Readings in Speech Pathology. (1-6).** Directed independent study of literature in an area of speech pathology. May be repeated as often as desired.

◆**8221. Individual Projects in Speech Pathology. (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.

8228. Clinical Supervision in Speech Language Pathology. (1). Processes involved in supervision of study clinicians in speech and language assessment and therapy; experiences in supervision of MA level student clinicians provided.

◆**9000 Dissertation. (1-12).** Academic credit for dissertation may be taken for a maximum of 12 hours and a minimum of 1 hours credit. Only 9 hours may be applied toward degree requirements for the PhD degree.

◆**Grades of S, U, or IP will be given.**

◆**Grades of A-F, or IP will be given.**

UNIVERSITY COLLEGE

*Room 218, Brister Hall
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Individual program requirements described in *The University of Memphis Graduate Bulletin, 2008-2009*, 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. 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.

I. The University College offers the Master of Arts in Liberal Studies (MALS) with a major in Liberal Studies, the Master of Professional Studies (MPS) with a concentration in Strategic Leadership, and the Master of Science with a major in Merchandising and Consumer Sciences.

MALS program objectives 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 with a concentration in Strategic Leadership is an interdisciplinary graduate degree for leaders in the workplace; the degree includes coursework in leadership, communication, strategic planning and assessment, organizational structure, and research/data analysis.

The Master of Science with a major in Merchandising and Consumer Sciences provides an advanced educational option for both school personnel and other individuals preparing for, or pursuing, careers based on family and consumer sciences and marketing education subject matter. This degree serves all disciplines in family and consumer sciences and marketing education in an advanced integrative, interdisciplinary program that allows individualization.

II. MALS Degree Program

The MALS is interdisciplinary in nature, permitting students to elect courses from departments that offer the Master of Arts degree and, from the professional colleges, courses that are liberal in content.

A. Program Admission and Prerequisites

Applicants to the program are evaluated as they apply and may be admitted for the fall or spring semesters

or for the summer semester. All applicants must meet the following admission requirements:

1. Admission to the Graduate School
2. Completion of the MALS admission form
3. Personal interview with the MALS program director
4. An essay of approximately five double-spaced, typewritten pages, detailing personal and academic goals to be satisfied by the MALS program and suggesting curriculum to be designed to meet these goals
5. Two letters of recommendation

B. Program Requirements

1. Acceptance by the MALS program director of a MALS Contract
2. Completion of program core: UNIV 7000, 7100, 7200, 7996
3. Completion of 21 semester hours of approved graduate courses taken from at least two different departments, no more than 9 semester hours of which can be at the 6000-level. No more than 12 semester hours of courses can come from a single department.
4. No more than nine semester hours of transfer credit. 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 Special Project, followed by an oral presentation and defense
6. Successful completion of an oral or written comprehensive examination

III. MPS Degree Program

A. Program Admission and Prerequisites

Applicants to the program are evaluated as they apply and may be admitted for the fall or spring semesters or summer session. 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, generally at least 400 verbal, 500 quantitative and a 4.0 on analytical writing.
3. Applicants with five or more years of 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 the reasons for wanting to enter the MPS program and discussing how the program will help the applicant achieve personal and professional goals; and two sealed letters of professional reference. Other items that an applicant may submit in the portfolio include a description of professional responsibilities, professional achievements, and professional awards/recognitions.
4. Applicants who do not meet the requirements for unconditional admission might be admitted conditionally if their entire academic and professional records indicate potential for success in the program. Conditions may include, but are not limited to, taking prerequisite undergraduate courses, enrolling in specified graduate-level courses, and achieving a specified grade point average.

B. Program Requirements

1. Completion of MPS program core: PRST 7100 Professional Environment: Issues and Ethics, PRST 7200 Globalization and the Professions, and PRST 7300 Research Methods.
2. Completion of 21 semester hours of graduate courses for the concentration. 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:
 - a. Leadership Theory (PRST 7500 Foundations of Leadership, LDSP 7000 Current Issues and Cases in Leadership, or ELPA 7560 Small Group Leadership)
 - b. Research/Data Analysis (QM 7770 Computer-Based Decision Modeling or PRST 7600 Statistical Analysis)
 - c. Organizational Structure and Change (PADM 7310 Leadership in Organization or PRST 7800

Organizational Skills and Development)

- d. Communication (COMM 7110 Leadership and Communication, JOUR 7450 Public Relations Management, or PRST 7700 Conflict Management and Negotiation)
 - e. Strategic Planning and Assessment (TECH 7105 Project Planning and Scheduling or PRST 7040 Human Resources Management).
3. Successful completion of PRST 7998 Professional Project.
 4. Successful completion of an oral or written comprehensive examination.

IV. MS Degree Program--Major in Merchandising and Consumer Sciences

A. Program Prerequisites

1. Completion of an undergraduate degree with a minimum grade point average of 2.75 on a 4.0 scale from an accredited college or university in one of the several specific areas of family and consumer sciences or a closely allied field such as marketing, art, or journalism
2. Completion of application procedures for admission to the Graduate School
3. Satisfactory performance on the Graduate Record Examination (GRE)
4. Completion of application packet to Degree Program admissions committee

B. Program Requirements

1. A total of 36 semester hours is required of all students.
2. Successful completion of the following nine semester hours of Professional Issues and Research courses:
 - a. PRST 7100 Professional Environment: Issues and Ethics (3)
 - b. PRST 7200 Globalization and the Professions (3)
 - c. PRST 7300 Research Methods (3)
3. Successful completion of MS in Merchandising and Consumer Sciences program core:
 - a. CSED 7600 Entrepreneurship in Consumer Science and Education (3)
 - b. CSED 7700 Professional Practices in Consumer Science and Education (3)
 - c. CSED 7800 Consumer Issues: Balancing Work and Family (3)
4. Successful completion of a minimum of twelve semester hours of elective courses selected in one area of emphasis (Fashion Merchandising, Home Furnishing Merchandising, or Consumer Sciences) with advisor approval
5. Successful completion of an internship (six semester hours) in one emphasis area: Fashion Merchandising, Home Furnishing Merchandising, or Consumer Sciences
6. Successful completion of a written comprehensive examination
7. To assure a student's success in the program, the coordinator may require prerequisite undergraduate courses or specified graduate courses.

UNIVERSITY COLLEGE (UNIV)

7000. Foundations of 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.

7100. Research in Interdisciplinary Studies. (3). Methods of inquiry and research appropriate to interdisciplinary studies. PREREQUISITE: Approval of MALS major advisor and MALS program coordinator.

7200. Liberal Studies Seminar. (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.

7300. Professional Issues and 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.

7350. Globalization and the Professions. (3). Examines relationship between globalization and the professions.

◆**7796. Independent Study. (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.

◆**7996. 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.

◆**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)

7100. Professional Environment: Issues and 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.

7200. Globalization and the Professions. (3). Analysis of globalization and its effects on the workplace, including the interactions of advancing communications technology, multi-national corporations, and global societies.

7300. Research Methods. The study and application of research methods appropriate to professional studies.

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.

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.

◆**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**

CONSUMER SCIENCE AND EDUCATION (CSED)

6101. Preschool Curriculum. (3). (HMEC 6101). Application of child development principles to program planning; infancy through four years of age.

6204. Furnishings Problems and Presentations. (3). (HMEC 6204). Problems in planning, coordinating, and purchasing of home furnishings. PREREQUISITE: CSED 2004, 4304.

6205. Behavioral Science Aspects of Clothing. (3). (HMEC 6205). Interdisciplinary study of clothing and appearance: concepts, methodologies, and applications of behavioral science to clothing.

6300. Family Resource Management. (3). (HMEC 6300). Investigates values, goals, and human and material resources necessary for individuals and families to make informed management decisions throughout the life span.

6304. Trends in Housing and Home Furnishings. (3). (HMEC 6304). Major trends and influences on contemporary residential furnishings as these affect home furnishings merchandising. PREREQUISITE: CSED 2104.

6383. Materials and Methods in Family and Consumer Sciences Economics. (3). (HMEC 6383). Methods in high school subjects with an emphasis in Consumer Science and Education instruction; open to graduate or transfer students seeking update or initial certification. PREREQUISITE: Permission of instructor.

6393. Occupational Methods in Family and Consumer Sciences Education. (3). (HMEC 6393). Special emphasis on instructional strategies and evaluation through classroom and on-site participation. PREREQUISITE: CSED 4383 or 6383 and permission of instructor.

6405. Textiles. (3). (HMEC 6405). Selection, use, and care of textiles related to properties of fibers, yarn structures, fabric construction, and finishes; morphology and chemistry of fibers, finishes, dyes, fabric maintenance, and procedure involved in fiber, yarn, and fabric identification.

6904. Study Tour in Housing and Home Furnishings. (1-3). (HMEC 7904). On-the-scene knowledge about housing and home furnishings. May be repeated for a maximum of 6 credit hours. Only 6 hours applicable to degree. PREREQUISITE: Permission of instructor.

6906. Study Tour in Fashion Merchandising. (1-3). (HMEC 6900-006). On-the-scene knowledge about fashion merchandising. May be repeated for a maximum of 6 credit hours. Only 6 hours applicable to degree. PREREQUISITE: Permission of instructor.

7300. Independent Study in Consumer Science and Education. (1-3). (HMEC 7300). Opportunity for creative, directed, independent study in a specific area of Consumer Science and Education to provide breadth and/or depth to the student's program of study. May be repeated for a maximum of 3 credit hours. PREREQUISITE: Permission of instructor.

◆ **7312 Internship in Child Care Services. (3). (HMEC 7311).** Materials, methods, and coordination of work experiences for occupational Home Economics including supervised on-the-job experience in a selected occupational area (child care services) for the teacher. PREREQUISITES: CSED 2102, 6101, 7393, or their equivalents.

◆ **7313. Internship in Food Service. (3). (HMEC 7312).** Materials, methods, and coordinating of work experiences for occupational Home Economics including supervised on-the-job experience in a selected occupational area (food service) for the teacher. PREREQUISITES: CSED 2202, 3302, 4202, 6502, 7393, or their equivalents.

7393. Seminar in Vocational Family and Consumer Sciences. (1-3). (HMEC 7393). Analysis of the philosophy, curriculum, operation, and evaluation of vocational programs in family and consumer sciences with scope and direction based on Federal Vocational Legislation and State Department of Education: Rules and Regulations.

◆ **7400. Internship in Consumer Science and Education. (3-9). (HMEC 7302).** Supervised field experience in a selected area of Consumer Science and Education. PREREQUISITE: Permission of Department Chair.

◆ **7401. Internship in Child and Family Studies. (3-9). (HMEC 7302).** Supervised field experience. PREREQUISITE: Permission of Department Chair.

◆ **7403. Internship in Family and Consumer Sciences. (3-9). (HMEC 7302).** Supervised field experience. PREREQUISITE: Permission of Department Chair.

◆**7404. Internship in Housing/Home Furnishings. (3-9). (HMEC 7302).** Supervised field experience. PREREQUISITE: Permission of Department Chair.

◆**7405. Internship in the Fashion Industry. (3-9). (HMEC 7302).** Supervised field experience. PREREQUISITE: Permission of Department Chair.

◆**7406. Internship in Marketing Education. (3-9). (HMEC 7302).** Supervised field experience. PREREQUISITE: Permission of Department Chair.

7600. Entrepreneurship in Merchandising and Consumer Sciences. (3). Principles involved in initiating, managing, and accepting risks associated with entrepreneurial pursuits as applied to merchandising, e.g. private practice, consulting, technical assistance, and educational services; and operating shops, day care centers, and food service establishments. PREREQUISITES: PRST 7300, CSED 7700, and CSED 7800.

7700. Merchandising Theories, Principles, and Practices. (3). Introduction, research, and application of theories, principles, and practices that support planning, developing, and promoting apparel, accessories, and related products and services in diverse business environments with emphasis on career development and opportunities.

7800. Consumer Issues: Balancing Work and Family. (3). Directed investigation of the challenges and rewards of balancing work and family issues from the framework of a life cycle perspective; analysis of work and family spillover, role conflict, role overload, role strain, and reasons for the growth of Work-Family and Work-Life benefits. PRE/COREQUISITE: PRST 7300.

◆**Grades of S, U, or IP will be given.**

JUDAIC STUDIES (JDST)

6840. Israel: Antiquity in Modernity. (3). (Same as ANTH 6840). Interdisciplinary examination of relationship between ancient traditions and modern issues in Israel. Emphasis on relationship between historical conditions, conflicts, and interconnections and new choices facing Israel.

6841. Biblical Archaeology. (3). (Same as ANTH 6841, ESCI 6841). Relationship between historical texts in Hebrew Bible and historical evidence from archaeological research in Israel and surrounding area. Emphasis on how archaeological evidence and Biblical narratives illuminate each other.

◆**7796. Independent Study, (3).** Directed individual study or research. May be repeated once. PREREQUISITE: Completion of out-of-class learning contract and approval of the director of Bornblum Judaic Studies.

◆**Grades of A-F, or IP will be given**

MARKETING EDUCATION (MKED)

7010. Cooperative Occupational Education. (3). (MKED 6610). Study of occupational education programs that use work experience coordinated with related in-school instruction to provide clear preparation in vocational education. (Spring semester only)

7630. Instructional Development in Marketing, Merchandising, and Management. (3). Developing instructional materials and techniques for high school and post-secondary marketing education programs. PREREQUISITE: MKED 7010 and 7641. (Fall semester only.)

7641. Techniques of Coordination in Marketing Education. (3). (MKED 6641). Selecting training agencies; developing job analyses; selecting and briefing the training supervisor; selecting and working with advisory committees; utilizing other community and resources.

7650. Research Problems in Marketing Education. (1-3). Individual investigation and reports of research problems. PREREQUISITE: Permission of instructor.

7690-99. Workshops in Marketing Education. (1-9). (MKED 6690-99). Group study of selected phases of the marketing education program, designed to assist both in-service prospective marketing and distributive education teacher-coordinators in improvement of the teaching-learning processes contained in three phases of program operation: classroom instruction, on-the-job training, and student organization advisement. See on-line class listings for topic. May be repeated; however, credit applicable to a degree is limited.

7700. Marketing Education Study Tour. (1-3). (MKED 6700). An opportunity to gain on-the-scene knowledge about specific areas of instruction within marketing education. May be repeated for a maximum of 3 credit hours; however, the student should consult with major advisor to determine the maximum credit that may be applied to a degree program. PREREQUISITE: Permission of instructor.

◆ **7993. Occupational Experience Practicum. (1-3).** Practical experience in occupational specialty area for certification and/or occupational updating; employment in occupational specialty area; comprehensive research report. PREREQUISITE: Permission of instructor.

◆ **Grades of S, U, or IP will be given.**