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The University of Mississippi 2005 Graduate School Catalog

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This catalog is not an unchangeable contract but, instead, an announcement of present policies only. Implicit in each student's matriculation with the University is an agreement to comply with University rules and regulations that the University may modify to exercise properly its educational responsibility. The policies of the Graduate School are recommended by the Graduate Council and approved by the chancellor. When exceptions to policy, procedures, or deadlines are justified, the Graduate Council authorizes the graduate dean to take appropriate action.

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Academic Calendar

The academic calendar of the University of Mississippi is available online at www.olemiss.edu/depts/registrar/#acad_cal or from the Registrar's Office, (662) 915-7792.

The Graduate School

History • The University of Mississippi from 1848, the date of its formal opening, until 1870 conferred the honorary degree of Master of Arts upon certain of its graduates who had attained intellectual distinction. Courses at the graduate level were offered first in 1870. A comprehensive examination as a requirement for the master's degree also was established that year. A definite program of graduate study with a minimum residence requirement of one academic year was inaugurated in 1890. During the last nine decades, graduate work at The University of Mississippi has been continually developed and expanded. The Graduate School was formally organized in 1927 to coordinate and administer graduate study and research at the University.

Aims and Ends of Graduate Education • The purpose of graduate education at the University was first articulated by the Aims and Ends statement associated with the organization of the School in 1927. The statement is as follows:

The student who undertakes graduate study should understand at the outset that work of this character implies more than the acquisition of knowledge under competent instruction. He or she should aspire to a degree of knowledge of a given subject in order to make a contribution that is of original and independent value. This does not imply that much of the student's energies are not still to be applied to the acquisition of facts universally accepted, a process that should continue through life, but in graduate study these facts are to be weighed, coordinated, and supplemented by the student's own contributions.

Graduate School Office • Associate Dean Christy Wyandt and Assistant Dean Tyrus McCarty manage the Graduate School Office in Room 113 of the Old Chemistry Building. Among the duties of the office are to receive applications, coordinate their review, communicate with prospective students regarding their admission status, maintain academic records, monitor students' progress, process assistantship appointments, advise students, and interpret academic policies established by the Graduate Council.

Accreditation • The University of Mississippi is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools [1866 Southern Lane, Decatur, Georgia 30033-4097; telephone (404) 679-4501] to award baccalaureate, master's, specialist, first professional, and doctoral degrees.

The Graduate School, which administers all graduate study at the University, holds membership in the Council of Graduate Schools in the United States. Its faculty consists of about 400 members, who are qualified to offer graduate work.

The Graduate Student Council • The Graduate Student Council at The University of Mississippi addresses the needs and concerns of all graduate students on the Oxford campus. The council officers and senate work with the faculty, administration, and other student organizations to promote higher academic achievement and standards, to facilitate interdepartmental communication among graduate students, and to provide graduate students with more opportunities for social interaction. By collectively addressing common concerns of its membership, the Graduate Student Council strives to eliminate much of the unnecessary stress often associated with graduate student life.

Some of the Graduate Student Council's goals are to offer financial assistance for paper presentations at academic conferences, to compile and disseminate information concerning graduate grants and scholarships outside the University, and to work with the University's placement office to establish a clearinghouse of information regarding career opportunities in academia and other professions.

Research Organizations, Academic and Community Services

RESEARCH ACTIVITIES

Office of Research and Sponsored Programs • Professor Alice M. Clark, vice chancellor for research and sponsored programs • 125 Old Chemistry Building • (662) 915-7482 • research@olemiss.edu

Organized research units are maintained by the University to conduct research on practical and theoretical problems. Faculty, students, and staff participate in research efforts of organized research groups. For the most part, the studies conducted through the special research units complement the research accomplished by undergraduates for senior research projects in their major fields and by graduate students for theses and dissertations.

Opportunities often exist for undergraduates to participate in research being conducted by the University's research units. Interested students should contact the director of the center or institute in question.

Center for Archaeological Research and Evaluation • Professor Jay Johnson, director • 109 Leavell Hall • (662) 915-7316 • sajay@olemiss.edu

The mission of the center is to improve the general understanding of prehistoric and historic events in the state and region. Human behavioral patterns, as chronicled in the archaeological record, are nonrenewable cultural resources. By providing cultural resource management expertise, the center helps ensure that construction projects comply with federal laws concerning cultural resources.

The National Clearinghouse for Archaeological Stabilization provides technical advice and counseling on the preservation and stabilization of archaeological resources that are being destroyed by cultural and natural forces. Clearinghouse projects are national in scope and are cooperative efforts between the center, the National Park Service, the Tennessee Valley Authority, and the private sector.

Center for Computational Hydroscience and Engineering • Frederick A.P. Barnard Distinguished Professor Sam Wang, director • 102A Carrier Hall • (662) 915-7788

The center's missions include advancing the understanding of mechanisms of water flow and sediment transport, and developing better methodologies for conducting cost-effective research in the areas of hydrodynamics, hydrology, hydraulics, and sedimentation engineering for the enhancement of water resources, environment quality, ecological balance, and soil conservation.

Center for Educational Research and Evaluation • Associate Professor Kathleen Sullivan, director • 207 Education Building • (662) 915-7069 • ksull@olemiss.edu

The Center responds to national, state, and local research needs by analyzing student performance, assessing agencies' training and programming needs, providing information on best practices in education, and empirically studying the effectiveness of educational interventions. Through its evaluation capacity, the Center for Educational Research and Evaluation addresses local, state, and federal agencies' evaluation needs, as well as those of other external entities. In addition, the Center meets the higher education-related evaluation needs of programs and departments throughout the University.

Center for Marine Resources and Environmental Technology • Research Professor J. Robert Woolsey, director • 220 Old Chemistry Building • (662) 915-7320

The CMRET encourages the development of selected mineral resources from U.S. seabeds by providing opportunities for engineering systems research, development, and technology transfer within academic, governmental and industrial communities. It provides primary leadership and facilities for the education and training of the nation's scientists and engineers in the field of marine minerals. The CMRET is administered through the School of Engineering and the Mississippi Mineral Resources Institute (MMRI).

Center for Population Studies • Professor David A. Swanson, director • 101 Leavell Hall • (662) 915-7295

The center promotes population education and research for the University, state, and region. It is the lead agency of the State Data Center for Mississippi, a joint program of the U.S. Bureau of the Census and the state of Mississippi. In this capacity, the Center distributes census and other statistics, provides instruction on data analysis, and acts as a liaison between the Bureau of the Census and data users in Mississippi. The center also undertakes research on Mississippi's population and on broader demographic problems; current research concerns population movement and redistribution over the past 50 years in the state.

Center for Speech and Hearing Research • Assistant Professor Carolyn Wiles Higdon, director • 303 George Hall • (662) 915-7652

The CSHR was established as an ancillary part of the Department of Communicative Disorders in the National Center for Physical Acoustics to facilitate research opportunities for individuals in the field of speech and hearing science with an interest in acoustic research. The CSHR's mission is to advance understanding of the acoustic aspects of speech and hearing disorders among adults and children, and to develop and investigate innovative research ideas aimed toward the diagnosis, treatment, and (re)habilitation of individuals having such disorders. Research projects include assessing speech intelligibility, laryngeal physiology, and hearing physiology in Navy divers under adverse speaking and listening conditions, and the development of digital hearing aids.

Center for the Study of Southern Culture • Professor Charles Reagan Wilson, director • Barnard Observatory • (662) 915-5993 • staff@barnard.cssc.olemiss.edu

The center is a focal point for innovative education and research on every aspect of Southern culture. The award-winning *Encyclopedia of Southern Culture*, published in 1989, has been widely hailed as a major contribution to the multidisciplinary study of the South and was a phenomenal publishing success. Other center publications include *The South: A Treasury of Art and Literature*; a five-volume anthology, *Mississippi Writers: Reflections of Childhood and Youth*; the series *Cultural Perspectives on the American South*; *The Blues: A Bibliographical Guide*; and three magazines on indigenous Southern musical forms: *Living Blues*, *Rejoice!*, and *Old Time Country*. The center documents regional experience through taped recordings, photography, and film. Through center efforts, the University library acquired the Kenneth S. Goldstein Folklore Collection, the B.B. King Record Archive, the Lewisohn Collection of books and films on Native Americans and African Americans, and the O'Neal Living Blues Collection.

Center for Water and Wetland Resources • Mark Baker, director • 15 Road 2078, Abbeville, MS 38601 • (662) 915-5479

The center, based at the University Field Station, will assist American agriculture by addressing the impacts of agricultural practices and chemicals on the environment and human health. Facilities include a Laboratory Building, Education/Demonstration Building, Aquatic Culturing Building, a greenhouse, and experimental field sites. The center is researching nonpoint and point pollution, aquatic systems as tools for integrated management of agricultural production, agricultural water quality, and optimal agricultural water use. Research issues to be addressed include use of biologically based technology to clean water and reduce impacts of contamination; enhancement of the quality of runoff from farms to achieve waste-minimizing agriculture while meeting regulatory requirements; conservation of agricultural water supplies through renovation and reuse; reduction of sedimentation, contamination, and surface water degradation through use of constructed aquatic environments; effective and economical protocols for pesticide use; preregistration mesocosm testing of new environmentally compatible chemicals; and detoxification and microbial biotransformation of agrichemicals.

Croft Institute for International Studies • Professor Michael F. Metcalf, executive director • 304 Croft Institute Building • (662) 915-1500 • croft@olemiss.edu

The Croft Institute for International Studies promotes teaching, research, and service activities in international studies. The Croft Institute helps prepare majors in international studies and other students at The University of Mississippi for leadership in business, public service, and other fields in an increasingly interdependent world. In order to promote improvements in international studies throughout the state and the region, the institute conducts professional development workshops for high school foreign language and social studies teachers, as well as for foreign language, history, and social science faculty members at institutions of higher education.

Gatlin Center for Economic Education • Associate Professor William F. Chappell, director • 212 Conner Hall • (662) 915-5835

The Gatlin Center for Economic Education promotes the goal of economic literacy by supporting economic education in the state's schools. Teachers of economics can obtain materials from the center to assist them in using innovative approaches to teach economics. The center also promotes quality teaching through regular seminars and workshops.

Jamie L. Whitten National Center for Physical Acoustics • Frederick A.P. Barnard Distinguished Professor Henry Bass, director • Jamie L. Whitten National Center for Physical Acoustics Building • (662) 915-5905 • ncpa@ncpa.olemiss.edu

The NCPA has a threefold purpose: To perform basic and applied research in acoustics; to educate a cadre of professional scientists and engineers who have a research specialization in acoustics; and to develop products, designs, and techniques that can be commercially exploited and used to improve the economy of the region. The staff consists of world-class scientists and engineers who have established themselves as leading experts in many areas of acoustics research and education. In the congressional act that established the center, funds were appropriated to construct and equip a state-of-the-art research facility specifically designed for acoustics research. Research projects underway at the center include studies in thermoacoustics, acoustic detection of buried landmines, entomology acoustics, aquaculture acoustics, solid-state acoustics, soil characterization through acoustic techniques, transducer development, medical ultrasonics, aeroacoustics, and the physics of sound propagation.

McLean Institute for Community Development • Associate Professor Vaughn Grisham, director • 214 Leavell Hall • (662) 915-7326

The institute works directly with community representatives to apply knowledge to the solution of community problems. It sponsors a nine-month leadership conference that allows participants to develop effective and broad community leadership skills. The institute is currently working in more than 30 states on a variety of economic/community development projects. It has helped establish leadership development programs in more than 200 counties throughout the South. Its areas of research and application include school reform, downtown redevelopment, community assessment, leadership and leadership development, and a variety of economic development topics.

Mississippi Center for Supercomputing Research • David G. Roach, director • 303 Powers Hall • (662) 915-7206 • mcsr_info@mcsr.olemiss.edu • <http://www.mcsr.olemiss.edu>

The primary goal of the MCSR is to provide high-performance computing support of the instructional and research goals of Mississippi's state universities. The MCSR makes at least one supercomputer available to researchers and students at no charge and with equal access for all state universities. The current high-performance computers are a Cray C916, 64 processor Origin 2000, and Beowulf cluster. In addition, there is a Silicon Graphics Power Challenge L workstation. There are FORTRAN and C++ compilers on these machines, as well as complex engineering and scientific applications software.

The statewide higher education network connects the computers of the MCSR to the Internet, which includes the supercomputers of the Department of Defense MSRCs at Vicksburg and Bay St. Louis. The presence of these supercomputer centers makes Mississippi sixth in the United States in supercomputer power.

Mississippi Law Research Institute • Dr. William Hooper, Jr., director • 518 Law Center • (662) 915-7775

The institute is an official advisory law revision, research, and reform agency. It provides in-depth legal assistance to the legislature and to state agencies on questions of law requiring extensive research. The institute has the most complete law research facilities in the state, a staff of full-time research attorneys, senior law student research associates, and the expertise of the faculty of the School of Law. Research findings and opinions are published in formal comprehensive reports, briefs, and monographs of narrow issues, together with proposed statutes, ordinances, or regulations where appropriate. The institute participates in sponsored research projects both as sole grantee and as a law component of larger research projects.

Mississippi Mineral Resources Institute • Research Professor J. Robert Woolsey, director • 220 Old Chemistry Building • (662) 915-7320 • inst@mmri.olemiss.edu

The mission of the MMRI is to support, conduct, and stimulate applied and basic research in all aspects of the state's energy and industrial mineral resources, including their exploration, assessment, social and environmental impact, mining, and reclamation. The goal of the institute is to provide intelligent uses of mineral resources and related mining technology, with a concern for economic development accomplished with regard for environmental considerations. Scientists, engineers, students, and technicians in these fields have been trained at the associated universities throughout the state through the institute's support of research grants and through practical experience in mining and mineral-related fields.

National Center for Justice and the Rule of Law • Visiting Professor Thomas Kevin Clancy, director • 557 Law Center • (662) 915-6897 • ncjrl@olemiss.edu

The NCJRL is funded by the U.S. Department of Justice and addresses the fact that crimes threaten the peace, security, and well-being of both the nation and the world as a global society. Collaboration involves other government and nongovernment agencies in sponsoring research, hosting international and national conferences, and presenting educational programs for lawyers and judges on issues related to criminal justice.

National Food Service Management Institute • Dr. Charlotte Oakley, executive director • National Food Service Management Institute Building • (662) 915-7658 • nfsmi.org

The mission of the National Food Service Management Institute is to provide information and services that promote the continuous improvement of child nutrition programs. The NFSMI conducts applied research; develops and delivers educational materials and programs via satellite broadcast, print, video, interactive seminars, and computer-based technology; and provides technical assistance through a telephone help desk. The NFSMI also offers materials produced by state agencies and the USDA through its sales office. The NFSMI's scope of work embraces schools in 23,000 school districts in the United States. In addition, the NFSMI's scope of work includes centers and homes participating in the child and adult care food programs.

The NFSMI is operated in cooperation with the University of Southern Mississippi where the Applied Research Division is located. The NFSMI is administered through a grant agreement with the U.S. Department of Agriculture, Food and Nutrition Service. It also develops and implements projects for the USDA under cooperative agreements.

National Remote Sensing and Space Law Center • Research Professor Joanne Irene Gabrynowicz, director • 557 Law Center • (662) 915-6857 • edking@olemiss.edu

The National Remote Sensing and Space Law Center serves the remote sensing industry and the public good by objectively researching, addressing, and conducting outreach and educational activities related to the legal aspects of applying remote sensing and geospatial technologies to human activities.

National Tax History Research Center • Professor Tonya Flesher, director • 302 Conner Hall • (662) 915-5731 • actonya@olemiss.edu

The National Tax History Research Center is cosponsored by the Patterson School of Accountancy and the Academy of Accounting Historians. The center is the nation's only research center and library devoted to the development of income taxation in America.

Public Policy Research Center • Assistant Professor Harvey Palmer, director • 301 Dupree Hall • (662) 915-7415 • ssrl@olemiss.edu

The PPRC is home to the Social Science Research Laboratory (described below). The PPRC provides a range of public services and research related to Mississippi government. The SSRL includes a state-of-the-art survey facility that is used for research on public policy issues, as well as for academic research.

Research Institute of Pharmaceutical Sciences • Professor and Dean Barbara Wells, executive director • 1018 Thad Cochran Research Center • (662) 915-7265 • pharmacy@olemiss.edu

The Research Institute of Pharmaceutical Sciences (RIPS) was chartered by the Mississippi Legislature in 1964 and exists within the organizational structure of the School of Pharmacy at The University of Mississippi. The Research Institute is organized around the efforts of a core of full-time research faculty. In addition, the academic faculty of the School of Pharmacy may have part-time appointments in the institute. Activities of the institute are conducted through the National Center for Natural Products Research (listed below), as well as the Center for Pharmaceutical Marketing and Management (listed below).

National Center for Natural Products Research • The mission of the National Center for Natural Products Research is to improve human health and agricultural productivity through the discovery, development, and commercialization of natural products or derivatives as pharmaceuticals and agrochemicals. The national center conducts basic and applied multidisciplinary research and educational activities in two major programmatic areas: the discovery of potential new drugs for certain infectious diseases, cancer, and immune and inflammatory diseases, and the development of phytomedicines as therapeutic agents. Additionally, the national center conducts research related to the development of medicinal plants as alternative crops for U.S. farmers.

Center for Pharmaceutical Marketing and Management • The Center for Pharmaceutical Marketing and Management promotes efficiency and effectiveness in the marketing and management of pharmaceutical products and services in all segments of the industry. Through a unique strategic alliance between the School of Pharmacy and the School of Business

Administration, the Center for Pharmaceutical Marketing and Management applies The University of Mississippi's distinctive competencies to focused research and innovative educational programs involving health care. The Center for Pharmaceutical Marketing and Management is committed to supporting education at all levels —undergraduate, graduate, and practicing professionals. The center also provides an environment where business and education can come together to exchange real-world research ideas, results, and information. Past, present, and future research includes both applied and theoretical projects in an environment that encourages mutual interaction between industry professionals and the staff and students in the center. An open exchange of ideas, collaboration on development of solutions to problems, and dissemination of the findings will be the result. The programs of the center include: Pharmaceutical Marketing and Management Research, Pharmacy Entrepreneurship, and Pharmosaic (a pharmaceutical marketing workforce diversity initiative).

Sarah Isom Center for Women • Dr. Mary Clare Carruth, director • 203 Johnson Commons • (662) 915-5916 • isom_center@olemiss.edu

The center is dedicated to the development of curriculum and scholarship about women, the dissemination of information about their expanding career opportunities, and the establishment of mutual support networks for women of all ages and backgrounds. Through the John Davis Williams Library, the center is helping to develop research collections and to recover materials once neglected as unimportant, so that the faculty and students may further important research in gender studies.

Social Science Research Laboratory • Assistant Professor Harvey Palmer, director • 301 Dupree Hall • (662) 915-7415

The mission of the SSRL is to provide comprehensive facilities for the formulation and execution of funded social science research projects, provide program evaluation services to the University community, and to make The University of Mississippi the state's center for conducting social science research on issues of state, national, and international importance that affect Mississippians.

In addition to the programs of the groups above, the University, through its various departments, participates in programs of the OAK RIDGE NATIONAL LABORATORY, the OAK RIDGE ASSOCIATED UNIVERSITIES, the MISSISSIPPI-ALABAMA SEA GRANT CONSORTIUM, the MISSISSIPPI NASA SPACE GRANT PROGRAM, and the GULF COAST RESEARCH LABORATORY. The University is a member of the MISSISSIPPI RESEARCH CONSORTIUM, a coalition of Mississippi's four comprehensive/research universities.

University Field Station • Mark Baker, director • 430 Shoemaker Hall • (662) 915-5479

The field station, located 10 miles northeast of campus, consists of more than 740 acres of pine and mixed hardwood forest, bottomland forest, open fields, springs, wetlands (including eight constructed wetlands), and more than 200 stream-fed ponds and mesocosms that offer unique opportunities for experimental research on aquatic ecosystems. Facilities have been expanded to include a Visitor Center/Education Building, state-of-the-art communication capabilities, general research and analytical laboratories, and an animal and plant culture building.

University of Mississippi Geoinformatics Center • Associate Professor Gregory Easson, director • 118-E Carrier Hall • (662) 915-5995

The center serves as the focal point for programs in the research, development, and use of geospatial information and to educate, train, and prepare undergraduate and graduate students to participate in the development of new applications of geospatial information technology in Mississippi and the nation. It also furthers research ranging from environmental to business-oriented projects through the use of satellite technology. These technologies include remote sensing, geographic information systems, global positioning systems and other methods of describing the Earth's surface.

ACADEMIC SERVICES

University Libraries

The John Davis Williams Library is the general library for the University community, and houses the main collection of books, periodicals, microforms, manuscripts, government publications, audiovisual materials, and maps. The general library and its branches hold more than 1,050,000 volumes, more than 2 million microforms, and more than 6,700 current periodical and serial subscriptions. Online library services can be found at the Web site http://www.olemiss.edu/depts/general_library/.

In 2001, the J. D. Williams Library became “the library of the accounting profession” upon receiving the library collections of the American Institute of Certified Public Accountants (AICPA). These collections, numbering more than 100,000 items, include rare incunabula as well as copies of every item cited by *Accountant’s Index* since its inception in 1923.

The library has been a depository for U.S. Government publications since 1883, and is one of only 50 regional depositories in the nation. The Government Documents Department holds 2,171,025 items, including print, microforms, maps, and electronic media. The department also receives Mississippi state documents.

The Department of Archives and Special Collections houses one of the world’s finest collections of books, manuscripts, and memorabilia devoted to William Faulkner. The Mississippi Collection, a part of Archives and Special Collections, contains over 26,000 volumes and 300 manuscript collections of Mississippiana. The Blues Archive is an archival collection of blues, gospel, music, and other African American music traditions. Included in the Blues Archive holdings are videotapes, sound recordings, photographs, manuscripts, sheet music, the B.B. King Record Archive of some 7,000 records, and the 9,000-volume Goldstein Folklore Collection. Exhibits of interest to students and the general public are regularly presented by the Department of Archives and Special Collections. The library displays changing exhibits of items from its collections of Mississippiana, incunabula, and other rare books and manuscripts.

The Science Library, a branch of the J.D. Williams Library, is located in the Thad Cochran National Center for Natural Products Research building, and contains pharmacy, chemistry, and related science reference and research journals and materials.

Two autonomous libraries, the James O. Eastland Law Library and the Public Policy Research Center Library, complement the resources contained in the Williams Library and its branches. The Eastland Law Library’s online services can be found at this Web site: http://www.olemiss.edu/depts/law_library_school/libindex.html.

The Rowland Medical Library is located on the Jackson campus in the Verner S. Holmes Learning Resource Center. This library’s online services can be found at this Web site: <http://library.umsmed.edu/>.

The University of Mississippi Museums and Historic Houses

The Museums’ complex consists of the Mary Buie Museum, the adjoining Kate Skipwith Museum, the Walton-Young Historic House, and Rowan Oak, William Faulkner’s house. The Seymour Lawrence Gallery of American Art and the Fortune Gallery were added recently. The museums’ collections represent the fields of archaeology, art, anthropology, decorative arts, history, science, and technology. Particularly outstanding are the David M. Robinson Collection, the finest collection of Greek and Roman sculpture, pottery, coins, and bronzes in the South, and the Millington-Barnard Collection of 19th-century scientific apparatus. The precision instruments in the Millington-Barnard Collection were the finest available in the 1850s when they were bought for teaching purposes, and the collection is among the most extensive and best-preserved assemblages of its kind in the United States.

The growing collection of Southern folk art, centered on the collection of the dream and vision paintings of Oxford native artist Theora Hamblett, is also outstanding.

The University Museums regularly host significant traveling exhibitions from outside sources and prepare frequent special exhibitions from the permanent collections; many of these exhibitions are coordinated with classes or academic events such as the annual Faulkner symposium. Museums’ classrooms and galleries are used for regularly scheduled classes and special events by many University departments. Only a very small selection of the 20,000-piece collection can be displayed at any one time, but all the collections are available to students and faculty for study and research.

The Walton-Young House is a restored Victorian home open by appointment. The home is named in honor of Horace and Lydia Lewis Walton, who constructed the house, and Stark Young, a famous Mississippi playwright, drama critic, and author who was both a student and a faculty member at the University. This historic home was built in 1880. Its furnishings are period pieces, and interpreters are available to provide tours.

Rowan Oak, William Faulkner’s home, was recently restored and is open to visitors. The grounds are open from dawn to dusk, and the Bailey’s Woods Trail is a challenging walk between Rowan Oak and the Museum.

The University of Mississippi Museums are open free to the public, 9:30 a.m.-4:30 p.m. Tuesday-Saturday and 1-4 p.m. Sunday. The museums are closed on Mondays and University holidays. Guided group tours are available by appointment.

You may contact the museum for further information by calling (662) 915-7073, or e-mail museums@olemiss.edu. Visit our Web site: www.olemiss.edu/depts/u_museum.

The University Gallery: Located in Meek Hall, the gallery is used for art exhibitions and other activities of the Department of Art. Loan exhibitions of professional work in ceramics, graphic arts, painting, photography, printmaking, and sculpture are brought to the gallery occasionally. Solo and group exhibitions of undergraduate and graduate student work are scheduled periodically. Gallery exhibitions are open to the public.

University Lectures

In 1960, Mrs. Ann Waller Reins Longest established the Christopher Longest Lecture Fund in recognition of Professor Christopher Longest's distinguished service to the University from 1908 to 1951 in the departments of Classics and Modern Languages. The annual *Longest Lectures* are delivered by scholars in the fields of the modern languages and English literature.

In 1972, the students, colleagues, and friends of James Edwin Savage, professor of English, established the *James Edwin Savage Lectures* in honor of his contributions to teaching and scholarship in the Renaissance. The James Edwin Savage Lectures are given by outstanding scholars in the fields of Renaissance literature, art, history, music, and philosophy.

In 1973, the School of Pharmacy established the Charles W. Hartman Lectures to recognize the contributions of Charles W. Hartman, former dean of the School of Pharmacy, to the pharmaceutical sciences. During the spring or fall semester, an internationally or nationally known scientist or policy leader is selected to deliver the lecture.

Technology Services

Division of Outreach and Continuing Education • Timothy R. Angle, assistant to the provost for outreach and summer programs, E.F. Yerby Conference Center • (662) 915-7283 • outreach@olemiss.edu

The Division of Outreach and Continuing Education operates distance education rooms for transmitting and receiving compressed video. Distance education rooms also exist in the Business, Education, and Pharmacy schools and at the UM Advanced Education Center in Tupelo, the DeSoto Center in Southaven, and UM Booneville.

Information Technology • Emmette Hale III, associate vice chancellor for information technology • 302 Powers Hall • (662) 915-7206 • it@olemiss.edu • <http://www.olemiss.edu/depts/it>

Information Technology (IT) offers the campus community a wide array of resources, including supercomputers, servers, workstations, personal computers, and networked labs, along with a comprehensive campus-wide network connected to the Internet and Internet2 including some areas that are enabled for wireless access. The IT HelpDesk is available by phone (915-5222), e-mail (helpdesk@olemiss.edu), and walk-in to assist University faculty, staff, and students with computing problems. Various schools and departments on campus provide additional computing facilities.

An APPROPRIATE USE POLICY (<http://www.olemiss.edu/ause.html>), which reflects academic honesty, ethical behavior, and consideration in the consumption of shared resources, governs the use of all campus computer facilities.

Media Production & Distributed Learning • Andy Harper, director • Wing D, Kinard Hall • (662) 915-5917 • acharper@olemiss.edu

Media Production & Distributed Learning provides support services in distance learning, computer network administration, and multimedia production for the Division of Outreach and Continuing Education. The department offers a broad range of capabilities including Internet videoconferencing, satellite teleconferencing and uplink services, studio and field production for television broadcast and nonbroadcast video programs, digital video editing and postproduction services, CD and DVD authoring and duplication, and videotape duplication.

University Communications

Printing Services • Anthony Seaman, director • Sam Hall • (662) 915-7066 • aseaman@olemiss.edu • Houses Printing Services, the Quick Copy Center, Bulk Mail Processing Center, and provides full-service four-color offset printing,

scanning, high-speed copying, typesetting, design, full-color digital printing, bindery, and mailing services for the University and for the personal needs of members of the University community.

Campus Copy Center • Anthony Seaman, director • The Ole Miss Union • (662) 915-6723 • Offers walk-up copy services, fax services, UPS package shipping, full-color digital printing, and bindery services for the students and all members of the University community.

University Publications • C. Sabrina Brown, director • 203 Gerard Hall • (662) 915-7355 • cbrown@olemiss.edu • Provides editorial and graphic design services for printed materials, including magazines, brochures, posters, and exhibits, and Web sites.

Imaging Services • Robert Jordan, assistant director of imaging services • 221 Gerard Hall • (662) 915-7260 • Provides photographic and digital imaging services to clients within the Oxford/University community, including studio and location photography, presentation materials, large-format printing, color copies, 35mm slide processing/duplication, computer imaging and scanning, and b/w print processing.

COMMUNITY SERVICES

Willie Price University Nursery School • Jennifer Angle, director • First Floor, Kinard Hall • (662) 915-7444

The University Nursery School, formerly the Willie Price University Nursery School, is operated by the School of Education and is licensed by the Mississippi State Department of Health. It provides practical experiences for students enrolled in child development and related courses, as well as an on-site location for faculty and student research in the areas of psychology, counseling, curriculum development, communicative disorders, and nutrition. The center serves preschool and kindergarten children ages 3 to 5.

Division of Outreach and Continuing Education • Timothy R. Angle, assistant to the provost for outreach and summer programs • E.F. Yerby Conference Center • (662) 915-7283 • outreach@olemiss.edu

The Division of Outreach and Continuing Education provides professional development and public service both within the state and across the region. By offering administrative and support services, as well as technical assistance, the Division enables the University's schools and departments to focus on development of academic programs and evaluation of their public service and continuing education programs. The Division's programming is offered on and off campus and includes study abroad, institutes, conferences, seminars, and teleconferences for professional development, and general interest and youth-oriented activities. Academic credit activities include independent study courses in print and online formats, as well as off-campus courses at Booneville, Tupelo, and DeSoto Center-Southaven.

Mississippi Small Business Development Center • Walter D. (Doug) Gurley, Jr., state director • B-19 Jeanette Phillips Drive • (662) 915-5001 • msbdc@olemiss.edu • www.olemiss.edu/depts/mssbdc

The Mississippi Small Business Development Center (MSBDC) network consists of the state office and nine service centers located across the state. The network provides a variety of services to small businesses (less than 500 employees) including counseling, workshops, and information services. Resources are available to assist in business plan development, market analysis, capital source location, technology transfer, innovation development, federal grant location, and other managerial and technical support services. Specialized services include international trade, technology transfer, and inventor assistance with referrals to government contract procurement assistance. This program is administered by The University of Mississippi, the designated "lead" institution for the MSBDC, under supervision of the dean of the School of Business Administration and in cooperation with the U.S. Small Business Administration.

Mississippi Teacher Corps • Associate Professor Andrew P. Mullins, Jr., Instructor Germain McConnell (co-directors) • School of Education, Room 211, University, MS 38677 • (800) 884-7606 • mtc@olemiss.edu

The Mississippi Teacher Corps provides a framework for outstanding liberal arts graduates to become high school teachers in Mississippi. An intensive eight-week summer institute trains corps recruits in the skills needed for their transition to a teaching role; previous education course work is not required. After passing the Praxis I and Praxis II (Subject Area Exam), recruits qualify for alternative teacher certification with the Mississippi State Department of Education and contract to teach for at least two years in a public school district selected on the basis of local need. While teaching, corps members pursue a Master of Arts degree in curriculum and instruction from the University. Upon completion of the Master of Arts degree, they are eligible for a Class AA teaching certificate.

Psychological Services Center • William Paul Deal, Ph.D., director • G-382 Kinard Hall • (662) 915-7385

The Psychological Services Center (PSC) is an outpatient clinic that serves the University, Oxford, and surrounding communities. Services provided include help with family, relationship, and self-concept problems, as well as for problems that can be more severe, such as depression, drug use, panic attacks and agoraphobia, and sexual assault. PSC therapists are advanced doctoral students in clinical psychology who are supervised by staff psychologists. The Assessment Clinic, which is part of the PSC, conducts evaluations for learning disabilities, attention deficits (ADHD), and other problems that can interfere with academic success.

Speech and Hearing Center • Carolyn Higdon, director • George Hall • (662) 915-7271

The center provides speech, language, and hearing evaluations and management, including hearing aid dispensing, to patients of all ages. Special services in audiology include auditory evoked response testing, hearing aid dispensing, and tests of auditory processing. Evaluations and therapy within the speech/language division address disorders of articulation, voice, fluency, language, aphasia, dysarthria, and apraxia. The center is both a service facility and a student training site. Graduate students in speech/language pathology serve clients under the direct supervision of the departmental faculty. Clinical instruction is facilitated by state-of-the-art clinical and instructional equipment.

University of Mississippi Writing Project • Ellen Shelton, director • Outreach and Continuing Education • (662) 915-7925

The Teachers' Writing Project, one of the 160 sites of the National Writing Project, conducts professional development workshops, research activities, and a Summer Institute for teachers.

Fees and Expenses

Minimum Fees and Tuition • It is the intent of the University to keep at a minimum the necessary expenses of its students. Changes are made in fees to benefit the students whenever possible. Increases are put into effect only when public support funds are inadequate and when no other recourse is available; therefore, the University must reserve the right to increase or modify fees, tuition, or scholarships without further notice, upon approval by the Board of Trustees.

Fees and tuition are subject to change. Contact the Graduate School or Bursar's Office for further information.

TABLE I. EXPENSES EACH SEMESTER: GRADUATE

Expenses listed are for all graduate students of The University of Mississippi on the Oxford campus for each semester of the academic year.

Hours Enrolled	Resident	Nonresident ¹
1	228.25	514.50
2	456.50	1,029.00
3	684.75	1,543.50
4	913.00	2,058.00
5	1,141.25	2,572.50
6	1,369.50	3,087.00
7	1,597.75	3,601.50
8	1,826.00	4,116.00
9-13	2,054.25	4,630.50
14	2,282.50	4,858.75
15	2,510.75	5,087.00

Note: For definitions of “resident” and “nonresident” students, refer to the Residence section of the “Entering the Graduate School” chapter.

TABLE II. SUMMER SESSION TUITION (Per Semester Hour)

Graduate	
Resident	\$228.25
Nonresident	\$285.25
Pharmacy professional	
Resident	371.00
Nonresident	463.75

¹Students who receive a graduate assistantship/fellowship carrying a stipend of \$600 or more per semester are eligible to be considered for a nonresident fee scholarship.

TABLE III. SPECIAL FEES AND EXPENSES*

Special class fees charged on certain courses ranging from \$5 to \$30 per hour.

AUDIT FEE (Same as credit hours)

CANCELLATION FEE¹ (charged beginning on the first day of class)

Fall or spring semester.....5% of total tuition and room rent, not to exceed \$100

Summer term..... 5% of total tuition and room rent, not to exceed \$100

RETURNED CHECK FEE \$20.00

PARKING DECAL FEE..... \$35.00

INTERNATIONAL STUDENT SERVICE FEE

Fall or spring semester..... \$100.00

Summer term..... \$30.00

INTERNATIONAL STUDENT INSURANCE FEE

Fall semester..... \$355.00

Spring and summer semesters..... \$483.00

GRADUATION

Thesis binding fee.....\$7.00

Microfilming dissertation and binding fee..... \$85.00

Copyright fee (optional)..... \$45.00

RESIDENCE HALL RATES²

Double room (typical)	\$1,420.00
Single room (typical) ³	\$2,010.00
Deluxe room (typical)	\$1,790.00
Prepayment of rent	\$100.00 ⁴

THE VILLAGE (apartments)

	Semester total (4 1/2 months)
Efficiency unfurnished	\$1,650.00
1-bedroom unfurnished	\$1,980.00
2-bedroom unfurnished	\$2,240.00
Apartment reservation deposit (refundable)	\$25.00
Prepayment of rent (\$75 refundable)	\$75.00

REGISTRATION

Application fee ⁵	\$25.00
Course change fee (after last day to register or to add courses as shown in Academic Calendar). ⁶	\$5.00
Duplicate fees receipt	\$3.00
Replacement ID card	\$25.00
Registration fee Phase 2 ⁷	\$50.00
Registration fee Phase 3	\$100.00

*Special fees and expenses are subject to change. Contact the Graduate School for further information.

¹A student may cancel enrollment prior to the time that classes officially begin, by notification to the registrar. This fee also is applicable to students who withdraw during the 100-percent refund period.

²Rates are based on double occupancy. Rent includes local telephone and cable television service and is based on two occupants per room. Single occupancy rooms are 1-1/2 times the double occupancy rates listed above and are on a space-available basis.

³Availability of private rooms may be limited.

⁴The \$100 prepayment of rent is refundable through June 1; the \$100 prepayment of rent is not refundable after June 1.

⁵If an application is transmitted via an online application service, an additional charge may be required by the service.

⁶A schedule change is defined to be the adding or dropping of one course. The fee will be assessed as of the date of the schedule change and will be billed through the Bursar's Office.

⁷Students who complete registration during the late registration period, but on or before the first day of class as shown in the academic calendar, will be assessed a registration fee of \$50. Students completing registration after the first day of class will be assessed a registration fee of \$100.

Delinquent Accounts • The University reserves the right to withhold re-admission to a student until all delinquent accounts owed to the University have been paid. Transcripts of credits are not issued for students whose accounts are delinquent. Regular student account balances and student loan balances are collected by the Bursar's Office, and, if not paid when due, shall constitute a delinquent account.

Student Health Service • An optional medical and hospital plan is available to students and students' families. It may be purchased at fall, spring, or summer registration. You can also purchase and have coverage any time during the year. Additional information may be obtained from the Student Health Service.

Ole Miss Express • The Ole Miss Express plan is a declining balance system, which works like a debit card. Deposits may be made throughout the year at the ID Center Office in Paul B. Johnson Commons West, Central Ticket Office in the Student Union, Bursar's Office in the Martindale Student Services Center, or at the Stockard/Martin Fluff-Fold Laundry. Not only can the card be used to buy meals at all campus food service locations, but Ole Miss Express also may be used on campus to purchase sundries and laundry services at campus laundries, the Ole Miss Bookstore, The Rebel Shop, computer lab printers, Library copy machines, Ole Miss Student Union, the Alumni House Snack Bar, the Galley, Athletic Ticket Office, Central Ticket Office, and all campus vending machines. Ole Miss Express can be used at participating off-campus locations also.

Meals • All on-campus food service operations have convenient locations and hours. Board meals are offered for use in the PBJ Dining Center each semester.

POLICIES GOVERNING REFUNDS

The following refund schedule will apply to those students who withdraw from school or change from full-time to part-time enrollment. Students who withdraw from the University and reside in student residence halls will be refunded rent on the same basis as fees. Any refund of fees, residence hall rent, or Ole Miss Express will: 1. be applied to the appropriate Student Aid Source, if the student was receiving financial aid; 2. relieve any debt owed by the student to the University;

and 3. the remaining balance will be forwarded to the withdrawn student. In case of dismissal of student, no refund will be given.

Additional refund policies are stated below, and each student should be familiar with these policies.

SCHEDULE FOR REFUNDS

Computed from date classes begin (see Academic Calendar)	Fall/Spring Academic Semester	Full Summer Session	1st/2nd Summer Term
For the first 10 days of class	100%	—	—
After the first 10 days of class	0%	—	—
For the first 6 days of class	—	100%	—
After the first 6 days of class	—	0%	—
For the first 3 days of class	—	—	100%
After the first 3 days of class	—	—	0%

The cancellation fee is applicable to students who withdraw during the 100-percent refund period.

Withdrawal from the University • The effective date of withdrawal for refund purposes will be the date of notification to withdraw. Such notification should be given to the registrar. When notification is made by mail the postmark date of the letter may be considered as the date of notification. If a student is re-admitted to the University after withdrawal that same semester, the student will be assessed only the amount previously refunded.

Ole Miss Express Refund Policy • All Ole Miss Express account balances are carried forward each semester. Using the remainder of the balance or requesting a refund can close an account. Accounts are closed should a member not re-enroll at the University and the Ole Miss Express account remain inactive for six months. Balances less than \$23 will not be refunded.

All refund requests must be submitted in writing to the ID Center. Refunds to graduating or withdrawing students will be made upon request. Refunds to students upon graduation will be processed without charge. All other refunds will require a \$20 processing fee which is deducted from the member’s remaining account balance. Any refund made above the processing fee will first be applied to any unpaid balance on that student’s account at the Office of the Bursar. Refunds will be forwarded to the member’s permanent home address.

Meal Plan Refund Policy • Changes in a meal plan resulting in a lesser plan are allowed only during the first two weeks of the semester. Meal plan adjustments are calculated on the board meal value. Refunds are calculated using the following schedule:

**Meal Plan Refund Schedule for Students Who Withdraw from School
(computed from the first day of classes):**

First five working days	90%
Between 6 and 10 working days	70%
Between 11 and 15 working days	50%
After 15 working days	0%

Canceling Residence Hall or Family Housing Contract • Requests for canceling the housing contract are subject to the terms of the Residence Hall Contract and the Family Housing Rental Agreement and must be requested in writing to the Student Housing and Residence Life Appeals Committee. In case of dismissal from the University during the contract period, the student will be financially responsible for the entire contract amount.

Committee on Refunds • Students should petition if they feel they should receive refunds in excess of standard tuition refunds due to extenuating circumstances such as death in the family, serious illness, etc. Petitions with complete details of their situation should be sent to: Committee on Refunds, The University of Mississippi, P.O. Box 1848, Office of the Bursar, University, Mississippi 38677.

HOUSING

Graduate and law students may live in any of the residence halls or the Village Apartments. Each year, specific residence halls are designated as full academic year housing, which means they are available for occupancy from August through the end of the academic year in May. Single and double occupancy rooms are available in all of the residence halls.

The Village Apartments have a variety of efficiency, one-bedroom, and two-bedroom apartments. A total of 319 apartments are available for single students and/or married couples.

For further information about on-campus housing, please contact the Office of Student Housing and Residence Life at (662) 915-7328, or via e-mail at housing@olemiss.edu.

IMMUNIZATION REQUIREMENT

The Board of Trustees of State Institutions of Higher Learning, in cooperation with the Mississippi State Board of Health, has issued updated regulations requiring that all entering students whose date of birth is after Jan. 1, 1957, must submit proof of two immunizations for measles and one for rubella prior to registration. Immunizations must be given after one year of age. Forms for documenting immunizations or establishing an exemption to the requirement are available from the Student Health Service, University of Mississippi, P.O. Box 1848, University, MS 38677-1848.

ASSISTANTSHIPS, AWARDS, AND FELLOWSHIPS

Students holding assistantships and/or fellowships amounting to at least \$600 per semester and who are not residents of Mississippi, along with their spouses, are not required to pay the nonresident registration fee; students holding assistantships and/or fellowships amounting to at least \$1,800 per semester and enrolled as full-time students are eligible to receive a partial tuition scholarship.

Unless otherwise specified, students may obtain additional information about the fellowships and scholarships listed below from the Office of the Dean of the Graduate School. Inquiries about assistantships should be addressed to the chair of the department in which graduate study will be undertaken.

ISAAC EUGENE BROWN FELLOWSHIP, established in 1983 by Mrs. Annie Lou Brown Ellis of Birmingham. This fund rewards a graduate student in music who is dedicated to the study of piano and the field of music.

CHEVRON M.B.A. FELLOWSHIP. This fellowship was established by Chevron U.S.A. for full-time students in the M.B.A. program. The criteria for selection are scholarship and leadership.

ERNST AND YOUNG GRADUATE ACCOUNTANCY SCHOLARSHIP. The Memphis office of Ernst & Young provides a limited number of graduate accountancy scholarships to outstanding accounting graduates wishing to pursue a Master of Accountancy degree. Recipients of the scholarship are employed by the Memphis office of Ernst & Young and are given a leave of absence to attend graduate school. Summer employment in the Memphis office of Ernst & Young is guaranteed.

FEDERATION OF SCHOOLS OF ACCOUNTANCY OUTSTANDING STUDENT AWARD. This award goes to an outstanding student in the Master of Accountancy program. The primary criteria for selecting the award recipient is GPA achieved in graduate course work. Secondary criteria such as GMAT score, undergraduate GPA, and personal attributes may be considered. Selection is made by the faculty of the School of Accountancy.

FULBRIGHT FELLOWSHIPS FOR FOREIGN STUDY. Seniors and graduates of the University are eligible to apply for fellowships under the Fulbright Program, directed by the U.S. Department of State. These fellowships carry stipends, payable in the currency of the country, which defray expenses for graduate study in foreign universities. Information and application forms for these fellowships may be obtained from Professor Nolan E. Shepard, The University of Mississippi. Applications must be made prior to Nov. 1 for fellowships for the following academic year.

GRADUATE ASSISTANTSHIPS. Graduate assistants who are nonresidents and who receive stipends of at least \$600 a semester are eligible to be considered for a nonresident fee scholarship. Graduate assistants who are full-time students and who receive stipends of at least \$1,800 per semester are eligible to be considered for a partial tuition scholarship. For minimum and maximum enrollments of graduate assistants, see the Academic Regulations chapter.

GRADUATE FELLOWSHIPS. The Graduate School provides Honors Fellowships to incoming students of exceptional academic accomplishment. Recipients of Honors Fellowships also may receive departmental assistantships and/or other fellowships. The nonresident fee is remitted for all Honors Fellows. Applicants must be nominated by the department in which they intend to pursue a degree.

THE ROBERT L. LIPSEY, JR. AND JAMES C. RUBRIGHT SCHOLARSHIP was established in 1984 by a bequest from the late Professor Rubright. The recipient must be a regularly enrolled graduate student in the Classics Department.

UNDERREPRESENTED MINORITY OPPORTUNITY PROGRAM. Students who are members of underrepresented ethnic groups and who have been accepted for admission to a graduate program in conditional or full standing status and are not full-time employees are eligible for consideration for a nonresident fee and partial tuition scholarship. Also, minority students who are registered for at least nine hours of graduate credit are eligible for consideration for a nonservice scholarship valued at \$1,250 per semester during the academic year; this scholarship can supplement a departmental assistantship. Recipients of these underrepresented student scholarships also are eligible for a nonresident fee and partial tuition scholarship. The policies regarding the length of time a student may receive these awards are developed by the Graduate School. Requests for these fellowships, fee and tuition scholarships should be directed to the Graduate School by the department recommending admission of the student.

JOHN N. PALMER MBA FELLOWSHIPS AND ASSISTANTSHIPS. John. N. Palmer, through Mobile Communications Corporation of America (MCCA), made a \$1 million gift to the School of Business Administration to establish an endowment for graduate fellowships and assistantships. Palmer/MCCA Fellowships and Assistantships are awarded to qualified students pursuing an MBA. To be eligible, candidates must have excelled in their undergraduate programs and must possess the academic and leadership skills to become future business executives or entrepreneurs. Both awards include scholarships for in-state and out-of-state tuition. Fellows and graduate assistants must be enrolled in the MBA program on a full-time basis and must maintain good academic standing during the year. They also are eligible to apply for additional graduate financial assistance from the University.

INSTITUTE OF MANAGEMENT ACCOUNTANTS OUTSTANDING GRADUATE STUDENT AWARD. The recipient of this award is selected from three Master of Accountancy students nominated by the Accountancy faculty. The criteria for selecting the three nominated students is primarily GPA achieved in graduate course work. Participation in other activities may be considered.

NATIONAL SCIENCE FOUNDATION GRADUATE FELLOWSHIP PROGRAM. The University is a participating institution in the National Science Foundation Graduate Fellowship Program. For further information concerning these fellowships, write to the dean of the Graduate School.

OAK RIDGE ASSOCIATED UNIVERSITIES/DEPARTMENT OF ENERGY GRADUATE FELLOWSHIPS. Oak Ridge Associated Universities manages a Department of Energy (DOE) graduate fellowship program for support of research leading to graduate degrees in science and engineering. To participate in the program, the student must have completed all on-campus course work and lack only the research for the completion of the degree. The research is to be conducted at an appropriate DOE facility under the joint supervision of the University faculty member and a DOE research scientist. The annual stipend is \$7,200 plus an allowance for dependents and a travel allowance for relocation of the fellowship recipient to the DOE laboratory.

ROSS, EUBANK, BETTS, AND COMPANY ACCOUNTING ACHIEVEMENT AWARD. Selection shall be made by the accountancy faculty based primarily upon academic excellence as indicated by accountancy and overall GPA. Faculty perception of the student's level of participation in other facets of campus activities may be considered. The recipient must be a Mississippi resident and a Master of Accountancy student.

E. NOLAN WALLER SCHOLARSHIP. The Mississippi CPA Firm of LEFOLDT & Co. The School of Accountancy dean selects the recipient from students enrolled in the Master of Accountancy and Master of Taxation programs. GMAT score and GPA are considerations, as is financial need.

Graduate Programs

Candidates for higher degrees are accepted by the Graduate School in the following fields:

Master of Arts

Anthropology
Art Education
Classics
Curriculum and Instruction
 Secondary Education
 TESOL
Economics
English
French
German
Higher Education-Student Personnel
History
Journalism
Mathematics
Parks and Recreation Management
Philosophy
Physics
Political Science
Psychology
 Clinical
 Experimental
Sociology
Southern Studies
Spanish

Master of Science

Biological Science
Chemistry
Communicative Disorders
Engineering Science
 Aeroacoustics
 Chemical Engineering
 Civil Engineering
 Computational Hydroscience
 Computer Science
 Electrical Engineering
 Electromagnetics
 Environmental Engineering
 Geological Engineering
 Geology
 Hydrology
 Materials Science

Mechanical Engineering
Telecommunications
Exercise Science
Health Promotion
Mathematics
Pharmaceutical Science
 Medicinal Chemistry
 Pharmaceutics
 Pharmacognosy
 Pharmacology
 Pharmacy Administration

Master of Education

Counselor Education
Curriculum and Instruction
 Elementary Education
 English Education
 Foreign Languages Education
 Mathematics Education
 Science Education
 Social Studies Education
 Special Education
Educational Leadership, K-12

Designated Masters Degree Programs

Accountancy
Business Administration
Fine Arts-Art
Fine Arts-Creative Writing
Music
 Applied Pedagogy
 Choral Conducting
 Music Education
 Music History/Literature
 Music Performance
 Music Theory
Taxation

Specialist Degree Programs

Counselor Education
Curriculum and Instruction
 Elementary Education
 English Education
 Foreign Languages Education
 Mathematics Education
 Science Education

Social Science Education
Special Education
Educational Leadership, K-12

Doctor of Arts

Chemistry
Music
 Music Education
 Music History/Literature
 Music Theory
 Music Performance Pedagogy

Doctor of Education

Education (emphasis in Elementary Education)

Doctor of Philosophy

Accountancy
Biological Science
Business Administration
 Finance
 Management
 Management and Information Systems
 Marketing
 Production Operations Management
Chemistry
Counselor Education
Economics
Education
 Educational Leadership K-12
 Secondary Education
 TESOL
English
Exercise Science
Higher Education
History
Mathematics
Medicinal Chemistry
Engineering Science
 Aeroacoustics
 Chemical Engineering
 Civil Engineering
 Computational Hydroscience
 Computer Science
 Electrical Engineering
 Electromagnetics
 Environmental Engineering

Geological Engineering
Geology
Hydrology
Materials Science
Mechanical Engineering
Telecommunications
Pharmaceutics
Pharmacognosy
Pharmacology
Pharmacy Administration
Physics
Political Science
Psychology
 Clinical
 Experimental

GRADUATE PROGRAMS IN THE MEDICAL SCIENCES

The degrees of Master of Science and Doctor of Philosophy in the various basic medical sciences are offered by the Graduate School of The University of Mississippi at the University Medical Center in Jackson. Inquiries concerning the graduate program should be addressed to the Division of Student Services and Records, The University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216, (601) 984-1080.

OPERATIONAL PROCEDURES

The policies and regulations of the 2005 Graduate School catalog take effect with the registration procedures for the 2005 summer session. Graduate students whose notices of admission have been issued prior to the summer session registration of 2005 must conform to any changes in regulations made prior to the beginning of summer session registration. A graduate student making application for degree must meet the requirements of the catalog under which he or she was admitted or re-admitted. When a graduate student completes a degree program and seeks another degree, the student must satisfy the requirements stated in the catalog in effect during the enrollment period for the new degree. In the event that any regulation of the Graduate School conflicts with the regulation of a department or school, the Graduate School regulation must be met; the preceding statement, however, does not preclude the right of a department or school to impose additional requirements that exceed those of the Graduate School.

Graduate students are expected to familiarize themselves with the academic requirements and regulations stated in this catalog. Ignorance of these requirements and regulations, incorrect statements or advice from faculty or students, or misunderstandings of these procedures will not be accepted as cause for waiving any requirement or regulation in this catalog.

Graduate students who, because of exceptional or extraordinary circumstances, wish to be granted exceptions from the regulations of this catalog may petition in writing to the dean of the Graduate School. Such petitions must bear the recommendation of the department chair or dean concerned. The dean of the Graduate School may act upon the petition, or he or she may refer it for the recommendation of the Graduate Council. The recommendation of the Graduate Council will be considered final when approved by the dean of the Graduate School and the chancellor of the University. Disciplinary actions involving graduate students will be handled by the Academic Discipline Committee.

SUMMER SESSION

Divided into two terms, the summer session offers an excellent opportunity for beginning or continuing graduate study. The maximum credit for graduate study for both summer terms is 12 semester hours; for one term, 6 semester hours. Upon

a student's admission to the University, applications for residence hall rooms and the Village apartments are available from the Office of Student Housing and Residence Life. Village apartments house married and graduate students.

INTERSESSION

Credit for graduate study may be earned during the intersession between the end of the spring semester and the beginning of the summer session. Thesis and dissertation hours may not be taken during the intersession.

OFF-CAMPUS PROGRAMS

University of Mississippi credit for off-campus course work may be awarded only to those students who have met all admission requirements and have been accepted for admission to the Graduate School. Resident credit may be earned in courses taken at Tupelo, Booneville, Southaven, the Universities Center at Jackson, and various other off-campus sites. Thesis and dissertation credit is available only on the Oxford campus.

Entering the Graduate School

APPLICATION PROCEDURE

In order to be assured of consideration for admission, the following materials must be on file in the Graduate School prior to April 1 for summer and fall enrollment and prior to October 1 for spring enrollment: an application for Graduate School must include an application form, official transcripts from all institutions attended, and appropriate test scores (GRE/GMAT/TOEFL/NTE/etc.).

Incomplete applications will not be circulated for departmental review. Some departments enforce individual application deadlines. Applicants are urged to contact the department for which they are making application regarding departmental requirements and deadlines.

Applications for admission to the Graduate School must be completed by the deadlines noted above. Incomplete applications will be held for one year. Beyond that time, the application process, including submission of a new application fee, must begin again. An application is complete when the following materials have been received:

1. A completed and signed application form. Applicants must note on their applications whether they are electing full-time or part-time status. If an application is transmitted electronically, the applicant will be asked to verify the information by a signature at a later time.
2. An official score from a standardized test: GMAT for programs in the School of Accountancy and the School of Business Administration, NTE for designated programs in the School of Education, and GRE (verbal and quantitative sections) for all other programs. TOEFL is required of all applicants (foreign and U.S. citizens) whose native language is not English. Submission of a TOEFL score is required at the time of application. Other materials may be required by specific departments.
3. Official transcripts from the institution conferring the baccalaureate degree and from all colleges and universities subsequently attended. Only transcripts mailed directly from the sending institution are considered official.
4. Proof of immunization (see page 21).

All application materials should be sent to the Graduate School. Applicants failing to provide any of the materials noted above will not be considered for admission.

Admission • Admission to the Graduate School is determined by the dean of the Graduate School after evaluation and approval of credentials and recommendation by the faculty of the academic discipline concerned. The Graduate School at The University of Mississippi recognizes the necessity of using multiple criteria in making admission decisions. These criteria include an applicant's previous academic performance and scores on standardized tests and may include research and practical experiences, evidence of skill (e.g., a writing sample), letters of recommendation, and, in the case of applicants whose native language is not English, scores on an English proficiency exam (TOEFL). Students may apply for admission before a baccalaureate degree is completed but may not enroll as a graduate student until the degree is conferred. Meeting minimum standards does not guarantee admission to a degree program. The selection process is competitive, and admission decisions take into consideration the availability of space and resources within a department. To assure full consideration for admission, all application materials must be received by deadline dates.

Re-admission • University of Mississippi students who have a break in enrollment of one or more semesters must apply for re-admission. Official transcripts must be requested by the student, and received by the Graduate School, from all institutions attended since the last University of Mississippi enrollment. Students are admitted for a particular semester. If they are unable to enroll in courses that semester, they may request that their application be updated for the next semester. Re-admitted students will be subject to departmental, University, and catalog regulations in effect at the time of their re-admission.

Categories of Admission: Degree Seeking

1. **Full Standing Admission** • Upon recommendation by the faculty of the academic area concerned, a student who holds a baccalaureate degree from a regionally accredited institution, has a 3.0 or equivalent average on the last 60 hours of undergraduate course work, and has an acceptable score on the standardized test appropriate to their

discipline, may be considered for admission in full standing to a degree program. Enrollment in 700-level courses and thesis is restricted to students who have been admitted to degree programs in full standing.

2. **Conditional Admission** • Applicants who have not met requirements for full standing admission but whose credentials include a baccalaureate degree and appropriate standardized test scores and who indicate a reasonable chance for success, may be admitted in this category. Upon advancement to full standing admission and recommendation of the departmental chair concerned, credit earned while enrolled in this status may be applied to a degree program. Students admitted in this category are restricted to enrollment in courses at the 600 level and below, exclusive of thesis, and must satisfy all conditions of admission by the end of their first term of enrollment or their status will be changed to nondegree. Except in unusual circumstances, students may not remain in conditional status more than one semester. Conditional students may not preregister for a second enrollment.
3. **Qualifying for Admission** • Applicants whose academic qualifications are not sufficiently strong to warrant admission to a degree program, but who take courses that will strengthen their qualifications to enter graduate degree programs, will be admitted as qualifying students. Courses completed in this category may not be applied to a graduate degree program at The University of Mississippi. Students admitted in this category are not eligible to receive graduate assistantships. While in qualifying status, a student may take a minimum of 9 hours and a maximum of 18 hours. When recommending admission into this category, departments are required to specify up to 18 hours of undergraduate course work, and/or to specify a non-course requirement, to be completed satisfactorily before the student is considered for admission into a graduate degree program.
4. **Temporary Admission** • Applicants whose credentials are received within the deadline for application but too late for the admission process to be completed prior to registration will be admitted as temporary students. Enrollment is restricted to courses at the 500 level and below.

Categories of Admission: Nondegree Seeking

1. **Nondegree I** • Applicants with no intention to pursue or qualify for a graduate degree program and whose undergraduate grade-point average is below 2.7 will be admitted in this category. Enrollment is restricted to courses at the 400 level and below.
2. **Nondegree II** • Applicants with no intention to pursue a graduate degree program and whose undergraduate grade-point average is 2.7 or higher will be admitted in this category. Nondegree II students who later apply for and are accepted in a degree program may apply a maximum of 9 hours of graduate work taken in this category. Enrollment is restricted to courses at the 600 level and below.
3. **Visiting** • A student who wishes to enroll in graduate course work for transfer toward a degree at another institution may be admitted in a visiting status. A visiting student must have written approval of the institution to which the credit will be transferred. Credit earned as a visiting student at The University of Mississippi may not be applied toward a degree program at this institution.

RESIDENCE

Legal Residence of Students • The University applies the definitions and conditions stated here as required by state law in the classification of students as residents or nonresidents for the assessment of fees. Requests for a review of residency classification should be submitted to the registrar; forms for this purpose are available from the Registrar's Office. Such requests, when involving a specific enrollment period, are reviewed until classes begin for that particular enrollment period as stated in the Academic Calendar, provided the Request for Review Forms are received by the registrar before the beginning of classes.

A MINOR. The residence of a person less than 21 years of age is that of the father. After the death of the father, the residence of the minor is that of the mother. If the parents are divorced, the residence of the minor is that of the parent who was granted custody by the court; or, if custody was not granted, the residence continues to be that of the father. If both parents are dead, the residence of the minor is that of the last surviving parent at the time of that parent's death, unless the minor lives with a legal guardian of his person duly appointed by a proper court of Mississippi, in which case his residence becomes that of the guardian.

AN ADULT. The residence of an adult is that place where he is domiciled, that is, the place where he actually physically resides with the intention of remaining there indefinitely or of returning there permanently when temporarily absent.

REMOVAL OF PARENTS FROM MISSISSIPPI. If the parents of a minor who is enrolled as a student in an institution of higher learning move their legal residence from the State of Mississippi, the minor is immediately classified as a nonresident student.

TWELVE MONTHS OF RESIDENCE REQUIRED. No student may be admitted to the University as a resident of Mississippi unless his residence, as defined above, has been in the State of Mississippi for a continuous period of at least 12 months immediately preceding his admission.

RESIDENCE IN AN EDUCATIONAL INSTITUTION CAN BE COUNTED. A student who has lived within the state for 12 months following his 21st birthday may establish residence in his own right by showing that he is living in the state with the intention of abandoning his former domicile and remaining in the State of Mississippi permanently, or for an indefinite length of time.

RESIDENCE STATUS OF A MARRIED STUDENT. A married student may claim the residence of the spouse, or may claim independent residence status under the same regulations, set forth above, as any other adult.

MILITARY PERSONNEL ASSIGNED ON ACTIVE DUTY STATION IN MISSISSIPPI. Members of the armed forces on extended active duty and stationed within the State of Mississippi, except those military personnel whose active duty assignment is for educational purposes, may be classified as residents, without regard to the residence requirement of 12 months, for the purpose of attendance at the University. Resident status of such military personnel who are not legal residents of Mississippi, as defined above under "Legal Residence of an Adult," shall terminate upon their re-assignment for duty in the continental United States outside Mississippi.

CHILDREN OF MILITARY PERSONNEL. Resident status of children of members of the armed forces on extended active duty shall be that of the military parent for the purpose of attending the University during the time that their military parents are stationed within the State of Mississippi and shall be continued through the time that military parents are stationed in an overseas area with last duty assignment within the State of Mississippi, excepting temporary training assignments en route from Mississippi. Resident status of minor children shall terminate upon reassignment under permanent change of station orders of their military parents for duty in the continental United States outside Mississippi, excepting temporary training assignments en route from Mississippi.

CERTIFICATION OF RESIDENCE OF MILITARY PERSONNEL. A military person on active duty station in Mississippi who wishes to avail himself or his dependents of the provisions of the paragraph titled "Military Personnel Assigned on Active Duty Station in Mississippi" must submit a certificate from the military organization showing the name of the military member, the name of the dependent, if for a dependent, the name of the organization of assignment and its address (may be in the letterhead), that the military member will be on active duty stationed in Mississippi on the date of registration at the University; that the military member is not on transfer orders; and the signature of the commanding officer, the adjutant, or the personnel officer of the unit of assignment with signer's rank and title. A military certificate must be presented to the registrar of the University each semester at (or within 10 days prior to) registration for the provisions of the paragraph "Military Personnel Assigned on Active Duty Station in Mississippi," named above, to be effective.

Families of Students • The spouse and children of a nonresident student who pays or receives a waiver of the nonresident fee may enroll in the University upon payment of the appropriate fees charged to a resident. Nonresident fees for spouses and children of part-time nonresident students will be prorated.

Responsibility of Students • Residency classification of an applicant for admission is determined by the registrar and is stated on the Admission Certificate issued. Students should notify the registrar immediately by letter of any change in residence.

INTERNATIONAL STUDENTS

English Requirement • To be considered for admission, international students must present evidence of satisfactory proficiency in the English language as indicated by results of the Test of English as a Foreign Language (TOEFL) through the Educational Testing Service, Princeton, NJ 08540. The applicant must request that the testing center send the official results to the Graduate School at the University. TOEFL is required of all applicants (international and U.S. citizens) whose native language is not English; "native language" is determined by the medium of academic study. The medium of academic study is defined as the equivalent of 4 years of instruction at the secondary or college level where the language of instruction is English.

- TOEFL results of 550 paper-based/213 computer-based or above must be attained prior to achieving full standing (some departments may require higher scores).*

*All applicants must present a minimum TOEFL score of 523 paper-based/193 computer-based to be considered for admission. Applicants with TOEFL scores of 523-547 paper-based/193-210 computer-based may be considered for conditional admission. Applicants with scores below 523/193 may apply for admission to The University of Mississippi Intensive English Program.

- All students with scores at or above 550/213 but lower than 600/250 will be re-tested with the Michigan Test of English Proficiency and Listening Comprehension Test prior to registration. Students with scores of 600/250 or above are exempt from taking the Michigan English Proficiency Tests.
- Students with scores between 523/193 and 550/213 or less than 70 on the Michigan English Proficiency Tests are required to take and successfully complete EFS 100 (English as a Foreign Language) during their first semester of enrollment (EFS 100 must be repeated until satisfactory results are attained.)
- Students who satisfactorily complete EFS 100 must present a score on the institutional TOEFL that is equivalent to the above target score.

Applicants for graduate teaching assistantships whose native language is not English must present acceptable results on the Test of Spoken English (TSE) given at overseas TOEFL centers or The University of Mississippi institutional test of spoken English (SPEAK).

International students with scholar status who desire to enroll in the Graduate School but who do not wish to pursue a degree may be admitted without the required TOEFL score. These students will be limited to enrollment as auditing students only. Should a student admitted under this provision later wish to be admitted to a degree program, all admission requirements, including acceptable TOEFL scores or the equivalent, must be met. However, no course work taken while an auditing student will be applied in any way to the degree program.

OFFICE OF STUDENT DISABILITY SERVICES

Bettie T. Puckett, executive director • 234 Martindale • (662) 915-7128 • sds@olemiss.edu

The University of Mississippi is committed to ensuring equal access to an education for enrolled or admitted students who have verified disabilities under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA). The office serves those with physical and nonphysical disabilities. University policy requires reasonable accommodations be made for eligible students with verified disabilities on an individual and flexible basis.

It is the responsibility of students with disabilities to seek available assistance from the University and to make their needs known by contacting the Office of Student Disability Services (SDS) in a timely manner. A Student Request for Reasonable Accommodations/Modifications Intake Form must be completed and documentation from a licensed health care professional must be submitted before eligibility for accommodations can be confirmed. For a copy of the intake form, or for additional information, contact the disability specialist or the program assistant at the SDS office. Information and copies of the intake application can also be found on the SDS Web site at www.olemiss.edu/depts/sds.

REGISTRATION PROCEDURE

Instructions • New graduate students should obtain registration instructions from their graduate advisers prior to or at the beginning of their first period of enrollment. Continuing or re-admitted students are encouraged to take advantage of the priority registration periods. A student must be admitted to the Graduate School and must register in order to receive graduate credit.

Fees • Registration is incomplete until final clearance is obtained through fee payment at the Office of the Bursar.

Admission • A student should note that admission to the Graduate School does not constitute admission to a degree program unless it is specifically stated on the student's notice of admission.

Academic Regulations

REGULATIONS AND OTHER INFORMATION

Grades • Students may receive quality grades of A, B, C, D, or F on graduate course work, but grades of D and F are not acceptable for graduate credit. In certain specifically designated courses the mark of Z is given to indicate that a student has received graduate credit but has been assigned no quality grade in the course; however, in courses approved for the Z mark, instructors may assign the quality grade of F. The only other marks that may be assigned in courses approved for the Z mark are I or W.

The nonquality mark of X designates courses in which the student is registered as an auditor. The nonquality mark of W is given to students to indicate withdrawal from the course. The I mark is given when, for unusual reasons acceptable to the instructor, course requirements cannot be completed within the enrollment period.

The IP mark may be given for specifically designated graduate research-oriented courses in which the nature of the course or the expectations of students in the course cannot anticipate completion within one semester. Students receiving the mark of I are expected to complete the course no later than the last class day of the next regular semester (excluding summer terms). Following this deadline, the I will be computed as an F in establishing a student's grade-point average. Students receiving the mark of IP are expected to complete the course within one calendar year of enrolling in the course. Following this deadline, the IP will be computed as an F in establishing a student's grade-point average. An I or IP grade may not be removed by formally enrolling in the same course in a subsequent semester at this University or any other institution. Where a student has at least three outstanding I or IP grades, the student is not permitted to enroll in additional courses until the number of temporary grades is reduced to fewer than three.

Graduate students must maintain at least a B average on all graduate work undertaken. Where a student is required to take, as part of the degree program, more than 12 hours in an area outside the field of specialization, a B average must be presented in both areas, computed separately. No grades or marks are given for courses designated as thesis, doctoral essay, or dissertation. In any situation in which a graduate student wishes to appeal a grade, he or she should contact the dean of the Graduate School for a copy of the Graduate School Appeal Procedure, which shall apply in this case.

Probation • Students whose grade-point average falls below 3.0 in any semester will be placed on probation and expected to improve their grades to an acceptable level before the end of their next period of enrollment. If the grade-point average of a graduate student for a semester or term has been unsatisfactory, the dean of the Graduate school may refuse permission for the student to register for further work or change the student's classification.

Repeating Courses • Grades for all courses taken by graduate students will remain a permanent part of their transcript. Except for courses identified in the catalog as "may be repeated for credit," no course may be repeated more than once, and no more than two courses may be repeated and applied toward a degree. In instances of repeated courses, the grade and credit hours for the second attempt will be used to determine eligibility to graduate. Departments may impose higher standards. For those courses that may be repeated for credit, the department offering the course would notify the registrar's office to rename (or index as I/II, etc.) the course on students' transcripts at each offering.

Forgiveness Policy • None.

Discipline • The broad purpose underlying student discipline is to order University living in such a way that the interests of the student body as a whole and of the individuals comprising it are best served. The University reserves the right to sever the connection of any student with the University for appropriate reason. In any situation in which a graduate student wishes to appeal a charge of academic dishonesty, he or she should contact the dean of the Graduate School for a copy of the Graduate School Appeal Procedure, which shall apply in this case.

Minimum Load • A minimum registration of 3 hours is required of every graduate student in each regular semester and 1 hour during the summer session, including registration for thesis or dissertation.

Maximum Load • In the regular session, a graduate student may register for a maximum of 15 semester hours of graduate work per semester, including registration for the thesis or dissertation. In the summer session, the student may register for no more than 6 semester hours each term. Additional restrictions may be imposed by academic departments.

Maximum Load for Graduate Fellows and Assistants • Students receiving a full University Nonservice Fellowship must enroll for at least 9 hours per semester. Enrollments for students holding service appointments are governed by the following schedule:

Service requirement	Minimum enrollment	Maximum enrollment
3/4 time (30 hrs./week)	9 hrs.*	9 hrs.
1/2 time (20 hrs./week)	9 hrs.	12 hrs.**
1/4 time (10 hrs./week)	6 hrs.	12 hrs.
Less than 1/4 time	3 hrs.	15 hrs.

In order to be eligible to receive a partial tuition scholarship, graduate assistants must enroll for at least 9 hours of graduate credit.

Full-time Student • A graduate student registered for 9 or more credit hours during the fall or spring semesters at the University is considered to be a full-time student. In a summer term a graduate student registered for 4 or more semester hours is considered a full-time student though, to satisfy residence requirements, the student must enroll for a total of 9 hours during the summer session terms.

Withdrawal from a Course • Registration for a course makes the student responsible for attending that course until the course is completed or until, with the approval of the instructor and the dean of the Graduate School, the registrar authorizes withdrawal from the course. The last day that a student may withdraw from a class without a record of enrollment in each semester is listed in the Academic Calendar.

*Only 6 hours of which can be in course work, the balance being made up of enrollment in thesis, dissertation, or recital hours.

**Only 9 hours of which can be in course work, the balance being made up of enrollment in thesis, dissertation, or recital hours.

Graduate Credit for Senior Undergraduates • Under certain conditions, University of Mississippi seniors within 15 semester hours of the bachelor's degree may enroll for a maximum of 3 semester hours of graduate courses at the 500 level, and seniors within 12 semester hours of the bachelor's degree may enroll for a maximum of 6 semester hours of graduate courses at the 500 level on which graduate credit will be given towards a degree program in the Graduate School. The conditions are that the student must have an overall grade-point average of at least 3.00 on the last 60 hours of undergraduate work and be otherwise qualified for admission to the Graduate School, that these courses must not be counted towards satisfying the requirements for the bachelor's degree, and that the department chair concerned and the dean of the Graduate School must have approved the courses for graduate credit before the undergraduate enrolls in them. In no case may more than 6 semester hours be earned by an undergraduate for graduate credit. Courses taken by undergraduates for graduate credit must be designated with the suffix G. Under no circumstances may undergraduates enroll in courses at the 600 level or above.

Transfer of Graduate Credit from Another Institution • A student may receive credit for work accomplished in recognized institutions upon the recommendation of the department and the approval of the dean of the Graduate School. Only courses for which the student received the grade of B or higher may be transferred. Transfer of credit from another institution will not be accepted for workshops, internships, and other courses of a similar nature, and for courses in which regular letter grades are not awarded. Grades from other institutions may not substitute for unsatisfactory grades earned at the University; nor may the grade of A or B earned at another institution be used to offset a lower grade earned at the University. Transfer work from another institution that constitutes an overload while enrolled as a full-time student at The University of Mississippi will not be accepted.

All transfer of credit is subject to the following conditions: (1) The residence or degree credit requirement is not reduced. (2) The other graduate school must offer a graduate degree in the field in which the work has been completed. (3) The student must have completed at least 12 semester hours of acceptable graduate course work at the University before transfer will be considered. (4) The credit must be recommended by the student's department in the University as specifically applicable to the student's degree program. (5) If the field is education, the other graduate school must be accredited for graduate study by the National Council for Accreditation of Teacher Education and by the regional accrediting association. For master's degree students, a maximum of 6 semester hours of credit may be transferred; no more than 12 hours may be transferred for the Master of Fine Arts and Specialist degrees. The 6-hour transfer policy also applies within the University. No more than 6 hours, subject to departmental approval, may be applied from a previous master's degree to a second master's degree.

There is a six-year time limit on the applicability of transferred credit, as there is on all credits applicable towards the master's degree. No work will be accepted for transfer to a doctoral program, but departmental doctoral program

requirements may be waived or reduced as a result of graduate work completed at other institutions; however, Graduate School minimum degree requirements must be met.

Correspondence Work • The Graduate School does not accept course work taken by correspondence.

Application for a Degree • A student is expected to submit an application for a degree during the last semester or summer term of resident enrollment. If the student is not able to complete degree requirements at the end of that period, the student will resubmit the application during the semester or summer term at the end of which the student expects to graduate. A student must be formally admitted to the degree program prior to the beginning of the semester in which the degree is awarded and must meet the requirements of the catalog under which he or she was admitted or readmitted.

Final Enrollment • All students planning to receive their graduate degrees must be enrolled for at least 3 hours (thesis, dissertation, or course work) during the fall or spring semester in which they take the final oral and/or written examination. Those planning to graduate during the summer must be enrolled for at least one hour.

Requirements For Graduate Degrees

GENERAL REQUIREMENTS FOR ALL HIGHER DEGREES

Degrees higher than the baccalaureate are granted at The University of Mississippi because of special attainments achieved by degree candidates. Prospective students should understand clearly that a graduate degree is not awarded upon the basis of a collection of course credits, or the passing of certain prescribed examinations, or the submission of a thesis or dissertation. In other words, the student cannot expect to receive a higher degree because of successfully completing the individual parts of the degree program. Course schedules, examinations, and other requirements explained in this catalog are to be regarded as minimal; and any student may be required to satisfy whatever additional requirements academic advisers deem appropriate.

To receive a higher degree from The University of Mississippi, the student must demonstrate to the satisfaction of the graduate faculty of the department, school, or college of the student and to the faculty of the University that the student has attained through intelligence, scholarship, industry, and personal qualities the high level of professional and academic competence that the faculty of each department expects of a person holding the degree being sought. The determination of fitness to qualify for the degree rests solely upon the estimate that the faculty makes of the student's right to the degree. (See also "Operational Procedures" section).

MASTER'S DEGREES

Master of Arts. The M.A. degree is offered in the following fields:

Anthropology
Art Education
Classics
Curriculum and Instruction
Economics
English
French
German
Higher Education-Student Personnel
History
Journalism
Mathematics
Parks and Recreation Management
Philosophy
Physics
Political Science
Psychology
Sociology
Southern Studies
Spanish

Master of Science. The M.S. degree is offered in the following fields:

Biological Science
Chemistry
Communicative Disorders
Engineering Science
Exercise Science
Health Promotion

Mathematics
Pharmaceutical Science
 Medicinal Chemistry
 Pharmaceutics
 Pharmacognosy
 Pharmacology
 Pharmacy Administration

The requirements stated below are basic for all master's degrees. Additional departmental requirements may be found preceding the lists of courses offered in the various departments.

Semester Hours • A minimum of 30 semester hours of graduate credit is required. For degree programs in which the thesis is required or included, 24 semester hours of course work are required in addition to a minimum of 6 semester hours thesis credit. Graduate students in a master's degree program must complete a minimum of 18 hours of formal classroom lecture courses; that is, courses that require regular attendance, study assignments, final examinations, and quality grades, and that are not designated or conducted as workshops, group study, directed study, directed readings, field study, practicum, internships, etc. No more than 6 hours of Z graded courses may be applied toward the degree program, and a minimum of 24 hours must be taken in courses other than internships and practicums.

Final Examination • Except for students enrolled in a program that has a comparable culminating experience and has received approval of the Graduate Council, every candidate for a master's degree must pass a final written or oral examination administered by a committee appointed by the dean of the Graduate School and recommended by the chair of the department to which the student was admitted. The oral examination shall cover the candidate's graduate courses, the general background of the field of study, and thesis (if the thesis is required). The oral examination may be taken only after the student has satisfied the foreign language requirement (if any) and the thesis (when required) is in final form (that is, ready for submission to the graduate dean except for corrections required by the oral examining committee at the oral examination). The dean of the Graduate School will not schedule oral examinations during the regular University examination periods at the end of enrollment periods or between semesters. Final oral or written examinations for master's degrees should be administered no earlier than midterm of the semester in which the candidate is enrolled in the final courses, excluding thesis hours, required for the degree. A department or division may require supplementary oral or written examinations and may require additional course work of candidates whose oral examinations are unsatisfactory. However, the course work will not replace the requirement that candidates successfully complete a final oral or written examination.

Major and Minor Fields • As a rule, requirements at the master's level preclude the designation of a minor area. In special instances, with the approval of the major department and the dean of the Graduate School, the candidate may plan a program that includes 6 to 12 hours in one area or 6 hours in each of two areas. A concentration of less than 6 hours will not be considered a minor.

Foreign Language Requirement • The foreign language requirement is determined by each department or school.

Time Limit • All work applying to a master's degree must be completed within a six-year time period. All students whose work has been interrupted by involuntary service in the armed forces are allowed six years in addition to the time spent in the armed services. This exception does not apply to career military personnel. Grades received for courses taken for master's degrees that do not fall within the time limit for completion of all degree requirements will not be used in determining the overall grade-point average.

Transfer of Credit • See Transfer of Graduate Credit From Another Institution, page 34.

Thesis • Except for the nonthesis option programs in art, classics, communicative disorders, economics, education, engineering science, history, journalism, mathematics, modern languages, philosophy, physics, sociology, and Southern studies, a thesis is required for all candidates for the degree of Master of Arts and Master of Science. In programs requiring a thesis, candidates must register for 6 semester hours of thesis. A student who has obtained 6 semester hours of thesis credit without completing the thesis, and who has completed all course work, must enroll for 3 semester hours of thesis or course work each subsequent semester in order to obtain library and parking permits, student housing, etc. For summer graduates, enrollment may be in either first or second summer term, but an enrollment during the intersession will not fulfill this requirement. If the degree is not awarded at the end of the semester or summer term, as anticipated, another registration for 3 semester hours is required in the semester in which the degree is granted.

Regulations governing the style, format, paper, abstract and other matters may be found in *A Manual of Theses and Dissertations* available in the Graduate School Office. After the oral examination has been accepted, the student must present to the Graduate School two unbound copies of the thesis. The copies may be prepared photographically; however, the copies must be clear, legible, on the proper type paper, and must meet the standards required for microfilming. A copy of the abstract and the thesis binding fee receipt must accompany the copies of the thesis.

Master of Education

The Master of Education degree is offered in the areas of counselor education, educational leadership K-12, elementary education, and secondary education. Specific requirements for the degree are given by the departments in the “Programs and Courses of Instruction” chapter in this catalog.

DESIGNATED MASTER’S DEGREES

The programs for the degrees listed below are stated in this catalog on the pages indicated except for the Master of Fine Arts, which is detailed on the following pages.

MASTER OF ACCOUNTANCY, page 120

MASTER OF BUSINESS ADMINISTRATION, page 135

MASTER OF MUSIC, page 85

MASTER OF TAXATION, page 121

MASTER OF FINE ARTS

Requirements • The Master of Fine Arts degree is offered in the areas of art and creative writing*. The minimum requirements for the M.F.A. in art and theatre are (a) two academic years of residency, (b) 54 semester hours in the subject matter field, and (c) a thesis project of 6 semester hours. Up to 30 hours beyond the bachelor’s degree may be waived by the department on the basis of previous graduate work completed in the subject field. Specific requirements for the degree in each area are given by departments in the “Programs and Courses of Instruction” chapter in this catalog. The last 30 hours of this degree must meet the time limit requirement (page 37) for the completion of master’s degrees.

*See Department of English section for minimum requirements.

SPECIALIST DEGREES

Requirements • Requirements for the specialist degree will be found in the “Programs and Courses of Instruction” chapter of this catalog. Candidates for the Specialist degree must pass a final oral examination. Specialist degrees are offered in curriculum and instruction (elementary education, secondary education, and special education), educational leadership, and counselor education.

Time Limit • Applicable to all Specialist degree programs, however, is the requirement that graduate students pursuing Specialist degrees that require 36 hours or less of course work must complete the degree within six years. The time limit is to be computed from the date of enrollment in the first course that is counted towards fulfillment of the requirements of the degree.

DOCTORAL DEGREES

DOCTOR OF PHILOSOPHY. The Ph.D. degree is offered in the following fields:

Accountancy
Biological Science
Business Administration
Chemistry
Counselor Education
Economics
Education
English

Exercise Science
Higher Education
History
Mathematics
Medicinal Chemistry
Engineering Science
Pharmaceutics
Pharmacognosy
Pharmacology
Pharmacy Administration
Physics
Political Science
Psychology

DOCTOR OF ARTS. The D.A. degree is offered in chemistry and music.

DOCTOR OF EDUCATION. The Ed.D. degree is offered in elementary education.

Requirements for the Doctorate • Applicants for admission to the graduate programs leading to the doctorate are advised to read carefully the statements under the paragraph “General Requirements for all Higher Degrees,” at the beginning of this chapter. Additional departmental requirements may be found in the “Programs and Courses of Instruction” chapter of this catalog.

Course Requirements • The aim of the doctoral program is to afford instruction and guidance leading to the mastery of a major field. Specific course requirements as deemed necessary are stipulated by the student’s advisory committee. In certain instances, a student may be required to take courses in a minor field. For students required to take a minor, a specific program will be formulated.

Degree Credit Requirement • To fulfill the degree credit requirement, the student must (a) have completed three years (54 hours) of study beyond the bachelor’s degree; (b) have completed a minimum of two years (36 hours) of graduate study at The University of Mississippi; and (c) have completed a minimum of one year (18 hours) of graduate work in continuous residence.

Where course work (excluding dissertation hours) is required for the degree, at least one-half, up to 30 hours, must be completed at The University of Mississippi.

Certain nontraditional graduate programs have been approved for delivery at off-campus sites, including centers at Tupelo and Jackson. Course work taken at these sites can fulfill the above requirements.

Preliminary Examination • At or near the beginning of the student’s work beyond the master’s degree, the department or school may require a preliminary examination to determine the student’s qualifications to undertake a program leading to the doctorate and to assist the student’s adviser in planning the student’s program.

Time Limit • The total duration of study for a doctoral degree may not exceed seven years. It is expected that students will have been admitted to candidacy, i.e., passed all parts of their comprehensive examinations, within four years.

Students who have not defended a dissertation prospectus within seven years will forfeit all credit earned toward the doctorate. However, students who do not complete all requirements for the degree within seven years may appeal to re-define their prospectus in oral examination. The prospectus committee may be the same or may be different from the previous committee. The prospectus topic may be the same or different from that presented earlier. If it is the same, the student must review work published in the last five years that impacts the proposed dissertation. The faculty may question the student to assess competency to perform the proposed work. As a result of this questioning, the department may require the student to take another written comprehensive examination, take specific courses, or other remedies deemed appropriate by the faculty. Successful presentation and adoption of the prospectus, as determined by a unanimous vote of the committee, and the completion of any other requirements, will extend up to two years the student’s eligibility to graduate.

Transfer Credit • See Transfer of Graduate Credit From Another Institution, page 34.

Admission to Candidacy for the Doctorate • Upon notification to the Graduate School that a doctoral student has successfully completed all portions of a comprehensive examination, the student will be admitted to candidacy.

Continuous Enrollment • After admission to candidacy, enrollment must be continuous. Continuous enrollment is defined as enrollment for at least 3 semester hours credit during two of the three terms of the calendar year: fall, spring, summer. Minimum enrollment for any summer term would be 1 hour if this enrollment were not to satisfy the Continuous Enrollment Policy.

Penalty Clause • The penalty for failure to maintain continuous enrollment is a fee equal to 6 hours of tuition for each semester of suspended enrollment.

Foreign Language Requirement • The foreign language requirement is determined by each department or school.

DOCTOR OF PHILOSOPHY

Comprehensive Examinations • There must be at least one intervening semester between the semester in which the comprehensive examination is completed and the semester in which the final oral examination is given. The entire summer session (both terms) is considered to be the equivalent of one semester. The comprehensive examination may not be taken until after the student has been admitted in full standing to the degree program, has satisfied any foreign language requirement, and has completed all or nearly all of the program of course work. Students in programs offering cumulative examinations may not undertake the last two examinations until they have met the above requirements.

Students with outstanding I grades or a grade-point average of less than 3.0 are not eligible to take comprehensive examinations. The comprehensive examination will be a written examination; however, departments may require that part of the examination be oral. The examination will require the student to demonstrate full competence in all phases of the degree program. Extradepartmental areas of concentration of more than 12 hours that are required in the degree program must be examined by the department offering those courses. In any situation in which a student wishes to appeal the results received on his or her comprehensive examinations, he or she should contact the dean of the Graduate School for a copy of the Graduate School Appeal Process, which shall apply in this case.

Dissertation Prospectus • A Dissertation Prospectus Committee will be appointed by the chair of the department to which the student has been admitted. The chair of this committee must be a full member of the graduate faculty. A minimum of two additional members of the department and one member external of the discipline comprise a committee, all of whom must be members of the graduate faculty. The dissertation prospectus must be defended in oral examination and, in its final approved form, submitted to the Graduate School. The form of the dissertation prospectus will be determined by the committee. There must be one intervening semester between the defense of the dissertation prospectus and a defense of the dissertation.

Dissertation • A minimum enrollment of 18 hours of dissertation credit is required of every Ph.D. student. The dissertation must conform to the regulations governing style set forth in *A Manual of Thesis and Dissertation Preparation*, available in the Graduate School. Two copies of the dissertation must be presented to the Graduate School after the final examination for the doctorate has been accepted and before the beginning of the regular examination period for the semester in which the candidate plans to graduate.

Binding and Microfilming • A fee of \$85 for binding and microfilming doctoral dissertations must be paid at the Office of the Bursar and the receipt presented to the Graduate School Office. The microfilming fee covers the cost of microfilming the dissertation, the storage of the negatives by University Microfilms, the printing of the abstract in Dissertation Abstracts, the cost of one positive to be placed in the library of the University, and transportation charges. It is recommended, but not required, that the candidate copyright the dissertation; copyright fee is \$45.

Final Oral Examination • Every candidate for the Ph.D. degree must successfully pass a final oral examination (defense of dissertation) administered by the student's dissertation committee and scheduled by the Graduate School. The committee shall direct the examination primarily to the defense of the dissertation, though it may include material from the student's major and/or minor fields. Departments may require in addition a written examination, but the oral examination must be conducted. The oral examination may be given only after the dissertation is in final form (that is, ready for submission to the Graduate School except for corrections required by the examining committee at the oral examination). The dean of the Graduate School will not schedule oral examinations during the regular University examination periods at the end of enrollment periods or when the University is officially closed.

DOCTOR OF ARTS

The Doctor of Arts degree programs in chemistry and music have been designed to prepare teachers who possess a comprehensive knowledge of their academic area of interest and an ability to perform effectively in the classroom. Unlike

the Doctor of Philosophy degree in which the primary emphasis is placed upon research, the Doctor of Arts degree program places stress upon the breadth of the candidate's knowledge and the attainment of teaching skills.

General Requirements • The general requirements for the Doctor of Arts degree include the completion of the master's degree or its equivalent in the candidate's subject matter area before admission to the program, the completion of 60 hours of course work or the equivalent with a grade-point average of 3.0 or above, the writing of a doctoral essay or thesis, the passing of a comprehensive examination, and the completion of an internship supervised by members of the graduate faculty in the area of concentration.

Comprehensive Examination • Departments giving the Doctor of Arts degree have the option of making comprehensive the final examination for the degree or of requiring the student to defend a thesis or doctoral essay in an additional final oral examination. The comprehensive examination may not be taken until after the student has been formally admitted in full standing to the degree program, has satisfied the foreign language requirement, and has completed all or nearly all of the program of course work. Students in programs offering cumulative examinations may not undertake the last two examinations until they have met the above requirements. Students with outstanding I grades or a grade-point average of less than 3.0 are not eligible to take comprehensive examinations. The comprehensive examination will be a written examination; however, departments may require that part of the examination be oral. The examination will require the student to demonstrate full competence in all phases of the degree program. Extradepartmental areas of concentration of more than 12 hours that are required in the degree program must be examined by the department offering those courses. In any situation in which a student wishes to appeal the results received on his or her comprehensive examinations, he or she should contact the dean of the Graduate School for a copy of the Graduate School Appeal Process, which shall apply in this case.

Doctoral Essay • The doctoral essay or thesis for the Doctor of Arts degree must conform to the regulations governing style set forth in *A Manual of Thesis and Dissertation Preparation*, available in the Graduate School. Two copies must be presented to the Graduate School after the final examination for the doctorate has been accepted and before the beginning of the regular examination period for the semester in which the candidate plans to graduate.

Binding and Microfilming • A fee of \$7 payable at the Bursar's Office will be charged for doctoral essays or theses in the Doctor of Arts program; a receipt for this fee must be presented to the Graduate School.

Final Oral Examination • Unless required by their departments, Doctor of Arts students are exempt from the requirement of a final examination. If requested to do so, the dean of the Graduate School will appoint an examining committee for a final oral examination.

DOCTOR OF EDUCATION

Comprehensive Examinations • There must be at least one intervening semester between the semester in which the comprehensive examination is completed and the semester in which the final oral examination is given. The entire summer session (both terms) is considered to be the equivalent of one semester. The comprehensive examination may not be taken until after the student has been admitted in full standing to the degree program, has satisfied any foreign language requirement, and has completed all or nearly all of the program of course work. Students in programs offering cumulative examinations may not undertake the last two examinations until they have met the above requirements. Students with outstanding I grades or a grade-point average of less than 3.0 are not eligible to take comprehensive examinations. The comprehensive examination will be a written examination; however, departments may require that part of the examination be oral. The examination will require the student to demonstrate full competence in all phases of the degree program. Extradepartmental areas of concentration of more than 12 hours that are required in the degree program must be examined by the department offering those courses. In any situation in which a student wishes to appeal the results received on his or her comprehensive examinations, he or she should contact the dean of the Graduate School for a copy of the Graduate School Appeal Process, which shall apply in this case.

Dissertation Prospectus • A Dissertation Prospectus Committee will be appointed by the chair of the department to which the student has been admitted. The chair of this committee must be a full member of the graduate faculty. A minimum of two additional members of the department and one member external of the discipline comprise a committee, all of whom must be members of the graduate faculty. The dissertation prospectus must be defended in oral examination and, in its final approved form, submitted to the Graduate School. The form of the dissertation prospectus will be determined by the committee. There must be one intervening semester between the defense of the dissertation prospectus and a defense of the dissertation.

Dissertation • A minimum enrollment of 18 hours of dissertation credit is required of every Ed.D. student. The dissertation must conform to the regulations governing style set forth in *A Manual of Thesis and Dissertation Preparation*, available in the Graduate School. Two copies of the dissertation must be presented to the Graduate School after the final examination before the doctorate has been accepted and before the beginning of the regular examination period for the semester in which the candidate plans to graduate.

Binding and Microfilming • A fee of \$75 for binding and microfilming doctoral dissertations must be paid at the Office of the Bursar and the receipt presented to the Graduate School Office. The microfilming fee covers the cost of microfilming the dissertation, the storage of the negatives by University Microfilms, the printing of the abstract in *Dissertations Abstracts*, the cost of one positive to be placed in the J.D. Williams Library of the University, and transportation charges. It is recommended, but not required, that the candidate copyright the dissertation; copyright fee is \$20.

Final Oral Examination • Every candidate for the Ed.D. degree must successfully pass a final oral examination (defense of dissertation) administered by the student's dissertation committee and scheduled by the Graduate School. The committee shall direct the examination primarily to the defense of the dissertation, though it may include material from the student's major and/or minor fields. Departments may require in addition a written examination, but the oral examination must be conducted. The oral examination may be given only after the dissertation is in final form (that is, ready for submission to the Graduate School except for corrections required by the examining committee at the oral examination). The dean of the Graduate School will not schedule oral examinations during the regular University examination periods at the end of enrollment periods or when the University is officially closed.

Programs and Courses of Instruction

Programs of Graduate Study • The details about the graduate program, specific requirements, and other regulations printed below are published as they have been submitted by the individual departments. In the event that any departmental requirement conflicts with a requirement or policy of the Graduate School, the student must satisfy the requirement of the Graduate School. However, the preceding statement does not preclude the right of a department to impose additional requirements that exceed those of the Graduate School.

COURSE NUMBERING SYSTEM

Levels • Courses numbered between 500 and 599, unless otherwise noted, are limited to graduate and upper-division students. To receive graduate credit for a 500-level course, the student must do work in addition to that required of the undergraduates enrolled in the course. Courses numbered 600 and above admit only graduate students.

Class Schedule • The hour at which a course is taught is published in the class schedule tabloid available at registration and on the World Wide Web at www.olemiss.edu/depts/registrar.

THE COLLEGE OF LIBERAL ARTS

Glenn W. Hopkins, dean

Janice Murray, associate dean

Ronald F. Vernon, associate dean

Holly Reynolds, assistant dean

Ventress Hall

AFRICAN AMERICAN STUDIES — AAS

Associate Professor Charles Ross, director • 306 Barr Hall

Professors Eagles, Jordan, Thorne, and Winkle • Associate Professors Crouther, Payne, Ross, and Steel • Assistant Professors Burnside, Shadle, and Young-Minor

501. AFRICAN AMERICAN STUDIES SEMINAR. Research, using the seminar format to focus on the African American experience during key historical periods: African origins, slave trade and slavery, emancipation, urban migrations, and social and political integration. Special attention will be given to the socioeconomic, cultural, and political development of African Americans in the context within which it has occurred. Course content will vary. (3).

504. RESEARCH IN AFRICAN AMERICAN STUDIES. Intellectual history of the study of the black experience and the rise of African American studies. Critical examination of past and current research and its significance to various disciplines. Prerequisites: AAS 326 and AAS 350, or consent of instructor. (3).

509. HISTORIOGRAPHY OF AFRICAN AMERICAN HISTORY. An introduction to the research methods and principles of historiography as applied to specific events and issues in African American history. The course will focus on how African American history has been, and is being written. Topics include the major historians, theories, sources, uses of authentic materials, and fields of investigation. (Does not satisfy History Department M.A. 500-level historiography requirements.) (Same as HIS 509). (3).

593. AFRICAN AMERICAN LITERATURE. Selected African American prose, poetry, fiction, and drama, with emphasis on major figures, themes, periods, and movements. Prerequisite: 12 hours of literature or English, including AAS 341 and 342 or ENGL 322 and 323. (May be repeated once for credit). (Same as ENGL 593). (3).

ANTHROPOLOGY See Sociology and Anthropology.

ART

Professor Nancy L. Wicker, chair • 116 Meek Hall

Professors Dale, Murray, Temple, and Wicker • Associate Professors Crouther and Dewey • Assistant Professors Chavis, Kloman, and Rieth

The department offers the degrees of Master of Arts in Art Education and Master of Fine Arts, the terminal professional degree in studio art.

Admission Classification • In addition to the Graduate School requirements for master's degrees, to be admitted in FULL STANDING all applicants must submit:

- (a) a satisfactory score on the general test of the Graduate Record Examination;
- (b) three letters of recommendation;
- (c) a statement of intent of approximately 200 words setting forth professional objectives;
- (d) portfolios of work as specified below.

Applicants not meeting all of the specified requirements, but who otherwise appear able to fulfill standards for admission in full standing, may be admitted to a degree program on a Provisional or Unclassified basis.

MASTER OF ARTS

Art Education • The degree of Master of Arts in Art Education is designed for teachers of art at all levels and offers thesis and nonthesis options. Applicants should hold a teaching certificate in art, or be in the process of qualifying for the alternate route of certification. A student without a certificate may be admitted to the degree program on a conditional basis to allow completion of the requirements for alternate route certification while pursuing study. All applicants must have a B.A. or B.F.A. in Art or the equivalent and must submit a portfolio of at least 20 slides identified as to media, size, and date of completion. Special interviews may be arranged for those applicants whose work does not easily lend itself to slide portfolio presentation.

The degree requires the successful completion of 24 semester hours: 9 of art education (ART 690, ARED 661), 3 of art history, 6 of studio art, and 6 of education (EDCI 601, EDRS 605). Students must register for one semester of ART 692. Students electing the thesis program must take 6 hours of ART 697; nonthesis students must take an additional 12 semester hours (9 of studio art, 3 of art history) and install an exhibit of creative works of art showing professional competence within a specialized area of inquiry.

MASTER OF FINE ARTS

The degree of Master of Fine Arts is a 60-semester-hour program requiring a minimum of two academic years of residence. All applicants must submit evidence of course work or the equivalent that is comparable to the B.F.A. degree offered at The University of Mississippi, that is, sufficient undergraduate units so that, combined with graduate units, there is a minimum of 24 semester hours of art history and 100 semester hours of studio and related professional requirements. This standard is based on the ratio of allowing one credit per semester for each 3 hours of studio work per week. The applicant must present a portfolio of at least 20 slides identified as to media, size, and date of completion. Special interviews may be arranged for those applicants whose work does not easily lend itself to slide portfolio presentation.

The degree requires the successful completion of ART 692 (taken during the fall semester of the first year of residence), 6 hours of ART 697, and ARHI 599 or ARED 661; 9 hours of art history; 18 hours of a specific studio emphasis (ceramics, painting, or printmaking); 15 semester hours from at least two studio areas other than the area of emphasis; and 9 hours of electives. A minimum of 6 hours must be taken in drawing, either as part of the 15 hours of secondary emphases or as electives. After completing at least half of the degree requirements, a student may be advanced to candidacy after being reviewed favorably by the graduate faculty in the general review of all students, which takes place each semester.

Thesis • After completion of all requirements and acceptance by the thesis committee, each student taking ART 697 is required to install an M.F.A. exhibition with the advice of the thesis director. The thesis for the M.F.A. degree is an original creative work of art or a group of such works showing professional-level competence in a specific emphasis. A written analytical and critical exposition of the creative thesis is required. The candidate must successfully pass an oral examination, open to all faculty and graduate students, that demonstrates ability to communicate ideas not only in the chosen area of emphasis but in visual arts in general. Apart from the illustrative matter accompanying the written thesis, a minimum of five slides must be deposited with the Art Department collection for purposes of documentation. The candidate's thesis committee may recommend the collection of a thesis work for the University Gallery.

NOTE: All academic work undertaken by students in satisfaction of course assignments is regarded as an exercise in education, not as professional production. The department reserves the right to retain examples of student work for temporary exhibition and to use photographs of students and student work for its educational purposes.

Art — ART

501. DESIGN. Advanced problems in communication design. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3).

502. STUDIES IN COMPUTER IMAGE MAKING. Studio investigation in the use of computers with graphics and illustrative capability. Generation and manipulation of pictorial images by using various computer technologies. Aesthetic and conceptual exploration of computer-generated imagery. (May be repeated for credit for a maximum of 6 hours). (3).

511. DRAWING. Advanced problems including special problems designed on an individual basis, with emphasis on drawing as a final form of expression. Mixed media. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).

512. FIGURE DRAWING. Advanced drawing from the live model including special problems designed on an individual basis. (3).

515. THE CRAFT OF OLD MASTER DRAWINGS AND PAINTINGS. Technical (studio) exploration and historical appreciation of a variety of drawing and painting media generally uncommon in contemporary art: silver and leadpoint, chiaroscuro, quill and reed pens with bistre and iron-gall inks, natural and fabricated chalks, egg tempera, encaustic, oil glazing and fresco (buon fresco) and hand-made paper. (3).

521. PAINTING. Special problems in painting based on individual studio practice. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).

526. WATERCOLOR. Advanced work in water-based media on paper including special problems designed on an individual basis. (3).

- 531. SCULPTURE.** Independent research and experimentation with emphasis on advanced problems. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).
- 534. STUDIES IN DOCUMENTARY FIELD WORK.** Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and video tapes, audio recordings, and field notes. (Same as SST 534, ANTH 534). (3).
- 541. POTTERY AND CERAMICS.** Advanced problems in pottery and ceramics with emphasis on individual development. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).
- 545. ART AND THE COMPUTER.** Studio investigation in the aesthetic and perceptual possibilities of using the computer in the art-making process. Prerequisite: ART 502. (3).
- 571. PRINTMAKING.** Special problems in printmaking. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).
- 601. DESIGN.** Advanced problems in communication design. (9 lab hours). (May be repeated for credit for a maximum of 24 hours). (3).
- 611. DRAWING.** Advanced problems including special problems designed on an individual basis, with emphasis on drawing as a final form of expression. (9 lab hours). (May be repeated for credit for a maximum of 24 hours). (3-6).
- 621. PAINTING.** Special problems in painting based on individual studio practice. (9 lab hours). (May be repeated for credit for a maximum of 24 hours). (3-6).
- 631. SCULPTURE.** Independent research and experimentation with emphasis on advanced problems. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3).
- 641. POTTERY AND CERAMICS.** Advanced problems in pottery and ceramics with emphasis on individual development. (9 lab hours). (May be repeated for credit for a maximum of 24 hours). (3-6).
- 671. PRINTMAKING.** Special problems in printmaking. (9 lab hours). (May be repeated for credit for a maximum of 24 hours). (3-6).

Special Areas

- 508. ARTS ADMINISTRATION.** Principles and practices of arts management and administration. Interdisciplinary approach covers museology, fund raising, grant writing, appraising, accounting, laws, and publications. (3).
- 690. RESEARCH IN ART AND ART EDUCATION.** Investigation of research findings and research methods in art and art education; preparation of individual research. (3).
- 691. DIRECTED INDIVIDUAL PROBLEMS.** (1-6).
- 692. GRADUATE SEMINAR.** Selected topics on art as a profession. Required of all graduate students. May not be used to satisfy minimum hours for degree. (1).
- 697. THESIS.** (1-6).

Art History, Theory, and Criticism — ARHI

- 505. HISTORY OF INTERIORS I.** History of furniture, decorative arts, and interiors from antiquity through the late 19th century. (3).
- 527. PRE-COLUMBIAN ARTS.** Interdisciplinary approach to the history of the arts of middle America from 1500 B.C. to Cortez, covering Olmec, Maya, Mixtec, and Aztec civilizations. (3).
- 538. AFRICAN AND AFRICAN AMERICAN ARTS.** Interdisciplinary approach to the continuities between traditional and contemporary African and African American arts, with emphasis on architecture, sculpture, ceramics, textiles, basketry, jewelry, dance, and music. (3).
- 539. SURVEY OF BLACK AMERICAN ART.** Special problems. (3).
- 548. SOUTHERN FOLK ARTS.** Interdisciplinary approach to the history of folk arts in the southern United States. Emphasis on field research and development of exhibits. (3).
- 549. HISTORY OF SOUTHERN ART AND DECORATIVE ARTS.** Southern painting, sculpture, printmaking, and decorative arts from 18th century seaboard culture to the present. Course will stress indigenous Southern characteristics and adaptation of import styles and attitudes. Content will rotate, permitting in-depth coverage of selected mediums. (3).
- 550. SOUTHERN ARCHITECTURE AND INTERIORS.** Southern architecture and interiors from 18th century seaboard culture to the present. Course will stress indigenous Southern characteristics and adaptation of imported styles and attitudes. (3).
- 557. MODERN ARCHITECTURE.** History of modern architecture from 1800 to 1965. (3).
- 558. CONTEMPORARY ART AND ARCHITECTURE.** Art movements since 1965 in America, Europe, Africa, and Asia; illustrated lectures and discussion of individual student research. (3).
- 577. HISTORY OF PRINTMAKING.** Art in the graphic media in western Europe, the United States, and Asia from the 15th century to the present. (3).
- 581. ANCIENT ART.** Special topics within the field of ancient art. Content varies. (May be repeated for credit). (3).
- 582. MEDIEVAL ART.** History of art movements in early Christian, Byzantine, Romanesque, and Gothic periods. Illustrated lectures and individual research. (3).
- 586. ITALIAN RENAISSANCE ART.** Major developments in the graphic arts, sculpture, and architecture in Italy from the Dugento (13th century) through 16th-century "Mannerism." Illustrated lectures. (3).
- 587. NORTHERN RENAISSANCE ART.** Significant movements and developments in the graphic arts, sculpture, and architecture in Germany, France, and the Netherlands from 1300 to 1600 A.D.; post-Renaissance "Mannerism." Illustrated lectures. (3).
- 589. BAROQUE AND ROCOCO ART AND ARCHITECTURE.** History and analysis of European art movements from the 17th century to the French Revolution. (3).

- 592. 19th CENTURY EUROPEAN ART.** Analysis of the major European art movements from Neoclassicism through Post-Impressionism. (3).
- 594. 20th CENTURY ART, 1900-1965.** Analysis of European and American art movements from 1900 to 1965. (3).
- 596. AMERICAN ART TO 1900.** History of American painting, sculpture, architecture, interiors, furniture, and other decorative arts and folk art from the colonial period to 1900. Illustrated lectures. (3).
- 599. ART THEORY AND CRITICISM.** Topics and problems surrounding the nature of aesthetic theory are discussed. Interdisciplinary approach, with analysis of specific works of art. (3).
- 682. MEDIEVAL ART.** Special problems. (3).
- 684. RENAISSANCE-BAROQUE ART.** Special problems. (3).
- 686. MODERN ART IN EUROPE AND AMERICA.** Special problems. (3).
- 688. ART IN AMERICA.** Special problems. (3).
- 689. SELECTED READINGS IN ART HISTORY AND CRITICISM.** Readings designed to meet the individual needs of the students. (1-3).

Art Education — ARED

- 562. ART FOR ATYPICAL INDIVIDUALS.** Appropriate art activities for the elderly, gifted, physically and/or emotionally impaired, and those enrolled in nontraditional learning situations. (3).
- 564. POTTERY WORKSHOP.** (For elementary, secondary school teachers, and others with interest in pottery). Development of individual skills in pottery. (3).
- 565. ART WORKSHOP.** Principles basic to selection of materials and the guidance of activities appropriate to kindergarten through secondary programs. (3).
- 566. WATERCOLOR WORKSHOP.** Development of individual skills in transparent watercolor painting. (3).
- 567. ART WORKSHOP.** Development of individual skills in selected areas of art and crafts appropriate to kindergarten through secondary programs. (3).
- 569. ART WORKSHOP.** Development of individual skills in selected areas of visual communication design. (3).
- 660. CURRICULUM PLANNING FOR ART EDUCATION.** Problems in curriculum and research development for art programs in public schools. (Same as EDSE 631). (3).
- 661. PHILOSOPHY OF ART EDUCATION.** Advanced work in philosophies in art education and their relationship to planning, development, evaluation, and administration of art education programs; emphasis on the secondary-level teaching. (3).

ASTRONOMY See Physics and Astronomy.

AUDIOLOGY See Communicative Disorders.

BIOLOGY — BISC

Professor Murray Nabors, chair • 214 Shoemaker Hall

Professors Gaston, Holland, Keiser, Lago, Nabors, Parsons, and Threlkeld • Associate Professors Brewer, D'Surney, Mikell, and Ochs • Assistant Professors Buchholz, Halda-Alija, Jones, Reed, and Starr

The Department of Biology offers degree programs leading to the M.S. and Ph.D. degrees in biological sciences and prepares students for professional careers in their fields of specialization.

Prerequisites • A candidate for admission to the Ph.D. program in the Department of Biology must submit an application package consisting of: Graduate School applications, a departmental application; official scores for both the GRE general and biology subject tests; transcripts of all undergraduate and graduate course work; three letters of recommendation. Candidates for admission to the M.S. program are not required to submit GRE scores for the biology subject test. International students must submit a minimum score of 550 on the TOEFL. Acceptable results on the TSE or SPEAK tests of spoken English are required for international students to be eligible for a teaching assistantship. Other prerequisites follow the Graduate School requirements. Successful candidates for the graduate program in biology should have a strong background in biology, chemistry, mathematics, and physics. Students with deficiencies may be admitted in special or unclassified status, and must remove deficiencies before enrolling for the third semester of residency and achieve a B (3.0) average on all course work attempted during the probationary period. Remedial courses may not be counted toward degree requirements. Admission is not granted unless a member of the graduate faculty has agreed to accept the student.

GENERAL REQUIREMENTS

Advisory Committee • During the first semester, a M.S. or Ph.D. student is to become familiar with the research programs in the department and establish an advisory committee. The committee determines deficiencies and the courses to be included in the student's plan of study, approves a research topic, guides the student, judges progress in the degree

program, evaluates the results of examinations as applicable, evaluates the research, and approves the thesis or dissertation.

Degree Requirements • All students for M.S. and Ph.D. degrees must complete a research prospectus satisfactory to the advisory committee, a thesis or dissertation based on potentially publishable research acceptable to the committee, a seminar on their research, and an oral examination and defense of their research. Additional degree requirements may be stipulated by the advisory committee.

SPECIFIC REQUIREMENTS FOR A MASTER OF SCIENCE DEGREE

Credit Requirements • A minimum of 30 semester hours of graduate credit acceptable to the advisory committee, including 6 thesis hours and at least 24 hours of course work, 18 of which must be formalized course work. All students must take BISC 691 during the semesters in which they present seminars. At least half of the courses, exclusive of thesis, must be in courses to which only graduate students are admitted. Only 6 hours may be transferred from other institutions. A cumulative average of not less than B (3.0) must be achieved in all graduate work taken. Specific requirements in addition to the minimum may be established by the advisory committee.

SPECIFIC REQUIREMENTS FOR A DOCTOR OF PHILOSOPHY DEGREE

Credit Requirements • A minimum of 54 semester hours of graduate credit acceptable to the advisory committee, including 18 dissertation hours and at least 36 hours of course work, 30 of which must be formalized course work. All students must take BISC 691 during the semesters in which they present seminars. At least half of the courses, exclusive of dissertation, must be courses to which only graduate students are admitted. A minimum of two years (36 hours) of residency, one year (18 hours) of continuous residency, and 18 hours of course work must be completed at The University of Mississippi. A cumulative average of not less than B (3.0) must be achieved in all graduate work taken. Specific requirements in addition to the minimum may be required by the advisory committee. The M.S. degree is not a prerequisite for the Ph.D. degree.

Admission to Candidacy • After attaining full graduate standing in the department's Ph.D. program, completion of preliminary examinations, approval of a course of study and a dissertation topic, and presentation of the research prospectus, a written and oral comprehensive examination will be administered by the advisory committee. Upon satisfactory completion of the comprehensive examination, satisfactory progress towards publication of research results, and before the student begins the next to last semester of residency, the advisory committee shall request the department chair to recommend admission to candidacy. Doctoral students must complete all requirements for the degree within five years from the date of the comprehensive examination.

Biological Science — BISC

502. MYCOLOGY. Fungi of economic importance; their distribution, biology, and control; collection, identification, and nutrition. (4).

504. BIOMETRY. A biology course on design of biological experiments and analysis of biological data using parametric and nonparametric methodology and multivariate analysis, emphasizing use of computer computation. Prerequisites: At least 15 hours of biology and MATH 121 or consent of instructor. (3).

505. AQUATIC MICROBIOLOGY. Principles and applications of the microbiology of lakes, reservoirs, streams, oceans, and sewage treatment processes. Prerequisite: BISC 333. (4).

509. MICROBIAL GENETICS. Genetics and molecular biology of bacteria and viruses. Prerequisite: BISC 333. (2 lecture, 4 lab hours). (4).

510. THEORETICAL ECOLOGY. Advanced course in ecology emphasizing modern conceptual and mathematical models of ecological phenomena. Prerequisites: BISC 322 and Math 121 (calculus preferred) or consent of instructor. (3).

511. APPLIED MICROBIOLOGY. Applications of microorganisms in industry, agriculture, food and beverage production, waste water treatment, biohydrometallurgy, and bioremediation of environmental pollutants. Prerequisite: BISC 333. (4).

512. ANIMAL BEHAVIOR. The significance of the behavior of animals with emphasis on current evolutionary and ecological approaches. Topics include genetics of behavior, adaptation, fitness, behavioral polymorphism, and communication. Prerequisite: BISC 322 (4).

513. LIMNOLOGICAL METHODS. Field and laboratory techniques in fresh water ecology. Prerequisite: consent of instructor. (1 lecture, 4 lab hours). (3).

514. POPULATION GENETICS. Basic principles of the factors which influence the genetic composition of natural and artificial populations. Topics covered will include selection, migration, mutation, genetic drift mating systems, and quantitative genetics. Prerequisites: BISC 336 and MATH 121. (3).

515. CONSERVATION BIOLOGY: VIABLE POPULATIONS. A course on the genetics, evolution, and population ecology of endangered and threatened species of plants and animals. The course will concentrate on application of theory to predicting population viability and preventing extinction. (3).

- 516. PLANT PHYSIOLOGY.** Growth and development in plants; emphasis on assimilation, chemical control of growth, and environmental physiology. Prerequisites: CHEM 105, CHEM 106. (3 lecture, 2 lab hours). (4).
- 518. MICROTECHNIQUE.** Techniques of fixing, embedding, sectioning, and staining tissue. Prerequisite: BISC 415. (4).
- 519. PHYSIOLOGY OF AQUATIC ANIMALS.** The physiology and physiological adaptations of aquatic animals, with emphasis on freshwater animals. Prerequisite: BISC 330 or consent of instructor. (4).
- 520. MEDICAL MICROBIOLOGY.** The nature of infectious microorganisms with emphasis on mechanisms of pathogenicity and epidemiology. Prerequisite: BISC 333 or consent of instructor. (3).
- 521. CELL PHYSIOLOGY.** Basic principles and practices of molecular and cellular physiology. Prerequisite: BISC 330, CHEM 221, CHEM 222. (3 lecture, 2 lab hours). (4).
- 522. MICROBIAL ECOLOGY.** Factors that govern the interrelationships between microorganisms and their environments, including microbial energetics, nutrient cycles, aquatic and terrestrial environments, microbial interfaces, methodology. Prerequisite: BISC 333 or consent of instructor. (3).
- 523. MOLECULAR MICROBIOLOGY OF SOILS AND SEDIMENTS.** An introductory course emphasizing habitats and microorganisms found in the soil and sediments and their relationship to management, agricultural production, and environmental quality. (3).
- 524. AQUATIC BOTANY.** Ecology and physiology of vascular plants occurring in fresh water. (4).
- 525. CONSERVATION AND RESTORATION ECOLOGY.** Addresses the efficacy of applying principles of population, community, and landscape ecology to the design, restoration, management, and protection of biological reserves. (3).
- 526. SURVEY OF THE AMPHIBIA.** An introduction to the taxonomy, morphology, and evolution of salamanders, frogs, and caecilians. This course may not be counted for credit if BISC 640 is counted. (3).
- 527. SURVEY OF THE REPTILIA.** An introduction to the taxonomy, morphology, and evolution of crocodylians, snakes, lizards, amphisbaenians, and turtles. May not be counted for credit if BISC 641 is counted. (3).
- 529. ENDOCRINOLOGY.** Vertebrate endocrine systems. Prerequisite: BISC 330, CHEM 221, CHEM 222. (4).
- 530. ADVANCED FIELD STUDY IN ECOLOGY.** Extended field trip experience illustrating ecological principles, biological diversity, and major biotic regions: may be repeated for credit if topic changes. Prerequisites: BISC 322 or the equivalent and permission of the instructor. (4)
- 531. PLANT MORPHOLOGY.** Development and life histories of major plant groups; emphasis on vascular plants. Prerequisite: any biology course, 300 or above. (4).
- 532. PLANT TAXONOMY.** A survey of the diversity of vascular plants of the world, including their historical and modern classification, nomenclature, and identification. (4).
- 534. FRESHWATER INSECTS.** Identification and biology of insects associated with fresh water. Prerequisite: BISC 337 or consent of instructor. (2 lecture, 4 lab hours). (4).
- 542. MICROBIAL DIVERSITY.** Ecology, physiology, and taxonomy of microorganisms isolated from natural habitats. Prerequisite: BISC 333. (4).
- 545. MICROBIAL PHYSIOLOGY.** Biochemical processes of microbial cells. Prerequisite: BISC 333. (4).
- 546. HERPETOLOGY.** Studies on the systematics, morphology, evolution, and natural history of amphibians and reptiles. (2 lecture, 4 lab hours). (May not count for credit if BISC 548 and 549 are counted).
- 547. ADVANCED HISTOLOGY.** Essential features of microscopic anatomy and development of selected organs and tissues. Prerequisite: BISC 415 or consent of instructor. (4).
- 548. BIOLOGY OF THE AMPHIBIA.** Studies on the systematics, morphology, ecology, and evolution of frogs, salamanders, and caecilians. (May not be counted for credit if BISC 546 is counted). (3 lecture, 2 lab hours). (4).
- 549. BIOLOGY OF THE REPTILIA.** Studies on the systematics, morphology, ecology, and evolution of crocodylians, turtles, rhynchocephalians, lizards, amphisbaenians, and snakes. (May not be counted for credit if BISC 546 is counted). (3 lecture, 2 lab hours). (4).
- 550. BIOLOGICAL OCEANOGRAPHY.** Course examines the biota of the world's oceans and its relationship to the abiotic environment. Physical, chemical, and geological aspects of oceanography also will be considered. Prerequisites: 16 hours upper-division biology or consent of instructor. (4).
- 551. PROTOZOOLOGY.** Structure, reproduction, growth, collection, and methods of culture of protozoa. Prerequisite: consent of instructor. (4).
- 553. COMPARATIVE ANIMAL PHYSIOLOGY.** Comparative and integrative investigation of the structure and mechanisms of the physiological systems of animals. The course emphasizes the adaptive strategies expressed by physiological systems to particular lifestyles and environments. (3).
- 554. ECOLOGICAL PHYSIOLOGY.** Systemic function of organisms in relation to the natural environment. (4).
- 555. RADIATION BIOLOGY.** Effects of radiation on living material at all levels of organization. Prerequisite: consent of instructor. (3 lecture, 2 lab hours). (4).
- 566. EVOLUTIONARY BIOLOGY.** Lectures and assigned readings on modern evolutionary theories, with emphasis on speciation and processes operating at the population level of organization. Prerequisite: 15 hours of biology or permission of instructor. (3).
- 567. EVOLUTIONARY BIOLOGY LABORATORY.** Laboratory to accompany BISC 566. Corequisite: BISC 566. Prerequisite: 15 hours of biology or permission of instructor. (2 lab hours). (1).
- 571. HISTORY OF BIOLOGY.** (3).
- 604. DESIGN AND ANALYSIS OF ECOLOGICAL EXPERIMENTS.** Design of ecological experiments; replication, blocking, and treatment structures; analysis of designed experiments; procedures for data sets with missing observations or incompletely executed designs. Prerequisite: BISC 504. (3).

- 608. LIMNOLOGY.** The physical, chemical, geological, and biological aspects of lake and reservoir environments. (3).
- 609. STREAM ECOLOGY.** Ecosystem structure and function of streams with emphasis on primary literature and application of field methods. (3).
- 610. VIROLOGY.** Fundamental biology and biochemistry of bacterial, animal, and plant viruses. (2 lecture, 4 lab hours). (4).
- 611. WETLANDS ECOLOGY.** The ecology, energy dynamics, plant and animal adaptations to marsh and swamp ecosystems, with emphasis on primary literature. (3).
- 613. PLANT ECOLOGY.** Autecology, population, and community ecology of vascular plants. (4).
- 614. ADVANCED GENERAL MICROBIOLOGY.** Introduction to microbiology for graduate students. Prerequisite: CHEM 105, CHEM 106 and consent of instructor. (2 lecture, 4 lab hours). (4).
- 615. ICHTHYOLOGY.** Classification natural history, and evolutionary biology of fishes. Prerequisite: BISC 329 or consent of instructor. (2 lecture, 4 lab hours). (4).
- 616. POPULATION BIOLOGY.** Dynamics of genetic and ecological factors in determining the composition, size, and distribution of populations. Prerequisite: BISC 322 or permission of instructor. (3).
- 617. FISHERY BIOLOGY.** Research methods in freshwater fishery biology; life histories, environmental relations, and fishery management problems. Prerequisite: BISC 615. (1 lecture, 4 lab hours). (3).
- 618. COMMUNITY ECOLOGY.** Theory of natural community dynamics. Prerequisite: BISC 322 or consent of instructor. (3).
- 619. ECOSYSTEMS ECOLOGY.** Structure and function of ecological systems, emphasizing consideration of natural and man-made ecosystems and cybernetic aspects of system functions. (3).
- 620. FIELD BOTANY.** Taxonomy, distribution, ecology, and natural history of indigenous plants; methods of field study and collecting. (4).
- 621. BEHAVIORAL ENDOCRINOLOGY.** Advanced course investigating the endocrine basis of behavior in animals with emphasis on vertebrates. Prerequisites: BISC 322, BISC 330, or consent of instructor. (3).
- 622. BEHAVIORAL ECOLOGY.** Advanced course focusing on the evolutionary ecology of animal behavior. Prerequisites: BISC 322, BISC 336 or consent of instructor; it is highly recommended that students have training in mathematics through differential calculus. (3).
- 623. AQUATIC PLANTS.** Taxonomy, distribution, and ecology of aquatic plants in the subkingdom Embryophyta; emphasis on freshwater species. Prerequisite: any two biology courses, 300 or above, which provide taxonomic training. (2 lecture, 4 lab hours). (4).
- 626. AQUATIC ORNITHOLOGY.** The ecology, behavior, and taxonomy of aquatic birds, emphasizing adaptations to the freshwater environment. (3).
- 628. ADVANCED REPRODUCTIVE PHYSIOLOGY.** Biomechanical mechanisms involved in reproductive processes and endocrine interrelationship of their regulation. Emphasis will be on molecular events within the hypothalmo-pituitary-gonadal axis. Prerequisite: BISC 335. (4).
- 629. ADVANCED BIOCHEMICAL ENDOCRINOLOGY.** Mechanisms of action of hormones at the biochemical and molecular level. Review and journal articles will serve as text materials. Prerequisites: CHEM 371 and consent of instructor. (3).
- 630. ALGOLOGY.** Ecology and physiology of freshwater algae, including isolation, identification, and culture techniques. Prerequisites: BISC 339 or consent of instructor. (2 lecture, 2 lab hours). (4).
- 631. ADVANCED AQUATIC TECHNIQUES.** Laboratory methods in freshwater systems, emphasizing advanced techniques and instrumentation. (4).
- 632. AQUATIC TOXICOLOGY.** Advanced principles of toxicology in aquatic systems. Topics include transport, distribution, transformation, and ultimate fate of chemicals in the aquatic environment. (4).
- 633. MICROBIAL ENERGETICS.** Thermodynamic consideration of energy flux applied to growth and survival of microorganisms in the environment. Biochemical and environmental aspects are presented. Prerequisite: BISC 333. (3).
- 635. INSECT TAXONOMY.** Orders, families, and important genera of North American adult and immature insects, principles and practice of insect classification. Prerequisite: BISC 337. (2 lecture, 4 lab hours). (4).
- 639. INSECT MORPHOLOGY.** Structure and form of important insect types. Prerequisite: BISC 337 or consent of instructor. (2 lecture, 4 lab hours). (4).
- 647. INVERTEBRATE ZOOLOGY.** Morphology, life histories, ecology, and speciation of invertebrates, exclusive of insects. (2 lecture, 4 lab hours). (4).
- 649. METHODS IN MOLECULAR BIOLOGY.** A laboratory course designed to acquaint the student with advanced instrumentation of molecular biology. Prerequisite: consent of instructor. (3).
- 650. INTRODUCTION TO RESEARCH IN BIOLOGICAL SCIENCES.** Scientific method, ethics, technical writing, bibliographic techniques, publication, technical presentation, and research funding in the biological sciences. (3).
- 651. ADVANCED PARASITOLOGY.** Principles of parasitology with emphasis on parasites that affect man. (2 lecture, 4 lab hours). (4).
- 660. PLANT ANATOMY AND DEVELOPMENT.** Internal construction and development of plants. Technical expertise will be gained using classical and modern histological techniques. (4).
- 661. PHYLOGENETIC SYSTEMATICS.** Conceptual and practical approaches to estimating and evaluating relationships among organisms. Themes include morphological, molecular, and paleontological evolution. (4).
- 675. ADVANCED MICROBIAL PHYSIOLOGY.** Regulatory mechanisms, enzymology, and bioenergetics of microbial systems. (3).
- 676. TOPICS IN EVOLUTIONARY PHYSIOLOGY.** Advanced topics in evolutionary physiology. May be repeated three times if topic changes. (3).
- 677. TOPICS IN EVOLUTION AND ECOLOGY.** Advanced topics in evolution and ecology. May be taken up to three times if topics change. (3).

678. TOPICS IN ENVIRONMENTAL AND APPLIED MICROBIOLOGY. Topics in advanced microbiology. May be retaken up to three times if topics change. (3).

679. DIRECTED STUDY IN BIOLOGICAL SCIENCE. Assigned readings and independent research projects conducted under the supervision of faculty of the Biology Department. Provides opportunities for hands-on experience in areas of mutual student-faculty interest. A written research report is required. Course may be repeated when topic changes. Prerequisite: consent of instructor. (1-3).

691. SEMINAR. Lectures by faculty, visiting lecturers, and graduate students. (May be repeated for credit as required by the department) (1).

692. SEMINARS ON SPECIAL TOPICS. A series of seminars on selected topics of concern to biological scientists. The theme of each series will be announced prior to registration. Seminar participants should expect to research primary literature sources and to prepare written summaries and oral seminars on assigned subjects. (This course may be repeated for credit provided no two themes are identical. No more than 2 hours may be used to satisfy minimum credit hour requirements for a degree.) (1, 1).

693. MICROBIOLOGY SEMINAR. (May be repeated for credit). (1).

697. THESIS. (1-12).

797. DISSERTATION. (1-18).

CHEMISTRY AND BIOCHEMISTRY — CHEM

Professor Charles L. Hussey, chair • 322 Coulter Hall

Professors Eftink, Hussey, and Parcher • Associate Professors Cleland, Davis, Mattern, and W. Scott • Assistant Professors Ellison, Mossing, Pedigo, Ritchie, Siriwardena, and Tschumper

GENERAL REQUIREMENTS FOR GRADUATE STUDY IN CHEMISTRY AND BIOCHEMISTRY

Orientation Examinations • All entering graduate students are required to take four orientation examinations. Students are tested in analytical, inorganic, organic, and physical chemistry. Performance on these orientation tests determines whether the student must enroll in intermediate-level courses before taking the required core courses.

Advisory Committee • During the first year, the graduate student will choose an adviser. For doctoral degrees, the student's adviser, three graduate faculty members in the department, and a graduate faculty member from a science or engineering discipline (external to the department) constitute an advisory committee. For the M.S. degree, the student's adviser and two graduate faculty members in the department constitute an advisory committee. Additional graduate faculty may be added to the advisory committee at the discretion of the student's adviser; however, the final approval of all such committees is vested in the department chair. The advisory committee determines the courses to be included in the student's plan of study, approves a dissertation or thesis topic, certifies the completion of degree requirements, and judges the student's progress in the degree program.

Foreign Language Requirement • There is no foreign language requirement for the graduate degrees in chemistry. However, international students must achieve an acceptable score on the TOEFL examination.

REQUIREMENTS FOR THE M.S. AND Ph.D. DEGREES

Credit Requirements • For the Ph.D. degree, 54 semester hours of graduate credit are required, which must include CHEM 500, 18 hours of additional formal non-remedial lecture courses, 2 hours of seminar, and 18 hours of dissertation. For the M.S. degree, 30 hours of graduate credit are required, which must include CHEM 500, 18 hours of formal non-remedial lecture courses, 2 hours of seminar, and 6 hours of thesis. A minimum grade of B is required in each course in the student's area of emphasis.

Ph.D. students must take one core course from each of four specialty areas; M.S. students must take one core course from each of three specialty areas. Core courses are CHEM 512 or 515 (analytical), 570 or 571 (biochemistry), 501 or 502 (inorganic), 527 or 528 (organic), and 531 or 532 (physical). A cumulative average of not less than B is required in the core courses.

These course and credit requirements are minimum requirements and may not be satisfied with remedial courses. Specific requirements for individual students in excess of the minimum may be imposed by the adviser and the student's advisory committee.

The M.S. degree is not a prerequisite for the Ph.D. degree.

Prospectus/Research Proposal • A Ph.D. student must successfully defend before his or her advisory committee a prospectus of the research expected to comprise the dissertation, along with an original research proposal based on the student's research project.

Comprehensive Examination • A Ph.D. student must complete a comprehensive examination, which includes a series of written examinations, before the student's advisory committee requests the department chair to recommend admission to candidacy.

Thesis or Dissertation • Each M.S. student must produce a thesis, and each Ph.D. student a dissertation, as a formal written account of the student's research.

Final Oral Examination • Satisfactory performance on an oral examination, as judged by the student's advisory committee, completes the competency requirements for the graduate degree. This examination includes, but is not limited to, a defense of the student's thesis or dissertation.

REQUIREMENTS FOR THE D.A. DEGREE

Purpose • The Department of Chemistry and Biochemistry offers the D.A. degree in chemistry to persons whose goal is a career of teaching in two-year or four-year colleges. The program prepares students to be broadly competent in the field of chemistry and provides them with skill in effective classroom and laboratory teaching.

Preparation • Applicants for the D.A. program are expected to have received a master's degree in chemistry. However, students with only an undergraduate degree in chemistry may enroll in the program provided they remedy any course deficiencies and take two semesters (6 hours) of thesis research (CHEM 697). The results of this research must be presented to the department in the form of a written report and a seminar presentation. If the doctoral thesis is based on the same project, it must be a substantial extension of the initial work presented in this report.

Credit Requirements • A minimum of 49 semester hours of graduate credit approved by the student's advisory committee are required: 12 hours of core courses chosen from CHEM 501, 512, 527, 531, and 571; 6 hours of additional fundamental courses chosen from CHEM 519, 532, 544, and 563; 3 hours of CHEM 500; 3 hours of CHEM 543; 3 hours of seminar; 6 hours of related sciences (from two sciences); 6 hours in education emphasizing curriculum and course development; 4 hours of instruction internship (CHEM 717); and 6 hours of doctoral thesis (CHEM 796). Transfer credit may be accepted where appropriate. Specific requirements for individual students in excess of the minimum may be imposed by the adviser and the student's advisory committee.

Comprehensive Examination • The student must successfully complete a comprehensive examination in general chemistry, containing both oral and written parts, before the student's advisory committee requests the department chair to recommend admission to candidacy.

Doctoral Thesis • The thesis may be experimental in nature or an analysis of literature data; it may be in the area of chemical education, environmental chemistry, consumer products, materials science, research conducted by the student, or any topic approved by the student's advisory committee. The doctoral thesis must give rise to at least one manuscript submitted for publication to an American Chemical Society journal such as *The Journal of Chemical Education* or a comparable journal.

Graduate Courses • Approval of the department is prerequisite to registration for all graduate chemistry courses. Generally, physical chemistry based on calculus is prerequisite to all 500-level courses except 543, 546, and 547 and the intermediate level courses 509, 513, 524, and 535. Upon recommendation by the instructor and approval by the department chair, prerequisites for a course may be waived in individual cases. Graduate courses in medicinal chemistry are considered an integral part of the graduate program in chemistry.

NOTE: Only courses marked * are open to undergraduates.

NOTE: Courses marked ** may be repeated for credit on approval of the instructor if the topics are different from those previously selected.

501,* 502. ADVANCED INORGANIC CHEMISTRY I, II. Atomic and molecular structure; chemical bonds; solvent systems; reactions of the elements and their compounds. (3, 3).

503. INORGANIC TECHNIQUES. Survey of some of the most important laboratory techniques for the inorganic chemist, including vacuum line design, construction, and operation. (6 lab hours). (3).

512.* ADVANCED ANALYTICAL CHEMISTRY. Theoretical and experimental treatment of chromatography, Fourier-Transform NMR, mass spectrometry, and electrical techniques. (2 lecture, 3 lab hours). (3).

513. PRINCIPLES OF ANALYTICAL CHEMISTRY. Theoretical and mathematical applications of principles of equilibria. Prerequisite: departmental approval. (3).

514. FUNDAMENTALS OF ELECTROCHEMISTRY. Introduction to the theory and principles of electrochemistry, including a survey of modern electroanalytical techniques. (3).

515. SELECTED TOPICS IN ANALYTICAL CHEMISTRY.** (3).

517, 518. RESEARCH METHODOLOGY IN ANALYTICAL CHEMISTRY I, II. Modern techniques and methods of research in analytical chemistry. (6 lab hours each). (3, 3).

519.* CHEMICAL SEPARATIONS. Theoretical and mathematical treatment of chromatography and other separation techniques. (3).

522. ORGANIC TECHNIQUES . Important research techniques in organic chemistry and preparation of selected materials in their use. (3).

524. INTERMEDIATE ORGANIC CHEMISTRY. Integration of the basic principles of organic chemistry with physical chemical principles. Prerequisite: departmental approval. (3).

525. SELECTED TOPICS IN ORGANIC CHEMISTRY.** Prerequisite: 528 or consent of instructor. (3).

527.* ADVANCED ORGANIC CHEMISTRY, STRUCTURE AND MECHANISM. Resonance and molecular orbital theory, spectroscopic methods for structure determination, linear free energy relations, and reaction mechanisms. (3).

528.* ADVANCED ORGANIC CHEMISTRY, MECHANISM, AND SYNTHESIS. Conformational analysis, electron-deficient rearrangements, carbanion chemistry, photochemistry, orbital symmetry control of reactions. (3).

529.* STEREOCHEMISTRY. Configurational and conformational analysis of molecules; the steric course of organic chemical reactions. (3).

530.* ADVANCED ORGANIC SYNTHESIS. A study of the literature, reactions, and planning methods which are used in modern organic synthesis. (3).

531.* ADVANCED PHYSICAL CHEMISTRY, QUANTUM CHEMISTRY. Elementary quantum chemistry; solution of the Schrodinger equation for simple chemical systems; molecular orbital theory. Prerequisite: CHEM 332 or CHEM 538. (3).

532.* ADVANCED PHYSICAL CHEMISTRY, CHEMICAL THERMODYNAMICS. Rigorous discussion of irreversible and equilibrium thermodynamics and application to various chemical problems. PREREQUISITE: CHEM 332 OR 538. (3).

533. SELECTED TOPICS IN PHYSICAL CHEMISTRY. Prerequisite: CHEM 536. (3).

535. INTERMEDIATE PHYSICAL CHEMISTRY I. Overview of principles in physical chemistry. Thermodynamics, kinetics, quantum mechanics, spectroscopy, statistical mechanics. Prerequisite: MATH 262, CHEM 334 or departmental approval (3).

536. ADVANCED PHYSICAL CHEMISTRY, REACTION DYNAMICS. Kinetic theory; molecular reaction dynamics; theory of liquids and solutions. Prerequisite: CHEM 332 OR 538. (3).

538. INTERMEDIATE PHYSICAL CHEMISTRY II. Continuation of an overview of principles in physical chemistry. Thermodynamics, kinetics, quantum mechanics, spectroscopy, and statistical mechanics. Prerequisite: CHEM 535. (3).

541. SELECTED TOPICS IN INORGANIC CHEMISTRY.** Prerequisite: CHEM 502. (3).

544.* CHEMICAL APPLICATIONS OF GROUP THEORY. Introduction to the principles of symmetry and group theory and their application to the description of molecular structure in terms of the chemical bonding models (VB, MO, and LF) and spectral properties (magnetic, vibrational, and electronic). (3).

545.* CHEMICAL LITERATURE. Introduction to and practice in the use of chemical abstracts, journals, and other library reference materials. (3). (Z grade).

546, 547. CHEMISTRY FOR HIGH SCHOOL SCIENCE TEACHERS. A review of the basic principles of chemistry and an overview of the new technology, instructional materials, and methods used for teaching chemistry at the high school level. Appropriate for high school teachers seeking certificate renewal or supplemental endorsement. Prerequisite: CHEM 106. (May not be counted toward an advanced degree in the sciences. May be repeated once for credit.) (3, 3).

548. WORKSHOP FOR MIDDLE SCHOOL SCIENCE TEACHERS. Selection and application of instructional materials and methods for secondary school chemistry. (May not be counted toward an advanced degree in the sciences). (1-2).

550. SAFETY IN THE CHEMICAL LABORATORY. Assigned readings and demonstrations on the use and handling of hazardous chemical apparatus. (3). (Z grade).

563.* APPLIED SPECTROSCOPY. Application of theoretical principles to the interpretation of the various types of spectroscopy. (2 lecture, 3 lab hours). (3).

570. BIOCHEMISTRY I. Overview of biochemical principles; chemistry of aqueous solutions, amino acids, carbohydrates, lipids, and nucleotides; structure and function of proteins, membranes, and nucleic acids; enzyme kinetics. Prerequisite: consent of instructor. (3).

571.* PHYSICAL BIOCHEMISTRY. Macromolecules: structure and function; thermodynamics and kinetics of conformational transitions and macromolecule-ligand interactions. Prerequisite: CHEM 471 or CHEM 570 or consent of instructor. (3).

572. BIOCHEMISTRY II. Bioenergetics; anaerobic and aerobic metabolism; lipid and protein metabolism; regulatory mechanism; replication, transcription, and translation of genetic information; molecular physiology. Prerequisite: CHEM 570. (3).

573. SELECTED TOPICS IN BIOCHEMISTRY.** (3).

578. BIOCHEMICAL TECHNIQUES . Specialized laboratory methodology currently used in biochemistry. Prerequisite: CHEM 471; CHEM 571 or CHEM 575. (6 lab hours). (4).

580.* MOLECULAR BIOCHEMISTRY I. Examination of the organization and functional mechanisms of gene expression at the molecular level. Prerequisite: CHEM 473 or CHEM 572. (3).

581.* MOLECULAR BIOCHEMISTRY II. Examination of the organization and functional mechanisms of gene expression at the molecular level. (3).

600. INTRODUCTION TO GRADUATE RESEARCH. An introduction to a variety of aspects related to the performance and presentation of research, with emphasis on scientific ethics. (3). (Z Grade).

605. SEMINAR IN CHEMISTRY. A discussion of the current literature in chemistry taken primarily from journal articles appearing in the previous year. (May be repeated for credit.) (1).

650. AREA SEMINARS. Student seminar presentation in one of the following areas: analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry. (May be repeated for credit). (1).

659. DOCTORAL SEMINAR. Contributions to scientific knowledge by the doctoral candidate in chemistry; presentation required during student's terminal year. (1).

661. QUANTUM CHEMISTRY. Rigorous treatment of quantum theory applied to molecular systems; Hartree-Fock and density functional theory; molecular orbital theory. Prerequisite: consent of the instructor. (3).

662. THEORY OF MOLECULAR STRUCTURE. Theoretical studies of rotational, vibrational, and electronic spectra; magnetic spectroscopy; molecular beam and laser scattering. Prerequisite: 661. (3).

665. BIOINORGANIC CHEMISTRY. The role of metal ions in biological processes; structure of metal ion complexes; mechanisms of enzyme-metal complex catalysis. (3).

676. NUCLEIC ACID CHEMISTRY. The structural and functional properties of nucleic acids will be examined from a chemical perspective and correlated to their biochemical significance. Prerequisite: consent of instructor. (3).

677. PROTEIN STRUCTURE. Discussion of forces involved in protein folding; common structural motifs; structure-function relationships; overview of experimental and computational methods used to determine protein structure and homologies. Prerequisite: CHEM 471 or CHEM 570. (3).

697. THESIS. (1-12).

717. INTERNSHIP SEMINAR IN COLLEGE CHEMISTRY. Preparation and delivery of lectures in chemistry for use in classroom work and laboratory experimentation. (May be repeated for credit.) (2).

796. DOCTORAL THESIS. Preparation of a thesis of publishable quality on a topic approved by the student's advisory committee. The topic of the thesis may deal either with a critical review of some current topic in chemistry, a credible proposal on teaching the substance of chemistry at the college level, or the student's research. (1-6).

797. DISSERTATION. (1-18).

CLASSICS — CLAS

Associate Professor Aileen Ajootian, acting chair • 303 McDonnell-Barksdale Honors College

Associate Professor Ajootian • Assistant Professor Fenno, Gutting, and Lobur

MASTER OF ARTS

The Master of Arts degree in classics is offered with emphases in Greek, Latin, and classical civilization, or in combination of any of these fields.

Prerequisite • The department will consider each application on its merits; every applicant must have completed, however, at least 18 semester hours of undergraduate study in Greek or Latin.

Language Requirement • Students emphasizing either Greek or Latin must demonstrate a minimum reading knowledge of the other language; students emphasizing classical civilization must demonstrate a minimum reading knowledge of both Greek and Latin. All candidates must demonstrate reading ability in either French or German.

Thesis and Nonthesis Options • The M.A. degree in classics is offered with thesis or nonthesis options.

The thesis option requires 24 semester hours of courses, 6 semester hours of thesis credit, and an oral examination consisting of a defense of the thesis.

The nonthesis option requires 36 semester hours of course work. During the fourth semester of graduate work, the candidate will submit a revised term paper of the student's choice from one of his or her courses and must pass an oral defense of the revised term paper before the graduate faculty.

Students planning to enter a doctoral program should take the thesis option.

Archaeology • Available for graduate study are the Greek and Roman objects of art in the University Museums. This extensive collection of ancient sculpture, vases, coins and other artifacts is used for laboratory work by students in archaeology. Related work in American archaeology is offered by the Department of Sociology and Anthropology.

Greek — GR

503. NEW TESTAMENT. Study of extensive passages of selected books of the New Testament; consideration of recent trends in New Testament scholarship. (3).

507. SPECIAL READING. Reading and study, arranged according to needs of individual students. (May be repeated for additional reading and credit). (1-3).

601. GREEK PHILOSOPHICAL TEXTS. Selected readings from the works of Plato and Aristotle in Greek. (3).

603. GREEK TRAGEDY. Selected readings from the works of Aeschylus, Sophocles, and Euripides in Greek. (3).

691. DIRECTED READING IN GREEK LITERATURE. Reading and study, arranged according to needs of individual students. (May be repeated for additional reading and credit). (1-3).

697. THESIS. (1-12).

Latin — LAT

507. SPECIAL READING. Reading and study, arranged according to needs of individual students. (May be repeated for additional reading and credit). (1-3).

601, 602. WRITERS OF THE AUGUSTAN AGE. The chief authors of the period and the political and literary background which influenced them. (3, 3).

603. LATIN LITERATURE OF THE REPUBLIC. Translation and analysis of the works of major authors of the Republican period such as Plautus, Terrence, Caesar, Cicero, Lucretius, and Sallust. (3).

604. SILVER LATIN LITERATURE. Translation and analysis of the works of major authors of the post-Augustan period such as Petronius, Juvenal, Tacitus, Suetonius, and Pliny. (3).

608. MEDIEVAL LATIN LITERATURE. The development of secular and religious prose and poetry. Particular attention to the beginnings of modern biography, drama, rhyming verse, and historical writing. (3).

697. THESIS. (1-12).

Classical Civilization — CLC

501. TOPICS IN GREEK HISTORY. (May be repeated once for credit). (3).

502. TOPICS IN ROMAN HISTORY. (May be repeated once for credit). (3).

511. INTRODUCTION TO CLASSICAL SCHOLARSHIP. An introduction to the methodology used in classical scholarship. Information about research tools, the history of classical scholarship, textual transmission, paleography, papyrology, epigraphy, numismatics, linguistics, and art and archaeology. (3).

523. ANCIENT ART. Special topics within the field of ancient art. Content varies. (May be repeated for credit). (Same as ARHI 581). (3).

601. CLASSICAL ATHENS. A detailed survey of the political, social and intellectual history of Athens from the birth of democracy to the death of Socrates (509-399 B.C.). (3).

602. THE AGE OF ALEXANDER. A detailed examination of the history of Greece, Macedonia and Persia in the latter half of the fourth century B.C. (3).

606. PROBLEMS IN GREEK VASE PAINTING. CLC 606 is designed to provide graduate students with an introduction to Greek vase painting and to encourage them to work on material in the Robinson Collection at the University Museums. (3).

607. PROBLEMS IN GREEK SCULPTURE. CLC 607 is designed to introduce graduate students to current issues in Greek sculpture, and to encourage further study of the sculpture of Greece and Rome. (3).

608. PROBLEMS IN GREEK ARCHITECTURE. CLC 608 introduces graduate students to important issues and approaches to ancient architecture; the course will benefit those specializing in classical civilization, as well as students focusing on ancient literature or history. Graduate students in history or political science also may find this course a complement to their major studies. (3).

611. STUDIES IN GREEK HISTORY. An investigation of significant phases of Greek history based on a study of source materials. (1-3).

612. STUDIES IN ROMAN HISTORY. A similar consideration of Roman history. (1-3).

621. GREEK ART AND ARCHAEOLOGY. Greek architecture, sculpture, painting, and minor arts. Papers required on special problems. (1-3).

622. ROMAN ART AND ARCHAEOLOGY. Roman architecture, sculpture, painting, and minor arts. Papers required on special problems. (1-3).

691. INDIVIDUAL STUDY. Directed research on topics in ancient art and archaeology arranged according to needs of individual students. (1-6).

697. THESIS. (1-12).

ECONOMICS — ECON

Associate Professor Mark Van Boening, interim chair • 374 Holman Hall

Professors Belongia, Shughart, and Smith • Associate Professors Chappell, J. Conlon, Mayer, Moen, and Van Boening • Assistant Professors Archibald, Wang, and Young • Visiting Croft Professor Terasawa

MASTER'S DEGREE PROGRAM

The objective of the Master of Arts in Economics degree is to prepare students for doctoral studies in economics or business, for teaching positions at community colleges, or for careers as professional economists in business or government as researchers or policy analysts. The focal point of the program is the development of understanding of fundamental theories of micro- and macroeconomic behavior; development of necessary analytical skills for economic problem solving and empirical testing; and exposure to current economic research.

Admission • In addition to meeting Graduate School requirements, prospective students who have a 3.0 overall GPA and competitive scores on the general test of the Graduate Record Examination (GRE) may be admitted in full standing. A student not meeting these requirements may be admitted to conditional status.

Foundation Courses • No specific foundation courses are required for admission to full standing. It is recommended that all students present credit in courses in economics, including Economics 202, 203, and 230 (or their equivalent), and 18 hours in related courses, including two semesters of undergraduate engineering calculus.

Curricula • Candidates for the degree must present 30 hours of credit, including Economics 604 (or 530), 605, 606, and 609. A total of 9 hours in finance (FIN 634 and two 500-level courses) may be applied toward the M.A. degree. Alternately, 6 hours may be taken in mathematics, history, political science, computer science, MIS/POM, or marketing. A student may opt for a thesis, which constitutes 6 hours. A final comprehensive examination is required of all students during the last enrollment period.

Contact • Dr. Lewis Smith, M.A. program adviser, 235 Holman Hall, at (662) 915-5924, lsmith@olemiss.edu.

DOCTOR OF PHILOSOPHY

The program leading to the degree of Doctor of Philosophy in Economics is designed for students of exceptional ability who wish to do advanced work in preparation for careers in university teaching and research, or as staff specialists in business, government, or research organizations. The course of study is more expansive in scope and is of greater depth than the master's program, with programs individualized to fit each student's interest and background. Emphasis in the program is placed on the development of the student's capacity to analyze economic problems and to do original research.

Admission • Each student must meet the admission requirements for the Masters of Arts degree in economics as well as the Graduate School requirements for admission to the Ph.D. program.

Curriculum • A student must complete at least 54 graduate hours beyond the bachelor's degree or at least 30 approved graduate hours beyond the master's degree. Each student must meet the core requirements for the M.A. degree and present credit in Economics 530, 613, 614, 628, 630, and 631. A student must take two fields, each of which will consist of at least 9 hours of course work. One field may be in an approved area outside economics. Economics fields include applied microeconomics, applied macroeconomics, and econometrics.

Advisement • During the first enrollment period, doctoral students will be advised by the graduate coordinator. A graduate advisory committee subsequently will be appointed that will help plan and approve the student's program of study.

Written Comprehensive Examination • Each student must successfully complete a written examination in economic theory and econometric methods. This exam is administered during the spring semester of the student's second year in the program and covers material taught in the core curriculum.

Oral Comprehensive Examination • The oral comprehensive examination will be taken after the student has successfully completed the written comprehensive exam and all course work. The oral exam will cover the student's program of study.

Dissertation and Oral Defense • After the student has passed the oral comprehensive examination, a dissertation proposal must be successfully presented to and approved by a dissertation committee. After the dissertation is written, a final oral defense culminates the student's doctoral program at the University.

Contact • Dr. William F. Shughart II, graduate coordinator, 229 North Holman Hall, at (662) 915-7579, shughart@olemiss.edu

504. ECONOMIC ISSUES IN AMERICAN HISTORY. Trends and issues in American economic history from the colonial period to the present. Prerequisite: C minimum in ECON 202 and ECON 203. (3).

505. PUBLIC FINANCE. Economics of taxation and government spending. Impact of government fiscal operations on employment, price levels, resource allocation, income distribution, and economic growth. Prerequisite: C minimum in ECON 202 and ECON 203.(3).

506. PUBLIC FINANCE ADMINISTRATION. Federal budgeting practices and policies, intergovernmental fiscal relations, cost-benefit studies, economics of state and local governments. Prerequisites: ECON 505. (3).

510. INTERNATIONAL TRADE AND COMMERCIAL POLICY. Reason for trade; analysis of U.S. exports and imports; balance of trade; commercial policy, foreign exchange, gold problems; changing trends. Prerequisites: ECON 307, and a C minimum in both ECON 202 and ECON 203. (3).

520. SPECIAL TOPICS IN ECONOMICS. Selected issues, problems, research techniques, materials and policies, content varies. Prerequisites: consent of instructor. (Credit not available for degrees in economics or business administration). (3).

530. STATISTICAL METHODS FOR ECONOMICS AND FINANCE. A coverage of statistical methods to prepare students for future study of econometrics. ECON 530 is prerequisite to ECON 630. Prerequisite: MATH 262. (3).

540. SEMINAR IN ECONOMICS. Selected topics in economics, content varies. (May be repeated once for credit.) Prerequisite: consent of instructor. (3).

545. GAME THEORY AND STRATEGIC THINKING. Basic principles of strategic thinking and Game Theory. Applications to strategic firm interaction, incentives, and bargaining. Prerequisite: consent of instructor. (3).

581. COLLECTIVE BARGAINING. Prerequisite: MGMT 371, MGMT 383, and senior standing or higher. (Same as MGMT 581.) (3).

583. LABOR RELATIONS. (Same as MGMT 583.) (3).

601. INDUSTRIAL ORGANIZATION. Theoretical and applied microeconomics to aid in understanding the operation and performance of markets; analysis of market structures and their effects on pricing practices; economic impact of antitrust laws and government regulation upon businesses. (3).

602. MANAGERIAL ECONOMICS. Economic principles applicable to the solution of selected problems facing business decision makers; emphasis upon demand theory and estimation, production theory and cost estimation, pricing decisions, and capital budgeting. (3).

603. BUSINESS CONDITIONS ANALYSIS. The macroeconomic environment in which business firms must operate and foundations of governmental policy; issues and evidence pertaining to the development and implementation of these policies including the rate of economic growth, interpretation of economic trends, and forecasting business conditions. (3).

604. STATISTICAL METHODS FOR BUSINESS AND ECONOMICS. Statistical foundations and applications of nonparametric and multivariate analysis in business and economics. (Same as BUS 604.) (3).

605. MICROECONOMIC THEORY. Development of theories of consumption, production, and market interdependence which influence price, output, and resource allocation. Prerequisite: ECON 609 or consent of the instructor. (3).

606. MACROECONOMIC THEORY. Determination of income and employment, analysis of theories of consumption, investment and money holdings in the light of classical, Keynesian and post-Keynesian macroeconomic theories. Prerequisites: ECON 404 and ECON 609 or consent of instructor. (3).

607. SEMINAR. Guided individual research in current economic and business problems including research methodology. May be repeated once for credit. (3).

609. METHODS OF MATHEMATICAL ANALYSIS. Mathematical techniques for use in business and economics, methodology for investigation of empirical problems arising in business and economics. (3).

610. PUBLIC CHOICE. The theory of nonmarket decision making in a representative democracy. Topics include voting rules, legislative processes, bureaucracy, public goods, and the growth of government. (3).

612. OPERATIONS RESEARCH. Quantitative techniques for decision making, Bayesian analysis, Markov process, game theory, inventory control, queuing theory, and mathematical programming. Prerequisite: ECON 604 or ECON 609 or consent of instructor. (3).

613. HISTORY OF ECONOMIC THOUGHT. Economic thought from Renaissance to the 20th century, with special emphasis on the development of economic doctrines since the 18th century. (3).

- 614. ADVANCED MICROECONOMICS.** Multi-input, multi-output models, alternatives to the profit maximization objective, welfare theory. (Continuation of ECON 605). (3).
- 615. PUBLIC FINANCE.** Expenditure, revenue, and debt operations at the various levels of government, fiscal theories and programs designed to achieve economic goals. (3).
- 616. ECONOMIC DEVELOPMENT.** A survey of the economic theory of development. Topics covered will include early approaches to development theory, the neoclassical reaction, new planning models, research and infrastructure, urban and rural labor markets, population, trade, and the political context. (3).
- 617. LABOR ECONOMICS.** Advanced study of wage and employment theory, discussion of theory and empiricism associated with labor supply and mobility. (3).
- 619. MONETARY THEORY.** The ideal and practical role of money in the determination of economic activity. (3).
- 620. PUBLIC POLICY ANALYSIS.** A doctoral seminar on the analysis of selected public policy issues. Prerequisite: consent of the instructor. (3).
- 621. THEORY OF INTERNATIONAL TRADE.** Theory of international trade, theories of comparative advantage and effects of tariffs and other trade policies. Recent theories of trade in the presence of scale economics and/or imperfect competition. Prerequisite: ECON 605 or ECON 609 or consent of instructor. (3).
- 623. INTERNATIONAL MACROECONOMICS.** Behavior of output and employment under fixed and flexible exchange rates. Static and dynamic models of the balance of payments, current account, and exchange rate determination. Prerequisite: ECON 606 or consent of instructor. (3). (Z Grade).
- 624. ECONOMICS OF HUMAN RESOURCES.** Labor force concepts and their measurements; labor force participation, problem groups, and employment trends (regional and national); analysis of the human capital investment decision; growth of human capital and its effect on the economy. (3).
- 625. LABOR AND MANPOWER POLICIES AND PROBLEMS.** Advanced seminar on selected topics of current interest in labor and manpower; various techniques in analyzing particular types of problems in labor and manpower economics; special related research topics. (3).
- 628. ADVANCED MACROECONOMIC ANALYSIS.** Recent developments and major issues in contemporary macroeconomic theory and empirical research. Topics include equilibrium analysis, inflation theory, dynamic analysis, and growth models. (3).
- 630. ECONOMETRICS I.** Econometric methods, including estimation and testing of single equation models using classical least-squares, and maximum likelihood procedures. Problems related to single equation methods: serial correlation, heteroscedasticity, etc. Prerequisite: ECON 530 or consent of instructor. (3).
- 631. ECONOMETRICS II.** Advanced econometric methods and applications, including time-series analysis, multivariate regression, and simultaneous equation estimation and related problems. Prerequisite: ECON 630. (3).
- 650. RESEARCH COLLOQUIUM IN ECONOMICS AND FINANCE.** Presentation and discussion of current research in economics and finance. May be repeated for credit. (1). (Z Grade).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

ENGLISH — ENGL

Professor Joseph Urgo, chair • C128 Bondurant Hall

Professors Barbera, Fisher, Fisher-Wirth, Galef, J.R. Hall, Kamps, Kartiganer, Kullman, McClelland, Schirmer, and Urgo • Associate Professors Barker, McKee, Raber, Robinson, N. Schroeder, R. Schroeder, Watson, and Young-Minor • Assistant Professors Alabi, Fennelly, Gussow, Harker, Heyworth, López, and Trefzer • Writers-in-Residence Franklin and Hannah, and the John and Renée Grisham Emerging Southern Writer-in-Residence.

MASTER OF ARTS

Admission Requirements • Admission is competitive and based upon undergraduate transcripts, GRE general test scores, three recommendations, and a writing sample.

Course Requirements • Students must complete 26 hours of course work with a B average and also complete an additional 6 hours of thesis credit. ENGL 600 is required during the first fall semester of enrollment in full standing. Students must take 6 hours of course work in English or American literature before 1800 and 6 hours of English or American literature after 1800. Up to 6 hours may be taken in related disciplines and/or directed reading. Graduate instructors teaching freshman composition are required to complete ENGL 617 (Teaching College English).

The Program in Renaissance and Early Modern Studies • Students may receive an M.A. with an emphasis in Renaissance and Early Modern Studies by completing 6 hours of graduate course work in Renaissance and/or Early Modern Studies, and submitting a thesis on a Renaissance or Early Modern subject. Students are encouraged to take 3 hours in a related discipline such as history, religion, or art, provided the focus of the course is on the Renaissance or Early Modern period.

Students may receive a Ph.D. with an emphasis in Renaissance and Early Modern Studies by completing 21 hours of graduate course work in Renaissance and/or Early Modern Studies, including a minimum of 9 hours in the English Department and a minimum of 9 hours outside the English Department, and submitting a dissertation on a Renaissance or Early Modern subject. With the exception of the 6-hour requirement in literature after 1800 and the 6-hour limit on graduate course work in related disciplines, students must also satisfy all other general program requirements for the Ph.D. in English.

Foreign Language Requirement • Each student is expected to demonstrate evidence of proficiency in one foreign language, usually Greek, Latin, Spanish, French, German, or Italian, before the thesis defense. Proficiency is defined as a genuine working knowledge of the language. Ordinarily, it would be demonstrated by a grade of B or higher in 3 hours of resident course work in the literature of the appropriate foreign language (in the original), by a score in the 40th percentile or higher in the Graduate Student Foreign Language Test administered by the Educational Testing Service, or by a grade of B or higher in FR 599, GERM 599, or SPAN 599, Special Topics: Translation for Foreign Language Proficiency. Anyone seeking to satisfy the foreign language requirement in a language other than those listed must petition the graduate studies committee.

Thesis Defense • An oral defense is the final stage before the student is recommended for the degree.

MASTER OF FINE ARTS

Admission Requirements • Admission is competitive, based upon a writing sample, three recommendations, school transcripts, and GRE general test scores.

Course Requirements • Students with a B.A. must complete 36 hours of coursework with at least a B average, as well as 6 additional hours of thesis credit. Of the 36 hours, a minimum of 12 must be in creative writing workshops; at least 12 must be in literature courses (6 before 1800 and 6 after); and 3 must be in literary, critical, cultural, rhetorical, or composition theory. ENGL 600 is required during the first fall semester of enrollment in full standing. Students may take up to 9 hours in related disciplines and/or directed readings. Graduate instructors teaching freshman composition are required to take English 617 (Teaching College English). Students with an M.A. or other graduate degree may be released from some coursework, set by the graduate admissions committee.

Foreign Language Requirement • Each student is expected to demonstrate evidence of proficiency in one foreign language, usually Greek, Latin, Spanish, French, German, or Italian, before the thesis defense. Ordinarily, it would be demonstrated by a grade of B or higher in 3 hours of resident course work in the literature of the appropriate foreign language (in the original), by a score in the 40th percentile or higher in the Graduate Student Foreign Language Test administered by the Educational Testing Service, or by a grade of B or higher in FR 599, GERM 599, or SPAN 599, Special Topics: Translation for Foreign Language Proficiency. Anyone seeking to satisfy the foreign language requirement in a language other than those listed must petition the graduate studies committee.

The M.F.A. Thesis • The M.F.A. thesis is a book-length manuscript of either poetry or prose. Students are to work with a committee of three faculty members, one of whom will be the student's supervisor.

Comprehensive Final Examination • Before submitting the M.F.A. thesis, each student must pass a four-hour written test on topics on literature and related fields. The exam is set by the student's M.F.A. committee.

Thesis Defense • An oral defense before the committee, lasting approximately 1 hour, is the final stage before the student is recommended for the degree.

DOCTOR OF PHILOSOPHY

Admission Requirements • Admission is competitive and based upon undergraduate transcripts, GRE general test scores, recommendations, and a writing sample. The applicant must have received a bachelor's or master's degree in English or its equivalent from a compatible institution and must satisfy the Graduate School's requirements for admission to doctoral study.

Ph.D. Committee • Each student, working in collaboration with the director of graduate studies, puts together a Ph.D. committee, comprised of three members of the English department graduate faculty whose teaching and research interests complement the student's own plans for doctoral study. The student and his or her Ph.D. committee design an individual program of study which contributes significantly to the student's familiarity with the broad scope of literary history; and with areas such as linguistics, rhetoric, theory, methodology, criticism, canonicity, and the reciprocities between literature and culture. The responsibilities of the Ph.D. committee include supervising foreign language study; setting, administering, and evaluating the Candidacy Examination and admitting the student to candidacy; evaluating the dissertation prospectus; supervising and approving dissertation work; conducting and evaluating the oral dissertation defense; and recommending the conferral of the degree.

A fourth (extradepartmental) examiner works with the committee to evaluate the candidate's work from the prospectus stage forward. (See Dissertation Prospectus.)

Course Requirements • The Graduate Admission Committee will determine the amount of course work required of students entering the program; this requirement will be at least 24 hours of graduate course work beyond the master's degree, and at least 18 hours dissertation credit. Students are required to take ENGL 600 during the first fall semester of enrollment in full standing and ENGL 601 during the first fall semester after defending the dissertation prospectus. The student's graduate course work will include 6 hours of course work in English or American literature before 1800, 6 hours of course work in English or American literature after 1800, and 3 hours of course work in literary, critical, cultural, rhetorical, or composition theory. Up to 6 hours of graduate course work may be taken in related disciplines and/or independent study. All graduate course work except ENGL 601 must be completed before a candidate may submit any section of the Candidacy Exam. Graduate instructors teaching in the composition program are required to complete ENGL 617 (Teaching College English).

Foreign Language Requirement • Each student is expected to demonstrate evidence of proficiency in one foreign language. Proficiency is defined as a genuine working knowledge of the language. Ordinarily, it would be demonstrated by a grade of B or higher in 3 hours of resident course work in the literature of the appropriate foreign language (in the original), by a score in the 40th percentile or higher in the Graduate Student Foreign Language Test administered by the Educational Testing Service, or by a grade of B or higher in FR 599, GERM 599, or SPAN 599, Special Topics: Translation for Foreign Language Proficiency. Anyone seeking to satisfy the foreign language requirement in a language other than those listed must petition the graduate studies committee. Note that this requirement is a recommended departmental minimum; an individual student's Ph.D. Committee may well require alternate or further study. All foreign language requirements must be satisfied before a candidate may take the oral section of the Candidacy Examination.

Candidacy • Admission to candidacy follows the successful completion of the Candidacy Examination. The examination, which is both written and oral in form, tests the candidate's knowledge of two areas of inquiry, consisting of (1) an historical period in British or American literature and (2) a special topic. (Special topics include, but are by no means limited to, the representative writings of a single author or select group of authors studied intensively and supplemented by relevant secondary materials; the intensive study of a single genre, supplemented by relevant theory, criticism, and literary history; issues of rhetoric, structure technique, gender, race, power, ideology, culture, literary theory, methodology, intellectual history, canonicity, and interdisciplinarity.) The candidate and the Ph.D. committee will draw up and agree upon an intensive reading list for each of the two areas of inquiry. Both reading lists must be formally approved at a single meeting of the Ph.D. Committee, at which copies of each list must be initialed and dated by the student and each member of the committee for submission to the Graduate Student Studies Director. This meeting must take place by no later than one semester after the student completes the classroom course work for the degree. All members of the committee will participate in evaluating the written and oral sections of the examination, and in all future responsibilities of the committee.

The written section of the examination is an original, article-length (20-25-page) publishable* research paper on the special topic area and its reading list. The essay is expected to address the topic in a thorough, critically responsible manner, not to provide a broad overview of the materials on the reading list. This essay must be submitted to the Ph.D. committee within six months of either the completion of the student's final semester of classroom course work or the date of final approval of the reading lists, whichever comes later.

The reading lists and topic of the written research paper should be arrived at through consultation between the student and his or her committee. The topic should be a fresh undertaking for the student, although certainly it may be derived from course work. The topic should reflect an interest in and knowledge of the exam area it is to represent; that is, although narrow in focus, the topic should be situated convincingly within the context of its area. It should illuminate as well as be illuminated by the area of study in which the student has located it. A kind of two-way street ought to be apparent in the finished work: the research paper providing insight into the special topic, the special topic expanding the implications of the paper.

Students and committees are encouraged to work closely together, especially during the formative stage of the topic. Some sort of outline or prospectus may well be a part of this stage, although full or fragmentary drafts should not be. Once the student submits the research paper, the committee will respond in one of three ways: acceptance, rejection, or request for revision. In the event of the last option, a single revision will be permitted to be resubmitted according to a schedule agreed on by the student and the Ph.D. committee but ordinarily within one month of the student's notification of the need to revise. If the research paper is rejected, either at first or after revision, the student is not permitted to continue in the Ph.D. program.

The oral section of the examination may be taken only after all foreign language requirements have been satisfied and the written section of the examination has been accepted. The student must pass the oral examination within 18 months of either the completion of the student's final semester of classroom course work or the date of final approval of the reading lists, whichever comes later. Ordinarily two hours in length, the oral is a comprehensive exam covering the primary and secondary materials from the historical period list. The student should be able to discuss these materials critically and comparatively. The exam is graded Pass or Fail. On passing the oral examination, the student is admitted to candidacy. A failed oral may be retaken once, at a time agreed on by the student and the Ph.D. committee but within the time constraints described above. If the student fails the oral again, s/he is not permitted to continue in the Ph.D. program.

***The concept of the "publishable paper" should be understood as a descriptive rather than a valuative term. Such a paper should be original, demonstrating a familiarity with relevant secondary sources to support that claim. It should constitute a complete argument within the range of the 15- to 25-page paper.**

Dissertation Prospectus • Within six months of admission to candidacy, the candidate is expected to submit a dissertation prospectus to the Ph.D. committee and an outside (extradepartmental) examiner. The prospectus is a statement of a problem the student intends to address, and a brief narrative indicating the direction of future reading and research toward the dissertation; it should also include some sort of methodological statement and a rudimentary bibliography. The Ph.D. committee and the outside examiner will conduct a formal prospectus defense, which the candidate must pass in order to proceed with dissertation work.

Dissertation • The candidate is required to complete a book-length research project that makes an original and significant contribution to the field of literary studies. After the dissertation is completed and approved, the Ph.D. committee and the outside examiner will conduct an oral dissertation defense, which the candidate must pass before conferral of the degree is recommended.

NOTE: For a course marked with an asterisk the content varies; it may be repeated for credit.

501. DESCRIPTIVE GRAMMAR. An examination of English grammar, with special attention to usage on different levels, formal and informal, standard and nonstandard, written and spoken; emphasis on phonology, morphology and descriptive theories of grammar. (Same as LING 501). (3).

502. HISTORICAL LINGUISTICS. Study of words, speech languages, and language changes from the point of view of evolution in the course of time, particularly in Indo-European languages. (3).

503, 504. OLD ENGLISH. The Old English language, with some attention to development of Modern English; translation of Old English prose and poetry, including Beowulf. (3, 3).

505. HISTORY OF THE ENGLISH LANGUAGE The development of the language from Old English to the present with particular attention to phonology and morphology. (3).

506. SEMANTICS. Study of word meaning in human languages, especially English, history, issues, and theories of semantics. Prerequisite: ENGL 401, ENGL 501 or ENGL 592. (Same as LING 509). (3).

520. TEACHING WRITING FOR THINKING. This course examines current theories and practices of teaching writing. The course focuses on the process theory of writing to foster thinking and learning in subject areas, collaborative learning, and error analysis and grammar instruction. (3).

521. NON-FICTION WRITING. Direction of individual writing projects. Prerequisite: consent of instructor. May be repeated once for credit. (3).

535. GRADUATE-LEVEL FICTION WRITING. English 535 is a graduate-level fiction seminar for the creation of original work and critical analysis. May be repeated for credit. (3).

536. POETRY SEMINAR. Advanced seminar in poetry writing for graduate students and undergraduates who have completed English 419 or have the instructor's permission. May be repeated for credit. (3).

566. FAULKNER STUDIES. A study of the relationship between Faulkner's novels and the geography, history, and people of North Mississippi. (3).

588. WRITING THEORY. This course examines theories of rhetoric and composing as they conflict and converge to form our prevailing theories of writing. Following a brief survey of rhetorical theory, ancient to modern, the course focuses on contemporary theories of composing written discourse. (3).

592. MODERN ENGLISH GRAMMAR. Advanced treatment of syntactic structures, with special attention to current interpretations; emphasis on morphology and generative transformational theories of syntax. (Same as LING 592). (3).

595.* SEMINAR IN LINGUISTICS. (Same as ANTH 595 and LING 595). (3).

595. TOPICS FOR ENGLISH TEACHERS. Intensive study of a special topic in English designed for secondary school teachers. Emphasis on research and writing pedagogy and classroom resources. May not be applied toward the M.A., M.F.A., or Ph.D. in English. May be repeated one time for credit. (3).

599. SPECIAL TOPICS IN ENGLISH. Content varies. May be repeated one time for credit. (3).

600. INTRODUCTION TO GRADUATE STUDY. The graduate classroom, research and academic writing in literary studies, literary theory. (2).

601. PROFESSIONAL ISSUES IN GRADUATE STUDY. History, politics, and economics of the profession of literary studies; current trends in academic professionalism. (1).

603.* STUDIES IN EARLY ENGLISH LITERATURE (3).

605. MIDDLE ENGLISH. The Middle English language, with some attention to the development of modern English; the reading of representative writers other than Chaucer. (3).

606. CHAUCER. Chaucer's major works. (3).

607.* STUDIES IN MIDDLE ENGLISH LITERATURE. (3).

608. BIBLIOGRAPHICAL TOOLS AND METHODS. (3).

609.* STUDIES IN 16th CENTURY LITERATURE Restricted to poetry or to prose. (3).

611.* STUDIES IN SHAKESPEARE. (3).

613.* STUDIES IN THE ENGLISH DRAMA. (3).

615.* FUNDAMENTALS OF LINGUISTIC SCIENCE. Analysis of methods of describing any given language and of reconstructing its history, with outside papers emphasizing students' own linguistic interests. (3).

617. TEACHING COLLEGE ENGLISH. Introductory course in writing theory, teaching practices, and research in composing. (3).

619. STUDIES IN AFRICAN AND AFRICAN DIASPORIC LITERATURES. A seminar that focuses on different topics in African and African diasporic literatures. Content varies. May be repeated for credit. (3).

620. STUDIES IN POSTCOLONIAL LITERATURE, CULTURE, AND CRITICISM. A seminar that examines some specific aspect of postcolonial studies. Content will vary, emphasizing different authors, geographic areas, critical approaches, and/or historical periods according to the instructor's design. May be repeated for credit. (3).

625. MODERN AMERICAN DRAMA. American drama of the 20th century. Prerequisite: consent of the instructor. (3).

631. MILTON. Milton's writings, with special attention to his poetry, his life, and his times. (3).

633.* 17th CENTURY STUDIES. (3).

640. BRITISH LITERATURE OF THE RESTORATION AND 18TH CENTURY. Emphasis on the principal writers of England, 1660-1800. (3).

641.* 18th CENTURY STUDIES. (3).

643. THE ENGLISH LYRIC. (3).

645.* STUDIES IN THE ENGLISH NOVEL. (3).

653. THE STUDY OF FILM. A seminar on various approaches to the study of film and film research. A research paper is required, as well as attendance at weekly film showings, related lectures, and seminar meetings. (3).

654. SPECIAL TOPICS IN FILM STUDY. Content varies. Prerequisite: ENGL 353 or ENGL 653. (3).

655.* STUDIES IN THE ROMANTIC PERIOD. (3).

657.* STUDIES IN THE VICTORIAN PERIOD. (3).

658.* STUDIES IN MODERN BRITISH LITERATURE. (3).

659.* STUDIES IN CONTEMPORARY LITERATURE. Selected literature of the post-war period. (3).

661. FAULKNER. A critical analysis of selected novels and short stories. (3).

663.* STUDIES IN MAJOR AMERICAN WRITERS. (3).

666. RESEARCH IN COMPOSITION. An examination of the research being done in the field of composition. Students will design and implement research projects. (3).

667.* STUDIES IN THE AMERICAN NOVEL. (3).

668.* STUDIES IN EARLY AMERICAN LITERATURE (3).

669.* STUDIES IN 19th CENTURY AMERICAN LITERATURE. (3).

670.* STUDIES IN MODERN AMERICAN LITERATURE. (3).

675.* STUDIES IN AMERICAN LITERARY REGIONALISM (3).

676.* STUDIES IN SOUTHERN LITERATURE. This is an advanced graduate seminar that investigates special topics in Southern literature; content varies and may be repeated for credit. (3).

681. GRADUATE FICTION SEMINAR. English 681 is an intensive fiction seminar restricted to graduate students only. Prerequisite: ENGL 535 or permission of instructor. (3).

682. GRADUATE POETRY SEMINAR. This is an intensive graduate poetry seminar focusing primarily on the production of original poetry but also training students in reading, critique, performance, and how to submit work for publication. (3).

683. FORM, CRAFT, AND INFLUENCE. English 683 is a literature course for writers, emphasizing style and technique. Prerequisite: at least one 500-level-or-above workshop in any genre, or permission of instructor. (3).

685. THEORY AND CRITICISM OF POETRY. (3).

- 686. STUDIES IN GENRE.** Special topics in the literary discourses of genre. Content varies and may be repeated for credit. (3).
- 687. STUDIES IN LITERATURE AND THE ENVIRONMENT.** A seminar on environmental poetry, fiction, and/or nonfiction; nature writing; and/or ecocriticism and ecocriticism. Repeatable for credit. (3).
- 688.* STUDIES IN COMPOSITION AND RHETORIC.** Content varies. May be repeated for credit. (3).
- 690. THE MODERNIST COLLOQUIUM.** A faculty-graduate student colloquium focusing on aspects of Modernism: the range of literature and thought from the romantic period in Europe and the United States to the present. Students admitted by permission of instructor based upon presentation of an acceptable prospectus and evidence of experience and knowledge in the field. (May be repeated once for credit). (3). (Z grade).
- 691.* STUDIES IN CRITICAL THEORY.** Content varies. May be repeated for credit. (3).
- 692.* CULTURAL STUDIES.** The critical concept of literature as a reflection of culture. Content varies. (3).
- 693. DIRECTED READING IN ENGLISH LITERATURE.** Prerequisite: consent of instructor. (3).
- 694.* STUDIES IN GENDER THEORY.** Content varies. May be repeated once for credit. (3).
- 695. DIRECTED READING IN AMERICAN LITERATURE.**
- 696. DIRECTED RESEARCH.** Individual directed research in literature, language, and criticism. Credit not applicable to graduate degree programs in English. May be repeated. (1-6). Prerequisite: consent of instructor. (3).
- 697. THESIS.** (1-12).
- 717. INTERNSHIP SEMINAR IN COLLEGE ENGLISH.** (3). (Z grade).
- 757. M.F.A. THESIS HOURS. INDEPENDENT STUDY AND WRITING.** (1-12).
- 797. DISSERTATION.** (1-18).

FRENCH See Modern Languages.

GEOLOGY See Geological Engineering, School of Engineering.

GERMAN See Modern Languages.

HISTORY — HIST

Associate Professor Robert J. Haws, chair • 310 Bishop Hall

Professors Eagles, Field, Gispén, Namorato, Ownby, E. Payne, Skemp, Watt, and Wilson • Associate Professors Bercaw, Esposito, Grayzel, Haws, Lorenzo, J.F. Payne, Ross, Sullivan-Gonzalez, and Ward • Assistant Professors Dinius, Howard, Hornsby, Levitt, Neff, and Shadle

The History Department offers graduate students the opportunity to work closely with their advisers to pursue varied and flexible programs of study. Students are expected to show dedication and achieve a high level of performance.

Graduate Committee • The various aspects of the graduate programs will be administered by a three-member graduate committee appointed by the department chair.

MASTER OF ARTS

Admission Requirements • In addition to meeting Graduate School requirements, prospective students will normally be expected to have an undergraduate major in history and should show evidence of a strong undergraduate record overall. The Department's graduate committee will decide on admission upon evaluation of the applicant's undergraduate and other academic records, faculty recommendations, aptitude scores of the Graduate Record Examination, and a short written statement of purpose.

Thesis and Nonthesis M.A. • Students have the option of following one of the two paths leading to the M.A. The thesis option requires 24 hours of course work and 6 hours of thesis work. The nonthesis option requires 36 hours of course work.

Course Work • Students should pursue a rationally structured course program, to be designed on an individual basis in close consultation with the Graduate Advisory Committee. As part of this program, students must take the Historical Methods course (550), at least three other 500-level courses, and at least one 700-level research seminar. Students may, with the prior approval of the Graduate Advisory Committee, take 3 to 9 hours of graduate credit (500 level or above) outside the History Department.

Foreign Language and Quantitative Skills Requirement • Students who choose the thesis option may be required by the thesis director to demonstrate proficiency in a foreign language and/or a quantitative technique.

Examinations • Nonthesis option students must pass an oral examination to be administered by a three-member ad hoc examination committee. This committee will be constituted and convene for the examination upon consultation between the student and the graduate committee.

Students opting for a thesis should by the end of their second semester have selected a faculty member in the department who is willing to direct their thesis. The thesis director in consultation with the student and the graduate committee will select two additional faculty members willing to serve as readers and members of a thesis committee. The thesis director will be the student's primary adviser and liaison with the graduate committee, and together with the other two members of the thesis committee conduct and pass judgment on the final oral examination as well as evaluate the thesis.

DOCTOR OF PHILOSOPHY

In addition to the Graduate School requirements for the Ph.D., the doctoral program in history includes the following specific requirements and regulations:

Admission • Admission is limited to those whose scholastic record shows distinct promise of success in graduate study. The M.A. in History or its equivalent is required. At the discretion of the graduate committee, students who have obtained the M.A. in History from The University of Mississippi may be admitted to the Ph.D. program. Holders of an M.A. degree from other institutions must submit the same application materials as described under the heading "Admission Requirements" in the section dealing with the M.A. program.

Advisers • Each graduate student is expected to select an adviser in the intended research area (or area of specialization), who is willing to act in that capacity, not later than the end of the second semester in the program. That adviser will consult with the student on the student's schedule. Students also shall be advised and have their schedules approved by the Department's Graduate Advisory Committee.

Foreign Language Requirement • Students must meet a minimum requirement of proficiency in one foreign language. The requirement may be met by either of the following methods:

1. Attainment of a passing grade of B or better in a fourth-semester (202-level) language course taught at The University of Mississippi. An equivalent course which has been completed within three calendar years prior to enrollment in the graduate program will satisfy this requirement.
2. Attainment of a passing grade on a departmentally administered translation exam or certification from another history department that the student has passed an equivalent translation exam within three calendar years prior to enrollment in the graduate program.

In certain fields a second language may be required. Students whose native language is not English are excused from the foreign language requirement.

Admission to Candidacy • An applicant will be admitted to candidacy when the language is satisfied, a minimum of 60 semester hours has been completed (including the program for the master's degree but not including 18 hours of dissertation credit), the written and oral comprehensive examinations on the area of specialization and minor areas have been passed, and the graduate faculty of the department considers that the student is adequately prepared to proceed to the development of a dissertation. A prospectus describing the topic to be researched and the research materials to be used must be approved by the Graduate faculty of the History Department before the title and topic are reported to the Graduate School.

Ph.D. Examination Fields • Students are required to concentrate on one major field and pursue additional work in two minor fields. The five major fields among which students may choose are:

- United States to 1877
- United States since 1877
- Medieval Europe
- Early Modern Europe to 1815
- Modern Europe since 1789

A student choosing a major field in United States history must have at least one minor field outside of United States history, and a student choosing a major field in European history must have a minor field outside of European history.

The minor fields are:

- Any one of the five areas designated as major fields above

Modern Latin America

Africa

Other fields inside or outside the department, to be selected and designed by the student with the approval of the graduate committee.

Course Work • Ph.D. students should pursue a rationally structured course program, to be designed on an individual basis in close consultation with the Graduate Advisory Committee. In addition to Graduate School requirements, the following Departmental course requirements must be met. Students who have not previously taken a graduate-level bibliography/methods course must take History 550 as soon as it is offered. Before they may petition to take the comprehensive examination, all Ph.D. students must take at least one 700-level research seminar, at least two 600-level courses, and at least 6 hours of graduate course work in each of their minor fields. Students are strongly urged to take more than the prescribed minimum of course work. Upon consultation with the Graduate Advisory Committee, students may take 3 to 12 hours of graduate-level courses related to one or more of their fields outside the department. Up to 12 hours of such outside course work may be taken in one discipline to constitute a minor field outside the department.

Comprehensive Examinations • Ph.D. students are required to take written examinations in each of their two minor fields and a combined written and oral examination in their major field. The written and oral examinations for the minor fields and the major field are to be prepared, conducted, and evaluated by a committee of at least three faculty members in each case. The examination committees are appointed by the Graduate Advisory Committee in consultation with the student and the dissertation director. If one of the minor fields is outside the department, the examination committee in that field is to be composed of two faculty members from the outside department(s) and one faculty member from the History Department. A student who fails a comprehensive examination is allowed to retake the examination one time. Comprehensive examinations will be offered two or three times per year at designated times. These times will be publicized and made available to all graduate students and faculty.

Ph.D. Dissertation • Ph.D. students must select a faculty member in the department who is willing to direct a dissertation in their major field no later than the end of their third semester. The dissertation director in consultation with the student and the Graduate Advisory Committee will select two additional faculty members willing to serve as readers and members of a dissertation committee. The dissertation director will be the student's primary adviser and liaison with the Graduate Advisory Committee, and together with the other two members of the dissertation committee pass judgment on the dissertation.

Final Oral Examination • The final oral examination is directed primarily to the defense of the dissertation.

The Department of History will offer 500-level courses for graduate credit at the off-campus centers of The University of Mississippi as scheduling permits. However, students should not expect to be able to take all of their course work at off-campus centers. All 500-level courses in history can only be taken for graduate credit.

505. HISTORIOGRAPHY OF AMERICAN HISTORY THROUGH RECONSTRUCTION. An examination of the major issues, sources, theories, and interpretations from the exploration and settlement (or invasion) of North America by Europeans through the Reconstruction period in U.S. history. (3).

506. HISTORIOGRAPHY OF U.S. HISTORY SINCE RECONSTRUCTION. An examination of the major issues, sources, theories and interpretations from the Civil War to the present. (3).

509. HISTORIOGRAPHY OF AFRICAN-AMERICAN HISTORY. An introduction to the research methodology and principles of historiography as applied to specific events and issues in African-American history. The course will focus on how African-American history has been and is being written. Topics include the major historians, philosophies of history, types and uses of evidence and fields in investigation. (3) (May not be used to complete History Department M.A. 500-level historiography requirements.) (3).

550. HISTORICAL METHODS AND PHILOSOPHY OF HISTORY. An introduction to advanced historical research tools and methods and an examination of the different varieties of historical interpretation. (3).

551. HISTORIOGRAPHY OF EUROPEAN HISTORY TO 1815. An examination of the major issues, sources, theories and interpretations from late antiquity through the French Revolution. (3).

552. HISTORIOGRAPHY OF EUROPEAN HISTORY SINCE 1789. An examination of the major issues, sources, theories, and interpretations from the French Revolution to the present. (3).

605. READINGS IN U.S. HISTORY THROUGH RECONSTRUCTION. Selected periods and topics. (May be repeated for credit). (3).

606. READINGS IN U.S. HISTORY FROM THE CIVIL WAR TO THE PRESENT. Selected periods and topics. (May be repeated for credit). (3).

607. READINGS IN SOUTHERN U.S. HISTORY. Selected periods and topics. (May be repeated for credit). (3).

611. READINGS IN THE ERA OF THE U.S. CIVIL WAR. Examination of major topics in U.S. history, 1850-1877. (3).

612. READINGS IN U.S. HISTORY IN DEPRESSION AND WAR. Examination of major topics in U.S. history, 1917-1945. (3).

613. READINGS IN CONTEMPORARY U.S. HISTORY. Examination of major topics in U.S. history after 1945. (3).

651. READINGS IN EUROPEAN HISTORY TO 1815. Selected periods and topics. (May be repeated for credit). (3).

- 652. READINGS IN EUROPEAN HISTORY SINCE 1789.** Selected periods and topics. (May be repeated for credit). (3).
- 653. READINGS IN RUSSIAN HISTORY.** Selected periods and topics. (May be repeated for credit). (3).
- 660. READINGS IN GENDER HISTORY OF MODERN EUROPE.** Topics in the gender history of modern Europe and its colonial empires. (3).
- 661. READINGS IN THE HISTORY OF EUROPE AND THE ATLANTIC WORLD.** Topics in the history of European expansion into the Atlantic basin. (3).
- 662. READINGS IN THE HISTORY OF STALINISM.** Examines the evolution of the Soviet experiment. (3).
- 663. READINGS IN THE HISTORY OF MODERN CONSUMERISM.** Examines the changing nature of consumerism in 19th and 20th century Europe and United States. (3).
- 664. READINGS IN THE HISTORY OF 20TH CENTURY ECONOMIC AND SOCIAL POLICY.** Examines major themes of global social and economic history in the 20th century. (3).
- 670. READINGS IN THE HISTORY OF SLAVERY IN AFRICA.** Examines slavery in Africa and the movement of enslaved Africans overseas. (3).
- 671. READINGS IN THE HISTORY OF COLONIALISM IN AFRICA.** Examines European colonialism in 19th and 20th century Africa. (3).
- 681. READINGS IN BRITISH HISTORY TO 1815.** Selected periods and topics. (May be repeated for credit). (3).
- 682. READINGS IN BRITISH HISTORY SINCE 1815.** Selected periods and topics. (May be repeated for credit). (3).
- 686. READINGS IN COLONIAL LATIN AMERICAN HISTORY.** Examination of the historical writing on the colonial period of Latin American history. (3).
- 687. READINGS IN THE SOCIAL MOVEMENTS OF MODERN LATIN AMERICA.** Topics in the history of political and social movements of 19th and 20th century Latin America. (3).
- 688. READINGS IN THE HISTORY OF RACE AND ETHNICITY IN LATIN AMERICA.** Topics in the history of racial and ethnic identity in Latin America. (3).
- 689. READINGS IN THE HISTORY OF SECULARIZATION AND SACRALIZATION IN LATIN AMERICA.** Topics in the religious history of Latin America. (3).
- 690. READINGS IN THE HISTORY OF GENDER AND POWER IN LATIN AMERICA.** Topics in the history of gender identity in Latin America. (3).
- 691. READINGS IN MODERN LATIN AMERICAN HISTORY.** Selected periods and topics since 1825. (May be repeated for credit). (3).
- 692. READINGS IN AFRICAN HISTORY.** Selected periods and topics. (May be repeated for credit). (3).
- 693. READINGS IN GENERAL UNITED STATES HISTORY.** Selected periods and topics. (May be repeated for credit). (3).
- 694. READINGS IN GENERAL EUROPEAN HISTORY.** Selected periods and topics. (May be repeated for credit). (3).
- 695. READINGS IN CHINESE HISTORY.** Topics in the history of late imperial and modern China. (3).
- 697. THESIS.** (1-12).
- 698. SPECIAL TOPICS.** Prerequisite: consent of adviser and committee. (3).
- 701. RESEARCH SEMINAR IN U.S. HISTORY THROUGH THE CIVIL WAR.** (May be repeated for credit). (3).
- 702. RESEARCH SEMINAR IN U.S. HISTORY FROM THE CIVIL WAR TO THE PRESENT.** (May be repeated for credit). (3).
- 751. RESEARCH SEMINAR IN EUROPEAN HISTORY TO 1815.** (May be repeated for credit). (3).
- 752. RESEARCH SEMINAR IN EUROPEAN HISTORY SINCE 1789.** (May be repeated for credit). (3).
- 781. RESEARCH SEMINAR IN BRITISH HISTORY TO 1815.** (May be repeated for credit). (3).
- 782. RESEARCH SEMINAR IN BRITISH HISTORY SINCE 1815.** (May be repeated for credit). (3).
- 791. RESEARCH SEMINAR IN MODERN LATIN AMERICAN HISTORY.** (May be repeated for credit). (3).
- 797. DISSERTATION.** (1-18).

JOURNALISM — JOUR

Professor Samir Husni, interim chair • 331 Farley Hall

Professor Husni • Associate Professors I.E. Atkins, and Manning-Miller • Assistant Professors Braseth, Cheers, Schultz, and Wickham

The graduate program in journalism is an “academic” rather than a “professional” program. M.A. students planning to enter media careers (especially those without extensive academic or professional background in journalism) may, however, pursue a course of study combining undergraduate and graduate JOUR courses. Such students will inevitably take more than the minimum required number of semester hours in their post-graduate academic program. Only courses numbered 500 and above may be considered for graduate-degree credit.

Admission requirements • In addition to meeting graduate school admission requirements (see Admission Procedure, under “Entering the Graduate School,” elsewhere in this catalog), applicants must submit a letter detailing their reasons for wishing to pursue an M.A. in Journalism. Please send this letter directly to the Journalism Department. Applicants also

should provide three letters of recommendation, including one addressing the applicant's mass media experience, if applicable.

Academic Requirements • Applicants who do not have the equivalent of an undergraduate major in journalism will be required to take 12 hours of approved undergraduate JOUR courses (reduced by any acceptable undergraduate journalism hours which have been completed) in addition to one of the programs of study outlined below. Students who do not have the equivalent of an undergraduate major in journalism but who have work experience in the field may submit appropriate credentials and work samples to be considered in lieu of undergraduate courses.

Thesis or thesis -project option • Students take a 30-semester-hour program of study, as follows: JOUR 651, 652, 654 and 655; 6 hours of graduate-level JOUR electives; 6 hours of graduate course work in an area of concentration outside the department; and 6 hours of JOUR 697 to complete a thesis or thesis project. A thesis project must be a professional work in an appropriate medium equal in scope to a formal thesis, i.e., based on a formal proposal encompassing problem analysis, literature review, method statement and bibliography. Both the thesis and the project require approval of a written prospectus and an oral examination. Students pursuing the thesis/thesis -project option must pass a written comprehensive examination before registering for thesis credits.

Nonthesis option • Students take a 30-semester-hour program of study, as follows: JOUR 651, 652, 654 and 655; 9 hours of graduate-level JOUR electives; and 9 hours of graduate course work in an area of concentration outside the department. Nonthesis students also must pass a written comprehensive examination.

513. THE PRESS AND THE CHANGING SOUTH. An analysis of politics in the southern United States; examination of the role of the press in covering social issues; techniques used to inform the public about phenomena such as protest movements and their impact on social, political, and economic change. (3).

553. SERVICE JOURNALISM MANAGEMENT. Business aspects of magazine publication. Personnel management with emphasis on getting productivity and quality results from creative people. Prerequisite: JOUR 401. (3).

573. MASS COMMUNICATIONS, TECHNOLOGY, AND SOCIETY. The theory of mass communications technology in relation to media functions, responsibilities, and influence in society. (3).

574. PUBLIC OPINION AND THE MASS MEDIA. Effects of language, culture, and ideology. Communication in the formation and action of crowds, masses, and publics. Mass and personal persuasion and propaganda techniques. The diffusion of ideas. Community power structures. Public opinion measurement. (3).

575. MASS MEDIA ETHICS AND SOCIAL ISSUES. Formulation and discussion of professional ethics for journalists. Analysis of social forces affecting media performance. (3).

577. DEPTH REPORTING. Investigative and interpretative news writing; coverage of courts and legislative bodies; use of public records. Laboratory. (3).

578. TELEVISION DOCUMENTARY REPORTING. Development of skills in conceiving, documenting, recording, and presenting information at broadcast standards as mini-documentaries in television newscasts or as 30-minute and 60-minute documentary programs. Prerequisite: JOUR 378 or instructor's permission. (3).

580. TOPICS IN JOURNALISM. Perspectives on issues such as international mass communication, media and society, journalism ethics, diversity, communication theory, etc. Prerequisite: consent of instructor. (May be repeated for credit.) (3).

599. MEDIA PROBLEMS. Directed individual study or professional project. Prerequisite: permission of faculty supervisor and department chair. (1-3).

651. RESEARCH IN MASS COMMUNICATIONS. Introduction to basic procedures for gathering and evaluating information in mass communications. (3).

652. SEMINAR IN MASS COMMUNICATION THEORY. A survey of mass communication theory. (3).

653. PROBLEMS IN PUBLIC OPINION. Integration of theory with research methods for the production of a research project which may be the basis of a proposal for a thesis or thesis project. (3).

654. SEMINAR IN COMMUNICATIONS LAW. Continuation of Communication Law with concentration on specific areas of law in regard to the mass media. Prerequisite: JOUR 371 or instructor's permission. (3).

655. SEMINAR IN HISTORY OF MASS MEDIA. Concentrated analysis and discussion of readings on media history. Prerequisite: 301 or instructor's permission. (3).

657. SEMINAR IN HUMAN COMMUNICATION THEORY. Readings in human communication theory from anthropology, philosophy, psychiatry, psycho-linguistics, psychology, neurophysiology, and sociology. (3).

680. ADVANCED TOPICS IN JOURNALISM. Advanced perspectives on issues such as international mass communication, media and society, journalism ethics, diversity, communication theory, etc. Prerequisite: Consent of instructor. (May be repeated for credit.) (3).

697. THESIS. (1-12).

MATHEMATICS — MATH

Associate Professor Tristan Denley, chair • 305 Hume Hall

Professors Buskes, Hopkins, Labuda, Paterson, Reid, and Staton • Associate Professors Bowman, Cole, Denley, and Kranz
• Assistant Professors Peng, Wei, and Wu

MASTER OF ARTS OR MASTER OF SCIENCE

Program • The programs for the master's degree in mathematics are designed to meet the needs of four groups: (1) students attracted to mathematics as a major scholarly pursuit, including students who plan eventually to work toward the doctorate in this field; (2) students preparing for the teaching of mathematics, particularly in high schools and community colleges; (3) students preparing for nonteaching professions or vocations, such as Civil Service, actuarial work, or statistical work, in which mathematics plays a principal part; (4) students who wish to supplement study in other fields with suitable courses in mathematics.

Prerequisite • The full four-semester sequence of calculus is prerequisite to all graduate courses. Prerequisite to a major graduate program is a background preparation in mathematics equivalent to the undergraduate major in the College of Liberal Arts; that is, courses through calculus, supplemented by at least 18 hours in mathematics on the higher level that is to include the advanced calculus sequence.

Foreign Language Requirement • A reading knowledge of French or German is desirable, especially for the first group named above, but is not a requirement for the master's degree.

MASTER OF SCIENCE

A candidate for the Master of Science degree must complete 30 graduate hours, including at least two of the following three sequences: Modern Algebra (MATH 525, 526); Theory of Functions of Real Variables (MATH 653, 654); and Theory of Functions of Complex Variables (MATH 655, 656). The candidate may satisfy the 30 semester hour requirement in one of three ways: 1) 30 hours of graduate mathematics; 2) 24 hours of graduate mathematics and an approved 6-hour minor; or 3) 24 hours of graduate mathematics and an approved master's thesis.

MASTER OF ARTS

A candidate for the Master of Arts degree must complete 30 graduate hours, including the first course from five of the following seven sequences: Topology (MATH 501, 502); Modern Algebra (MATH 525, 526); Applied Probability (MATH 573, 574); Statistics (MATH 575, 576); Theory of Functions of Real Variables (MATH 653, 654); Theory of Functions of Complex Variables (MATH 655, 656); and Graph Theory (MATH 681, 682). The M.A. candidate must complete the second course in two of these sequences. The candidate may satisfy the 30 semester hour requirement in one of three ways: 1) 30 hours of graduate mathematics; 2) 24 hours of graduate mathematics and an approved 6-hour minor; or 3) 24 hours of graduate mathematics and an approved master's thesis.

DOCTOR OF PHILOSOPHY

Requirements • An advisory committee consisting of five members of the graduate faculty will be appointed for each graduate student who declares his or her intention to become a candidate for the degree. The candidate must complete a minimum of 48 course hours of graduate work, exclusive of the dissertation. This must include the sequences Modern Algebra (MATH 525, 526); Theory of Functions of Real Variables (MATH 653, 654); and Theory of Functions of Complex Variables (MATH 655, 656). Of the 48 course hours, 36 must be in courses open only to graduate students. Reading knowledge of one foreign language is required; French, Russian, or German is recommended. This requirement may be satisfied by the completion of six hours of an undergraduate language at the sophomore level or by making an appropriate score on the Graduate School Foreign Language Test of the Educational Testing Service.

Written exams will be administered covering the required sequences and one other approved sequence. In addition, the candidate must satisfy the advisory committee as to the extent of the candidate's research ability and activity, as well as the suitability and excellence of course work presented. Prospective students are advised to communicate and consult freely.

501, 502. GENERAL TOPOLOGY. Metric spaces, continuity, separation axioms, connectedness, compactness, and other related topics. Prerequisite: MATH 556. (3, 3).

513, 514. THEORY OF NUMBERS I, II. Congruences; divisibility; properties of prime numbers; arithmetical functions; quadratic forms; quadratic residues. (3, 3).

519. MATRICES. Basic matrix theory, eigenvalues, eigenvectors, normal and Hermitian matrices, similarity, Sylvester's Law of Inertia, normal forms, functions of matrices. (3).

520. LINEAR ALGEBRA. An introduction to vector spaces and linear transformations; eigenvalues and the spectral theorem. (3).

525, 526. MODERN ALGEBRA I, II. General properties of groups, rings, and fields; introduction to ideal theory. (3, 3).

533. TOPICS IN EUCLIDEAN GEOMETRY. A study of incidence geometry; distance and congruence; separation; angular measure; congruences between triangles; inequalities; parallel postulate; similarities between triangles. (3).

537. NON-EUCLIDEAN GEOMETRY. Brief review of the foundation of Euclidean plane geometry with special emphasis given the Fifth Postulate; hyperbolic plane geometry; elliptic plane geometry. (3).

540. HISTORY OF MATHEMATICS. Development of mathematics, especially algebra, geometry, and analysis; lives and works of Euclid, Pythagoras, Cardan, Descartes, Newton, Euler, and Gauss. Prerequisite: Math 305 or consent of instructor. (3).

545. SELECTED TOPICS IN MATHEMATICS FOR SECONDARY SCHOOL TEACHERS. High school subjects from an advanced point of view; their relation to the more advanced subjects. (3).

555, 556. ADVANCED CALCULUS I, II. Limits, continuity, power series, partial differentiation, multiple definite integrals, improper integrals, line integrals; applications. (3, 3). Prerequisite: MATH 305 or consent of instructor.

567, 568. INTRODUCTION TO FUNCTIONAL ANALYSIS. Metric spaces, Normed linear spaces and linear operators. Prerequisite: 556 or consent of instructor. (3, 3).

569. THEORY OF INTEGRALS. Continuity, quasi-continuity, measure, variation, Stieltjes integrals, Lebesgue integrals. (3).

571. FINITE DIFFERENCES. Principles of differencing, summation, and the standard interpolation formulas and procedures. (3).

572. INTRODUCTION TO PROBABILITY AND STATISTICS. Emphasis on standard statistical methods and the application of probability to statistical problems. Prerequisite: MATH 264. (3).

573. APPLIED PROBABILITY. Emphasis on understanding the theory of probability and knowing how to apply it. Proofs are given only when they are simple and illuminating. Among topics covered are joint, marginal, and conditional distributions, conditional and unconditional moments, independence, the weak law of large numbers, Tchebycheff's inequality, Central Limit Theorem. Prerequisite: MATH 264. (3).

574. PROBABILITY. Topics introduced in MATH 573 will be covered at a more sophisticated mathematical level. Additional topics will include the Borel-Cantelli Lemma, the Strong Law of Large Numbers, characteristic functions (Fourier transforms). Prerequisite: MATH 573. (3).

575, 576. MATHEMATICAL STATISTICS I, II. Mathematical treatment of statistical and moment characteristics; frequency distribution; least squares; correlation; sampling theory. Prerequisite: MATH 262. (3, 3).

577. APPLIED STOCHASTIC PROCESSES. Emphasis on the application of the theory of stochastic processes to problems in engineering, physics, and economics. Discrete and continuous time Markov processes, Brownian Motion, Ergodic theory for Stationary processes. Prerequisite: MATH 573 or consent of instructor. (3).

578. STOCHASTIC PROCESSES. Topics will include General Diffusions, Martingales, and Stochastic Differential Equations. (3).

590. TECHNIQUES IN TEACHING COLLEGE MATHEMATICS. Directed studies of methods in the presentation of college mathematics topics, teaching and testing techniques. Z grade. This course is required of all teaching assistants, each semester, and may not be used for credit toward a degree. Prerequisite: departmental consent. (1-3).

597. SPECIAL PROBLEMS. (1-3).

598, 599. SPECIAL PROBLEMS. (Same as MATH 597).

631. FOUNDATIONS OF GEOMETRY. Development of Euclidean geometry in two and three dimensions using the axiomatic method; introduction to high dimensional Euclidean geometry and to non-Euclidean geometries. (3).

639. PROJECTIVE GEOMETRY. Fundamental propositions of projective geometry from synthetic and analytic point of view; principle of duality; poles and polars; cross ratios; theorems of Desargues, Pascal, Brianchon; involutions. (3).

647. TOPICS IN MODERN MATHEMATICS. Survey of the more recent developments in pure and applied mathematics. Prerequisite: consent of instructor. (3).

649. CONTINUED FRACTIONS. Arithmetic theory; analytic theory; applications to Lyapunov theory. Prerequisite: consent of instructor. (3).

653, 654. THEORY OF FUNCTIONS OF REAL VARIABLES. The number system; sets, convergence; measure and integration; differentiation; variation; absolute continuity. (3, 3).

655, 656. THEORY OF FUNCTIONS OF COMPLEX VARIABLES I, II. Complex functions; mappings, integration theory, entire functions; topics of current interest. (3, 3).

661, 662. NUMERICAL ANALYSIS I, II. Numerical linear algebra, error analysis, computation of eigenvalues and eigenvectors, finite differences, techniques for ordinary and partial differential equations, stability and convergence analysis. (3, 3).

663. SPECIAL FUNCTIONS. Advanced study of gamma functions; hypergeometric functions; generating function; theory and application of cylinder functions and spherical harmonics. (3).

667, 668. FUNCTIONAL ANALYSIS I, II. Linear spaces; operators and functionals. (3, 3).

669. PARTIAL DIFFERENTIAL EQUATIONS I. Classical theories of wave and heat equations. Prerequisite: MATH 353 or MATH 555. (3).

670. PARTIAL DIFFERENTIAL EQUATIONS II. Hilbert space methods for boundary value problems. Prerequisite: MATH 669. (3).

673, 674. ADVANCED PROBABILITY. Current topics in probability are treated at an advanced mathematical level. Measure theoretic foundations, infinitely divisible laws, stable laws, and multidimensional central limit theorem, strong laws, law of the integrated logarithm. Prerequisite: MATH 654 (or may be taken concurrently). (3, 3).

675. ADVANCED MATHEMATICAL STATISTICS I. Univariate distribution functions and their characteristics; moment generating functions and semi-invariants; Pearson's system; Gram-Charlier series; inversion theorems. (3).

- 676. ADVANCED MATHEMATICAL STATISTICS II.** Multivariate distributions and regression systems; multiple and partial correlation; sampling theory; statistical hypotheses; power and efficiency of tests. (3).
- 677, 678. ADVANCED STOCHASTIC PROCESSES.** Special topics in the mathematical theory of stochastic processes. Separability, Martingales, stochastic integrals, the Wiener process, Gaussian processes, random walk, Ornstein-Uhlenbeck process, semi-group theory for diffusions. Prerequisite: MATH 674. (3, 3).
- 681, 682. GRAPH THEORY I, II.** Topics in graph theory including trees, connectivity, coverings, planarity, colorability, directed graphs. (3, 3).
- 697. THESIS.** (1-12).
- 700. SEMINAR IN TOPOLOGY.** Prerequisite: consent of instructor. (May be repeated for credit). (3).
- 710. SEMINAR IN ALGEBRA.** Prerequisite: consent of instructor. (May be repeated for credit). (3).
- 750. SEMINAR IN ANALYSIS.** Prerequisite: consent of instructor. (May be repeated for credit). (3).
- 775. SEMINAR IN STATISTICS.** (May be repeated for credit up to a maximum of 9 hours). (3).
- 780. SEMINAR IN GRAPH THEORY.** Prerequisite: consent of instructor. (May be repeated for credit up to a maximum of 9 hours). (3).
- 797. DISSERTATION.** (1-18).

MODERN LANGUAGES

Professor David S. Hargrove, acting chair • C-115 Bondurant Hall

Professors Arrington, Danahy, Dyer, Gaycken, and Gutiérrez • Associate Professors Coles and Yang • Assistant Professors Buchanan, Klodt, Marting, Metcalf, O'Sullivan, and Quinney

MASTER OF ARTS

Prerequisites • The Master of Arts degree with a major in a modern language requires, as a prerequisite, 30 hours (including high school credits) in the language in which the student intends to major (French, German, or Spanish) or a total of 30 hours in two or three languages, ancient and/or modern, provided that there are at least 18 hours in the major language. In extraordinary cases this prerequisite may be modified.

Options • Two options are available. One option requires 24 hours of graduate-level course work with a minimum of 15 hours in the major field plus thesis in the major field, and a maximum of 9 hours in a minor field, subject to the approval of the department. The second option requires 36 hours of graduate-level course work, of which a minimum of 24 hours must be in the major field, and up to 12 hours in one or more minor fields, subject to departmental approval.

Modern Languages, Literatures, and Linguistics — MLLL

- 541. SPECIAL TOPICS IN LINGUISTICS.** Advanced course dealing with special topics in phonology, morphology and syntax. Recommended for graduate students interested in linguistics or language pedagogy. May be repeated for a total of 9 credit hours as long as content varies. (3).
- 599. SPECIAL TOPICS.** (3).

French — FR

- 571. ADVANCED GRAMMAR AND COMPOSITION.** Review and analysis of the more sophisticated grammatical structures of the French language. Prerequisite: French 304 or equivalent. (3).
- 572. FRENCH PHONETICS AND PHONOLOGY.** Introduction to production of French sounds, using linguistic analysis and articulatory practice to improve pronunciation skills. Prerequisite: French 304 or equivalent. (3).
- 574. HISTORY OF THE FRENCH LANGUAGE.** Development of phonological and grammatical systems of French from Latin to its modern dialects. Prerequisite: French 571 or equivalent. (3).
- 575. TOPICS IN APPLIED LINGUISTICS.** May be repeated once for credit. Prerequisite: French 571 or equivalent. (3).
- 577. SURVEY OF FRENCH LITERATURE I.** A survey of major texts and development of literary genres prior to 1789. Prerequisite: French 331 or equivalent. (3).
- 578. SURVEY OF FRENCH LITERATURE II.** A survey of major texts and development of literary genres after 1789. Prerequisite: French 331 or equivalent. (3).
- 583. SEVENTEENTH-CENTURY FRENCH LITERATURE.** Study of the works of representative authors of the 17th century of France. Prerequisite: French 577 or equivalent. (3).
- 584. EIGHTEENTH-CENTURY FRENCH LITERATURE.** Study of the works of representative authors of the 18th century in France. Prerequisite: French 578 or equivalent. (3).
- 585. NINETEENTH-CENTURY FRENCH LITERATURE.** Study of the works of representative authors of the 19th century in France. Prerequisite: French 578 or equivalent. (3).
- 586. TWENTIETH-CENTURY FRENCH LITERATURE.** Study of the works of representative authors of the 20th century in France. Prerequisite: French 578 or equivalent. (3).

- 593. TOPICS IN CULTURAL STUDIES.** Analysis of social, cultural, and political phenomena, inquiry into philosophical and theoretical issues, and/or study of influential ideas in French and/or Francophone literature and culture. Content varies. May be repeated once for credit. Prerequisite: French 321, 322, or equivalent. (3).
- 598. GRADUATE FRENCH STUDY ABROAD.** (1-9).
- 599. SPECIAL TOPICS.** May be repeated for credit. (3).
- 671. RESEARCH METHODS.** Introduction to current research and analysis of literary texts, bibliographical reference material, and practical application in a research paper. (3).
- 672. RESEARCH AND PRACTICE IN CLASSROOM SECOND LANGUAGE ACQUISITION.** May be repeated once for credit. (3).
- 673. SEMINAR.** May be repeated once for credit. (3).
- 697. THESIS.** (1-12).

German — GERM

- 571. ADVANCED GRAMMAR AND COMPOSITION.** Review of finer points of grammar, style, and diction. Developing linguistic skills to appreciate literary language, read scholarly prose, analyze texts. Prerequisite: German 304 or equivalent. (3).
- 572. GERMAN PHONETICS AND PHONOLOGY.** Introduction to production of German sounds, using linguistic analysis and articulatory practice to improve pronunciation skills. Prerequisite: German 304 or equivalent. (3).
- 574. HISTORY OF THE GERMAN LANGUAGE.** Introduction to German philology and linguistics. Examination of origins and development of standard German and regional dialects for the Middle Ages to the present. Prerequisite: German 572 or equivalent. (3).
- 575. TOPICS IN APPLIED LINGUISTICS.** May be repeated once for credit. Prerequisite: German 571 or equivalent. (3).
- 577. SURVEY OF GERMAN LITERATURE AND CULTURE I.** Introduction to the history of German literature and culture from the Middle Ages to the Age of Goethe. Prerequisite: German 331 or equivalent. (3).
- 578. SURVEY OF GERMAN LITERATURE AND CULTURE II.** Introduction to the history of German literature and culture from the Age of Goethe to the present. Prerequisite: German 331 or equivalent. (3).
- 584. THE AGE OF GOETHE.** Discussion of influential and representative works from the Sturm and Drang period, German Classicism, and Romanticism in theoretic writings, poetry, drama, novella, art, architecture, music. Prerequisite: German 577 or equivalent. (3).
- 585. NINETEENTH-CENTURY GERMAN LITERATURE.** Acquaintance with cultural intellectual debates in Germany through in-depth discussion of 19th-century authors, literary works, art, music. Prerequisite: German 578 or equivalent. (3).
- 586. TWENTIETH-CENTURY GERMAN LITERATURE AND CULTURE.** Acquaintance with contemporary cultural, intellectual debates in Germany through in-depth discussion of 20th-century authors, literary works, art, film, design, music. Prerequisite: German 578 or equivalent. (3).
- 593. TOPICS IN CULTURAL STUDIES.** Analysis of social, cultural, and political phenomena, inquiry into philosophical and theoretical issues, and/or study of influential ideas in German literature and culture. Content varies. May be repeated once for credit. Prerequisite: German 321 or equivalent. (3).
- 598. GRADUATE GERMAN STUDY ABROAD.** (1-9).
- 599. SPECIAL TOPICS.** Content varies. May be repeated once for credit. (3).
- 671. RESEARCH METHODS.** Introduction to current research and analysis of literary texts, bibliographical reference material, and practical application in a research paper. (3).
- 672. RESEARCH AND PRACTICE IN CLASSROOM SECOND LANGUAGE ACQUISITION.** (3).
- 673. SEMINAR.** May be repeated once for credit. (3).
- 697. THESIS.** (1-12).

Spanish — SPAN

- 571. ADVANCED GRAMMAR AND COMPOSITION.** Review and analysis of more sophisticated grammatical structures of the Spanish language. Prerequisite: Spanish 304 or equivalent. (3).
- 572. SPANISH PHONETICS AND PHONOLOGY.** Introduction to the production of Spanish sounds, using linguistic analysis and articulatory practice to improve pronunciation skills. Prerequisite: Spanish 304 or equivalent. (3).
- 573. SPANISH MORPHOLOGY AND SYNTAX.** Analysis of the Spanish morphemic system and its organization into syntactic structures. Prerequisite: Spanish 304 or equivalent. (3).
- 574. THE HISTORY OF SPANISH LANGUAGE** Development of the phonological and grammar systems of Spanish from Latin to its modern dialects. Prerequisite: Spanish 572 or equivalent. (3).
- 575. TOPICS IN APPLIED LINGUISTICS.** Content varies; may be repeated once for credit. Prerequisite: Spanish 571 or equivalent. (3).
- 577. SURVEY OF SPANISH LITERATURE I.** A study of the most representative writers of the Spanish Peninsula from the Epic through 1700. Prerequisite: Spanish 331 or equivalent. (3).
- 578. SURVEY OF SPANISH LITERATURE II.** A study of the most representative writers of the Spanish Peninsula from 1701 to the present day. Prerequisite: Spanish 331 or equivalent. (3).
- 579. SURVEY OF SPANISH AMERICAN LITERATURE I.** A survey of the canonical texts and movements of Spanish-American literature from colonial times to modernism. Prerequisite: Spanish 331 or equivalent (3).
- 580. SURVEY OF SPANISH AMERICAN LITERATURE II.** A survey of the canonical texts and movements of Spanish-American literature and culture from modernism through the end of the 20th century. Prerequisite: Spanish 331 or equivalent. (3).

- 582. CERVANTES.** Study of Cervantes' major works, including *Don Quixote* and *Novelas ejemplares* in light of modern theoretical approaches. Prerequisite: Spanish 577 or equivalent. (3).
- 583. GOLDEN AGE LITERATURE.** Major Spanish writers of the 16th and 17th centuries. Prerequisite: Spanish 577 or equivalent. (3).
- 585. EIGHTEENTH- AND NINETEENTH-CENTURY SPANISH LITERATURE.** Study of the works of representative authors of the most important literary currents of 18th- and 19th-century Spain. Prerequisite: Spanish 577 (3).
- 586. MODERN SPANISH LITERATURE.** Study of literary works from the Generation of '98 to the present in Spain. Prerequisite: Spanish 578 or equivalent. (3).
- 587. SPANISH AMERICAN SHORT STORY.** Prerequisite: Spanish 579 or 580, or equivalent. (3).
- 588. SPANISH AMERICAN POETRY.** Analysis of texts representative of major poetic movements in Spanish America. Prerequisite: Spanish 579 or 580, or equivalent. (3).
- 589. SPANISH AMERICAN NOVEL.** Study of selected novels of major Spanish American writers. Prerequisite: Spanish 579 or 580, or equivalent. (3).
- 593. TOPICS IN CULTURAL STUDIES.** Analysis of social, cultural, and political phenomena, inquiry into philosophical and theoretical issues, and/or study of influential ideas in Spanish and/or Spanish American literature and culture. Content varies. May be repeated once for credit. Prerequisite: Spanish 321, 322, or equivalent. (3).
- 598. GRADUATE SPANISH STUDY ABROAD.** (1-9).
- 599. SPECIAL TOPICS.** Content varies; may be repeated once for credit. (3).
- 671. RESEARCH METHODS.** Introduction to current research and analysis of literary texts, guide through bibliographical reference material, and practical application in a research paper. (3).
- 672. RESEARCH AND PRACTICE IN CLASSROOM SECOND LANGUAGE ACQUISITION.** (3).
- 673. SEMINAR.** May be repeated once for credit. (3).
- 697. THESIS.** (1-12).

MUSIC — MUS

Professor Steven Brown, chair • 164 Scruggs Hall

Professors Brown, Gates, Irvin, Linton, Vernon, and Willson • Associate Professors J. Aubrey, Burkhead, Dale, Riggs, Rodgers, A. Spurgeon, D. Spurgeon, Steel, and Trott • Assistant Professors Foulkes -Levy, Hominick, Rike, Robinson, Schaefer, and Worthy

The department offers the degrees of Master of Music and Doctor of Arts.

MASTER OF MUSIC

Prerequisite • The Bachelor of Music degree or equivalent from a recognized institution and an undergraduate program in which all required courses in the major field have been completed. The applicant's undergraduate record and any recommendations or other credentials submitted must provide evidence that the applicant is qualified for graduate work, including evidence of having given a senior recital or its equivalent if the program of study is to be music performance.

Examinations • All students must take the general test of the Graduate Record Examination, as well as departmentally administered examinations in performance, aural skills, music theory, and music history. Students in composition must present representative examples of their work.

Requirements • The Master of Music degree requires a minimum of 30 semester hours of course work, including thesis where applicable. The major portion of the work on the thesis or the recital in the music performance program must be done while enrolled.

MASTER OF MUSIC CURRICULUM

Emphasis: Music Performance

Piano Area Curriculum		Semester Hours
MUS 520	Introduction to Music Research	2
MUS —, —	Music History/Lit	4
MUS —, —	Music Theory/Comp	4
PIAN 541	or higher Piano Performance	10
MUS 695	Public Recital	2

MUS 608	Adv. Keyboard Lit _____	4
MUS 605	Ped. of Music Performance _____	2
Music Elective		2
Total		30

Vocal Area Curriculum		Semester Hours
MUS 520	Introduction to Music Research _____	2
MUS 521	Survey of Diction _____	1
MUS —, —	Music History/Lit _____	4
MUS —, —	Music Theory/Comp _____	4
VOIC 541 or higher	Voice Performance _____	8
MUS 695	Public Recital _____	2
MUS 597	Opera Theatre Workshop _____	2
MUS 598	Opera Production Workshop _____	2
MUS 623 or MUS 624	Adv. Song Lit. or Adv. Opera/Oratorio Lit. _____	2
MUS 605	Ped. of Music Performance _____	2
MUS —	Music Elective _____	1
Total		30

Instrumental Area Curriculum		Semester Hours
MUS 520	Introduction to Music Research _____	2
MUS —, —	Music History/Lit _____	4
MUS —, —	Music Theory/Comp _____	4
— 541 or higher	Music Performance _____	10
MUS 695	Public Recital _____	2
MUS 565	Instrumental Solo Lit _____	2
MUS 561	Symphonic Lit _____	2
or MUS 563	Chamber Lit _____	(2)
or MUS 607	Adv. Wind Band Lit _____	(2)
MUS 605	Ped. of Music Performance _____	2
Music Elective		2
Total		30

Emphasis: Music Theory

Curriculum	Semester Hours	
MUS 520	Introduction to Music Research _____	2
MUS —, —	Music History/Lit _____	4
MUS 505, 506, Analysis I, II, III 507		6
MUS 547	Studio Technology _____	2
MUS 560	Music Theory Pedagogy _____	3
MUS 630	Schenkerian Analysis I _____	2
MUS 632	Post-tonal Theory _____	2
MUS 697	Thesis _____	6
MUS —	Music Electives _____	3
Total		30

Emphasis: Music Education

Curriculum	Semester Hours
MUS 520 Introduction to Music Research	2
MUS —, — Music History/Lit	4
MUS —, — Music Theory/Comp	4
Select 3 hours of music education from:	3
MUS 619 Foundations of Music Education	
MUS 620 Music Education Research	
MUS 625 Assessment and Supervision of Music Education	
Music education electives	6
Music electives	5
MUS 697 Thesis/or 6 hours of music education courses for students who elect the nonthesis option	6
Total	30

Emphasis: Choral Conducting

Curriculum	Semester Hours
MUS 520 Introduction to Music Research	2
MUS 562 Advanced Choral Literature	3
MUS ___ Music History/Literature	4
MUS ___ Music Theory/Composition	4
MUS 524 Advanced Choral Directing	3
MUS 529 or 605 Vocal Pedagogy	2
MUS 521 Diction	1
VOIC 521 Applied Voice	2
MUS ___ Choral Ensemble	2
MUS 613 Directed Individual Study in Choral Music	3
MUS 695 Public Recital	2
MUS ___ Music elective	2
TOTAL	30

1. Candidates must be in residence during two regular terms.
2. Enrollment in a choral ensemble during each regular session in residence is required.
3. Public recital shall involve the conducting of a choral performance with approval of the major adviser.
4. A piano proficiency exam must be passed no later than the beginning of the third semester in residence.

DOCTOR OF ARTS

Areas of Concentration • The D.A. degree is offered in the areas of music education, music theory, music history - literature and music performance pedagogy. (The emphasis within the pedagogy area can be either voice, piano, or instrumental performance.)

Prerequisite • The Master of Music degree or equivalent from a recognized institution.

Entrance Requirements • All students must take the general test of the Graduate Record Examination, as well as departmentally administered examinations in performance, aural skills, music theory, and music history. An oral interview is scheduled after all other entrance requirements are met.

Residence • Three academic years of full-time study, or the equivalent, beyond the bachelor's degree constitute the minimum requirement. A minimum of two academic years of full-time graduate work must be completed at The University of Mississippi. At least one academic year of full-time study, or the equivalent, must be in continuous residence.

Foreign Language Requirement • One foreign language will be required of students with an emphasis in Music Theory (track 2 or 2A) or in Music History and Literature (track 3 or 3A), to be determined by the student's advisory committee.

Program of Study • At least 65 hours beyond the Master's degree is considered a minimum program. The major area of interest consists of at least 16 hours of course work. The minor area of emphasis consists of at least 10 hours of course work. Students will complete at least 9 hours of courses in music education. In addition, all students will take a minimum of 6 hours of extra-musical course work and six hours of doctoral essay. Other information regarding the program of study is available by consulting the departmentally developed Guidelines to the Doctor of Arts in Music.

Internship • Before receiving the Doctor of Arts degree, candidates must successfully complete a year of internship, which will include progressive and responsible classroom experiences in regular courses. The internship must be taken at The University of Mississippi and will be supervised and evaluated by members of that faculty.

Essay Requirements • A minimum registration of 6 semester hours is required for the essay. After passing the comprehensive examinations, the student must submit a project topic suitable for a doctoral essay in the form known as the prospectus. The prospectus must be approved by the advisory committee.

DOCTOR OF ARTS CURRICULUM

Emphasis: Music Education
 Minor: Theory or History/Literature
 (Track 1)

Curriculum	Hours	Semester
MUS 520	Introduction to Music Research	2
MUS __, __	Music theory (chosen from MUS 505, 506, 507, 508, 509, 512, 514, 560, 630, 631, or 632)	6
MUS __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	6
MUS __, __, __, __, __, __, __, __	Music education (must include MUS 619, 620, and 625)	16
MUS __, __	Music theory or history/literature	4
MUS __, __, __, __, __, __	Music electives	13
__, __, __, __	Extra music courses	6
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
	TOTAL	66

Emphasis: Music Education
 Minor: Applied Pedagogy
 (Track 1a)

Curriculum	Hours	Semester
MUS 520	Introduction to Music Research	2
MUS __, __	Music theory (chosen from MUS 505, 506, 507, 508, 509, 512, 514, 560, 630, 631, or 632)	6
MUS __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	6

MUS __, __, __, __, __, __, __, __	Music education (must include MUS 619, 620, and 625)	16
MUS __, __	Music theory or history/literature	4
MUS __, __, __, __	Music electives	13
__, __, __, __	Extra music courses	6
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		66

Emphasis: Music Theory
 Minor: Music History or Literature
 (Track 2)

Semester

Curriculum

Hours

MUS 520	Introduction to Music Research	2
MUS __, __, __, __, __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	16
MUS __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	10
MUS __, __, __, __	Music education (must include MUS 619, 620, or 625)	9
MUS __, __, __, __	Music electives	10
__, __, __, __	Extra music courses	9
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		68

Emphasis: Music Theory
 Minor: Applied Pedagogy
 (Track 2a)

Semester

Curriculum

Hours

MUS 520	Introduction to Music Research	2
MUS __, __, __, __, __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	16
MUS __, __, __, __	Applied pedagogy	10
MUS __, __, __, __	Music education (must include MUS 619, 620, or 625)	9

MUS __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	6
MUS __, __	Music electives	4
__, __, __, __	Extra music courses	9
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		68

Emphasis: Music History or Literature
 Minor: Music Theory
 (Track 3)

Semester

Curriculum

Hours

MUS 520	Introduction to Music Research	2
MUS __, __, __, __, __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	16
MUS __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	10
MUS __, __, __, __	Music education (must include MUS 619, 620, or 625)	9
MUS __, __, __, __, __, __	Music electives	10
__, __, __, __	Extra music courses	9
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		68

Emphasis: Music History/Literature
 Minor: Applied Pedagogy
 (Track 3a)

**Semester
Hours**

Curriculum

MUS 520	Introduction to Music Research	2
MUS __, __, __, __, __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	16
MUS __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	6
MUS __, __, __, __	Applied pedagogy	10
MUS __, __, __, __	Music education (must include MUS 619, 620, or 625)	9
MUS __, __	Music electives	4

___ __, __, __	Extra music courses	7
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		66

Emphasis: Applied Pedagogy
 Minor: Music Theory or Music History/Literature
 (Track 4)

Curriculum		Semester Hours
MUS 520	Introduction to Music Research	2
MUS __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	6
MUS __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	6
MUS __, __, __, __, __, __	Music education (must include MUS 619, 620, or 625)	9
MUS __, __, MUS __, __, __, __, __, __	Music theory or history/literature Applied pedagogy	4 16
___ __, __, __	Extra music courses	7
MUS __, __	Music electives	4
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		66

Emphasis: Applied Pedagogy
 Minor: Applied Pedagogy
 (Track 4a)

Curriculum		Semester Hours
MUS 520	Introduction to Music Research	2
MUS __, __, __, __	Music history/literature (chosen from MUS 501, 502, 503, 504, 513, 515, or 526; must include MUS 575)	6
MUS __, __, __, __	Music theory (chosen from MUS 505, 506, 507, 547, 560, 630, 631, or 632)	6
MUS __, __, __, __, __, __	Music education (must include MUS 619, 620, or 625)	9
MUS __, __, __, __, __, __, __, __	Applied pedagogy	16
MUS __, __, __, __, __, __	Minor applied pedagogy	10
___ __, __, __	Extra music courses	6
MUS 713, 714	Internship	6
MUS 796	Doctoral essay	6
TOTAL		67

- 501. MUSIC OF THE MEDIEVAL AND RENAISSANCE PERIODS.** (2).
- 502. MUSIC OF THE BAROQUE PERIOD.** (2).
- 503. MUSIC OF THE CLASSICAL PERIOD.** (2).
- 504. MUSIC OF THE ROMANTIC PERIOD.** (2).
- 505. ANALYSIS I: RENAISSANCE, BAROQUE.** A study of techniques appropriate to the analysis of music of the Renaissance and Baroque periods. (2).
- 506. ANALYSIS II: CLASSICAL, ROMANTIC.** A study of techniques appropriate to the analysis of music of the Classical and Romantic periods. (2).
- 507. ANALYSIS III: TWENTIETH CENTURY.** A study of techniques appropriate to the analysis of music of the Twentieth century. (3).
- 512. 16TH CENTURY COUNTERPOINT.** A study of the compositional techniques of contrapuntal music of the 16th century. (2).
- 514. 18TH CENTURY COUNTERPOINT.** A study of the compositional techniques of contrapuntal music of the 18th century. (2).
- 508. ADVANCED EAR TRAINING.** Advanced studies in rhythmic, melodic, and harmonic dictation and sight-singing. (2).
- 509, 510. ADVANCED COMPOSITION.** Creative work in larger forms. (2, 2).
- 511. BAND INSTRUMENTATION.** Arranging for the concert and marching band. (2).
- 513. MUSIC SINCE 1900.** (2).
- 515. HISTORY OF OPERA.** A historical survey of the opera. (2).
- 517. AFRICAN AMERICAN MUSICAL TRADITIONS.** A survey of styles arising from Black American culture: the African background, spirituals, blues, and gospel music, and the influence on American and world music. (3)
- 518. THE HISTORY OF JAZZ.** The nature, origins, and evolution of jazz will be studied, using recordings, films, and source readings. (3).
- 520. INTRODUCTION TO MUSIC RESEARCH.** Familiarity with the library materials and techniques necessary for advanced study in music. (2).
- 521. SURVEY OF DICTION.** A study of the International Phonetic Alphabet, coupled with a survey of Italian, French, and German diction for the solo singer and choral music educator. Open to graduate and undergraduate students. (1).
- 522. ADVANCED SINGER'S DICTION.** Advanced interpretive coaching in the performance of English, Italian, French, and German art song and operatic literature with emphasis on diction. Open to graduate and advanced undergraduate students. Prerequisite: MUS 207 and 208 or the equivalent. (1).
- 523. ADVANCED TECHNIQUES OF BAND DIRECTING.** Advanced techniques of organization and administration of instrumental music programs. (2).
- 524. ADVANCED CHORAL DIRECTING.** Methods of choral directing with emphasis on expression, musicianship, and conducting techniques. Covers areas such as baton technique, score study and memorization, analysis of orchestration, rehearsal techniques, and program building. (3).
- 525. ADVANCED TECHNIQUES OF MARCHING BAND.** Current styles and trends of marching band. Concepts, drills, and charting. (2).
- 526. HISTORY OF MUSIC IN THE UNITED STATES.** Study of music in the United States from the early colonial period to the present with special emphasis in popular music developments. (2).
- 529. VOCAL PEDAGOGY.** Basic anatomy of the vocal mechanism and a basic understanding of pedagogical principles and applications in voice teaching. (3).
- 530. SPECIAL PROJECTS IN MUSIC EDUCATION.** Special research topics in subject areas relating to music education. (1-3).
- 535. DIRECTED READINGS IN MUSIC EDUCATION.** Readings and discussions of texts and articles in the foundation literature of music education, with focus on concepts of curriculum development. (3).
- 536. KODALY MUSIC EDUCATION IN AMERICA.** An introductory study of the philosophy and teaching methods of the Kodaly concept of music education as practiced in the United States. (3).
- 547. MUSIC TECHNOLOGY I.** Methods of synthesis, signal processing, recording, and computer applications involving MIDI. Prerequisite: Music 305 or equivalent and consent of instructor. (2).
- 560. MUSIC THEORY PEDAGOGY.** A comparative survey of current systems and materials for teaching lower-division college courses in music theory and ear training. (3).
- 561. SYMPHONIC LITERATURE.** A historical survey of music composed for the orchestra. (2).
- 562. ADVANCED CHORAL LITERATURE.** Study of choral literature from the medieval era through the 20th century with regard to historical style, analysis, and performance practice. (3).
- 563. CHAMBER MUSIC LITERATURE.** A historical survey of chamber music literature. (2).
- 565. INSTRUMENTAL SOLO LITERATURE.** Solo literature for various woodwind, brass, percussion, and string instruments. Emphasis on the standard repertoire and solos used with elementary and secondary school students. (2).
- 575. PERSPECTIVES IN WORLD MUSIC.** Exploration of music in terms of its cultural, social, and historical dimensions. Concentration upon music genres of Africa, African America, Latin America, Native America, East Asia, Southeast Asia, Southern Asia, and Southeastern Europe. (3)
- 603. SEMINAR IN MUSIC THEORY.** Prerequisite: Consent of instructor. (May be repeated for credit) (2).
- 605, 606. PEDAGOGY OF MUSIC PERFORMANCE I, II.** Study of methods and materials used in the teaching of music performance, including private and group instruction; concepts of programming; the presentation of literature courses. (2, 2).
- 607. WIND BAND LITERATURE.** The development of band literature from 1500 to the present. (2).

- 608. ADVANCED KEYBOARD LITERATURE.** A comprehensive study of the major literature of the keyboard. (May be repeated for credit). (2).
- 613, 614. DIRECTED INDIVIDUAL STUDY.** A comprehensive study of assigned subjects in music. (3, 3).
- 616. ADVANCED CONDUCTING.** Baton technique, score study and memorization, analysis of orchestration, rehearsal technique, and program building. (2).
- 619. FOUNDATIONS OF MUSIC EDUCATION.** Sequential study of history of American music education and emerging trends in the profession. Study of major philosophies guiding music teaching, including pestalozzi, reimer, and the praxial approach of mark. (3).
- 620. MUSIC EDUCATION RESEARCH.** A broad overview of approaches, techniques, and resources related to research in music education. Critiques of research studies both as an overview of the field and in relation to a specific area chosen by the student. (3).
- 621. SPECIAL PROBLEMS IN VOCAL PEDAGOGY.** Advanced study in vocal pedagogy. Prerequisite: MUS 516 or equivalent. (2).
- 622. SEMINAR IN MUSIC EDUCATION.** Current educational principles, methods, materials; application to actual teaching through simulation, action research, discussion, readings in music education literature. (Same as EDSE 657). (3).
- 623. ADVANCED SONG LITERATURE.** A detailed exploration of advanced topics in song literature. Prerequisite: MUS 303 or equivalent. (2).
- 624. ADVANCED OPERA AND ORATORIO LITERATURE** A detailed exploration of advanced topics in opera and oratorio literature. Prerequisite: MUS 304 or equivalent. (2).
- 625. ASSESSMENT AND SUPERVISION IN MUSIC EDUCATION.** Aims, techniques, and functions of assessment and supervision in music education. (3).
- 626. MUSIC IN THE ELEMENTARY SCHOOL.** Study and research in methods of implementing the music program in elementary schools. (Same as EDEL 603). (3).
- 628, 629. PRACTICUM IN MUSIC.** Observation and involvement in the teaching of undergraduate music courses at the college level with opportunities for individual research and teaching experiences. (3, 3).
- 630. SCHENKERIAN ANALYSIS I.** A study of both the hierarchical relationships in tonal music and the notational system used to represent them, as developed by the twentieth-century Austrian theorist Heinrich Schenker. Open to theory majors, all others by consent of the instructor. (2).
- 631. SCHENKERIAN ANALYSIS II.** Continued study of Schenker's approach to the analysis of tonal music through large musical forms, extensions of his theories to music outside Schenker's original canon; revisions to his theories. Prerequisite: MUS 630. (2).
- 632. POST-TONAL THEORY.** A study of pitch and pitch-class sets in both ordered and unordered forms. Applications to atonal and serial music of the twentieth century. Open to theory majors, all others by consent of the instructor. (2).
- 695. PUBLIC RECITAL.** (2).
- 696. COMPOSITION PROJECT.** An original composition in a major form. (1-6). (Ungraded).
- 697. THESIS.** (1-12).
- 713, 714. INTERNSHIP.** Supervised teaching at the University in preparation for junior college, college, and university responsibilities. (3, 3).
- 796. DOCTORAL ESSAY.** Investigation into an assigned educational problem resulting in an extended paper not as comprehensive as a dissertation but broader in scope than a directed study. (1-6).

Ensembles

Enrollment in any Department of Music Ensemble requires the consent of the instructor.

- 527, 528. JAZZ ENSEMBLE.** Standard and new repertory with opportunities for individual improvisation and ensemble jazz experience. (1, 1).
- 531, 532. UNIVERSITY ORCHESTRA.** Rehearsal and performance of standard orchestral literature. (2, 2).
- 533, 534. UNIVERSITY BAND.** Ole Miss Rebel Marching Band and/or UM Wind Ensemble during the fall semester. UM Wind Ensemble, Symphonic Band, or Concert Band during the spring semester. (2, 2).
- 537, 538. INSTRUMENTAL CHAMBER ENSEMBLE.** Chamber music study and performance in appropriate combinations for all instrumentalists. (1 each).
- 539, 540. CONCERT SINGERS.** Rehearsal and performance of a variety of musical styles, with emphasis on classical forms. (2, 2).
- 541, 542. STEEL DRUM ENSEMBLE.** Rehearsal and performance of traditional Caribbean music, as well as popular, jazz, and classical arrangements for steel drums. (1 each).
- 543, 544. EARLY MUSIC PERFORMANCE ENSEMBLE.** Rehearsal and performance of European vocal and instrumental music before 1750 and related repertories. (1, 1).
- 549, 550. MADRIGAL SINGERS.** Rehearsal and performance of literature for small choral ensembles. (1, 1).
- 597. OPERA THEATRE WORKSHOP.** Comprehensive training for the singer-actor in stage and body movement and basic technical training. Performance in scenes recital. (1-2).
- 598. OPERA PRODUCTION WORKSHOP.** Performance and/or technical training through participation in a fully staged operatic production. (1-2).

All music performance, except class instruction, shall be taught as one hour of private instruction per week. Students may register for only one performance course in an area per semester, that is, only one piano course, or only one voice course, etc. When necessary, music performance courses may be repeated once for credit. The jury shall serve as the final

examination for every music performance course. Advancement to the next performance course requires jury recommendation. When offered in a summer term, credit is reduced by half.

Piano — PIANO

PIAN 521. ADVANCED PIANO I. Private study for advanced seniors and graduate students. Prerequisite: PIAN 422 or audition. (2).

PIAN 522. ADVANCED PIANO II. Private study for advanced seniors and graduate students. Prerequisite: PIAN 521 or equivalent. (2).

PIAN 541. ADVANCED PIANO PERFORMANCE I. Private study for advanced seniors and graduate students in piano performance. Prerequisite: PIAN 442 or audition. (4).

PIAN 542. ADVANCED PIANO PERFORMANCE II. Private study for advanced seniors and graduate students in piano performance. Prerequisite: PIAN 541 or equivalent. (4).

PIAN 592. SECONDARY KEYBOARD INSTRUMENTS. Applied minor keyboard study for graduate music students. Emphasis on performance and pedagogical techniques on piano, organ or harpsichord. (May be repeated once for credit). (2).

PIAN 621. GRADUATE PIANO I. Private study for graduate students. Prerequisite: PIAN 522 or equivalent. (2).

PIAN 622. GRADUATE PIANO II. Private study for graduate students. Prerequisite: PIAN 621 or equivalent. (2).

PIAN 641. GRADUATE PIANO PERFORMANCE I. Private study for graduate students in piano performance. Prerequisite: PIAN 542 or equivalent. (4).

PIAN 642. GRADUATE PIANO PERFORMANCE II. Private study for graduate students in piano performance. Prerequisite: PIAN 641 or equivalent. (4).

Organ — ORGN

ORGN 521. ADVANCED ORGAN I. Private study for advanced seniors and graduate students. Prerequisite: ORGN 422 or audition. (2).

ORGN 522. ADVANCED ORGAN II. Private study for advanced seniors and graduate students. Prerequisite: ORGN 521 or equivalent. (2).

Strings — (Violin — VILN, Viola — VILA, Violoncello — VCEL, String Bass — STBS)

VILN 521. ADVANCED VIOLIN I. Private study for advanced seniors and graduate students. Prerequisite: VILN 422 or audition. (2).

VILN 522. ADVANCED VIOLIN II. Private study for advanced seniors and graduate students. Prerequisite: VILN 521 or equivalent. (2).

VILN 541. ADVANCED VIOLIN PERFORMANCE I. Private study for advanced seniors and graduate students in violin performance. Prerequisite: VILN 442 or audition. (4).

VILN 542. ADVANCED VIOLIN PERFORMANCE II. Private study for advanced seniors and graduate students in violin performance. Prerequisite: VILN 541 or equivalent. (4).

VILN 621. GRADUATE VIOLIN I. Private study for graduate students. Prerequisite: VILN 522 or equivalent. (2).

VILN 622. GRADUATE VIOLIN II. Private study for graduate students. Prerequisite: VILN 621 or equivalent. (2).

VILN 641. GRADUATE VIOLIN PERFORMANCE I. Private study for graduate students in violin performance. Prerequisite: VILN 542 or equivalent. (4).

VILN 642. GRADUATE VIOLIN PERFORMANCE II. Private study for graduate students in violin performance. Prerequisite: VILN 641 or equivalent. (4).

VILA 521. ADVANCED VIOLA I. Private study for advanced seniors and graduate students. Prerequisite: VILA 422 or audition. (2).

VILA 522. ADVANCED VIOLA II. Private study for advanced seniors and graduate students. Prerequisite: VILA 521 or equivalent. (2).

VILA 541. ADVANCED VIOLA PERFORMANCE I. Private study for advanced seniors and graduate students in viola performance. Prerequisite: VILA 442 or audition. (4).

VILA 542. ADVANCED VIOLA PERFORMANCE II. Private study for advanced seniors and graduate students in viola performance. Prerequisite: VILA 541 or equivalent. (4).

VILA 621. GRADUATE VIOLA I. Private study for graduate students. Prerequisite: VILA 522 or equivalent. (2).

VILA 622. GRADUATE VIOLA II. Private study for graduate students. Prerequisite: VILA 621 or equivalent. (2).

VILA 641. GRADUATE VIOLA PERFORMANCE I. Private study for graduate students in viola performance. Prerequisite: VILA 542 or equivalent. (4).

VILA 642. GRADUATE VIOLA PERFORMANCE II. Private study for graduate students in viola performance. Prerequisite: VILA 641 or equivalent. (4).

VCEL 521. ADVANCED VIOLONCELLO I. Private study for advanced seniors and graduate students. Prerequisite: VCEL 422 or audition. (2).

VCEL 522. ADVANCED VIOLONCELLO II. Private study for advanced seniors and graduate students. Prerequisite: VCEL 521 or equivalent. (2).

VCEL 541. ADVANCED VIOLONCELLO PERFORMANCE I. Private study for advanced seniors and graduate students in violoncello performance. Prerequisite: VCEL 442 or audition. (4).

VCEL 542. ADVANCED VIOLONCELLO PERFORMANCE II. Private study for advanced seniors and graduate students in violoncello performance. Prerequisite: VCEL 541 or equivalent. (4).

VCEL 621. GRADUATE VIOLONCELLO I. Private study for graduate students. Prerequisite: VCEL 522 or equivalent. (2).

VCEL 622. GRADUATE VIOLONCELLO II. Private study for graduate students. Prerequisite: VCEL 621 or equivalent. (2).

VCEL 641. GRADUATE VIOLONCELLO PERFORMANCE I. Private study for graduate students in violoncello performance. Prerequisite: VCEL 542 or equivalent. (4).

VCEL 642. GRADUATE VIOLONCELLO PERFORMANCE II. Private study for graduate students in violoncello performance. Prerequisite: VCEL 641 or equivalent. (4).

STBS 521. ADVANCED STRING BASS I. Private study for advanced seniors and graduate students. Prerequisite: STBS 422 or audition. (2).

STBS 522. ADVANCED STRING BASS II. Private study for advanced seniors and graduate students. Prerequisite: STBS 521 or equivalent. (2).

STBS 541. ADVANCED STRING BASS PERFORMANCE I. Private study for advanced seniors and graduate students in string bass performance. Prerequisite: STBS 442 or audition. (4).

STBS 542. ADVANCED STRING BASS PERFORMANCE II. Private study for advanced seniors and graduate students in string bass performance. Prerequisite: STBS 541 or equivalent. (4).

STBS 621. GRADUATE STRING BASS I. Private study for graduate students. Prerequisite: STBS 522 or equivalent. (2).

STBS 622. GRADUATE STRING BASS II. Private study for graduate students. Prerequisite: STBS 621 or equivalent. (2).

STBS 641. GRADUATE STRING BASS PERFORMANCE I. Private study for graduate students in string bass performance. Prerequisite: STBS 542 or equivalent. (4).

STBS 642. GRADUATE STRING BASS PERFORMANCE II. Private study for graduate students in string bass performance. Prerequisite: STBS 641 or equivalent. (4).

Woodwinds — (Clarinet — CLAR, Flute — FLUT, Bassoon — BSSN, Oboe — OBOE, Saxophone — SAXN)

CLAR 521. ADVANCED CLARINET I. Private study for advanced seniors and graduate students. Prerequisite: CLAR 422 or audition. (2).

CLAR 522. ADVANCED CLARINET II. Private study for advanced seniors and graduate students. Prerequisite: CLAR 521 or equivalent. (2).

CLAR 541. ADVANCED CLARINET PERFORMANCE I. Private study for advanced seniors and graduate students in clarinet performance. Prerequisite: CLAR 442 or audition. (4).

CLAR 542. ADVANCED CLARINET PERFORMANCE II. Private study for advanced seniors and graduate students in clarinet performance. Prerequisite: CLAR 541 or equivalent. (4).

CLAR 621. GRADUATE CLARINET I. Private study for graduate students. Prerequisite: CLAR 522 or audition. (2).

CLAR 622. GRADUATE CLARINET II. Private study for graduate students. Prerequisite: CLAR 621 or equivalent. (2).

CLAR 641. GRADUATE CLARINET PERFORMANCE I. Private study for graduate students in clarinet performance. Prerequisite: CLAR 542 or audition. (4).

CLAR 642. GRADUATE CLARINET PERFORMANCE II. Private study for graduate students in clarinet performance. Prerequisite: CLAR 641 or equivalent. (4).

FLUT 521. ADVANCED FLUTE I. Private study for advanced seniors and graduate students. Prerequisite: FLUT 422 or audition. (2).

FLUT 522. ADVANCED FLUTE II. Private study for advanced seniors and graduate students. Prerequisite: FLUT 521 or equivalent. (2).

FLUT 541. ADVANCED FLUTE PERFORMANCE I. Private study for advanced seniors and graduate students in flute performance. Prerequisite: FLUT 442 or audition. (4).

FLUT 542. ADVANCED FLUTE PERFORMANCE II. Private study for advanced seniors and graduate students in flute performance. Prerequisite: FLUT 541 or equivalent. (4).

FLUT 621. GRADUATE FLUTE I. Private study for graduate students. Prerequisite: FLUT 522 or audition. (2).

FLUT 622. GRADUATE FLUTE II. Private study for graduate students. Prerequisite: FLUT 621 or equivalent. (2).

FLUT 641. GRADUATE FLUTE PERFORMANCE I. Private study for graduate students in flute performance. Prerequisite: FLUT 542 or audition. (4).

FLUT 642. GRADUATE FLUTE PERFORMANCE II. Private study for graduate students in flute performance. Prerequisite: FLUT 641 or equivalent. (4).

BSSN 521. ADVANCED BASSOON I. Private study for advanced seniors and graduate students. Prerequisite: BSSN 422 or audition. (2).

BSSN 522. ADVANCED BASSOON II. Private study for advanced seniors and graduate students. Prerequisite: BSSN 521 or equivalent. (2).

BSSN 541. ADVANCED BASSOON PERFORMANCE I. Private study for advanced seniors and graduate students in bassoon performance. Prerequisite: BSSN 442 or audition. (4).

BSSN 542. ADVANCED BASSOON PERFORMANCE II. Private study for advanced seniors and graduate students in bassoon performance. Prerequisite: BSSN 541 or equivalent. (4).

BSSN 621. GRADUATE BASSOON I. Private study for graduate students. Prerequisite: BSSN 522 or audition. (2).

BSSN 622. GRADUATE BASSOON II. Private study for graduate students. Prerequisite: BSSN 621 or equivalent. (2).

BSSN 641. GRADUATE BASSOON PERFORMANCE I. Private study for graduate students in bassoon performance. Prerequisite: BSSN 542 or audition. (4).

BSSN 642. GRADUATE BASSOON PERFORMANCE II. Private study for graduate students in bassoon performance. Prerequisite: BSSN 641 or equivalent. (4).

OBOE 521. ADVANCED OBOE I. Private study for advanced seniors and graduate students. Prerequisite: OBOE 422 or audition. (2).

OBOE 522. ADVANCED OBOE II. Private study for advanced seniors and graduate students. Prerequisite: OBOE 521 or equivalent. (2).

OBOE 541. ADVANCED OBOE PERFORMANCE I. Private study for advanced seniors and graduate students in oboe performance. Prerequisite: OBOE 442 or audition. (4).

OBOE 542. ADVANCED OBOE II. Private study for advanced seniors and graduate students in oboe performance. Prerequisite: OBOE 541 or equivalent. (4).

OBOE 621. GRADUATE OBOE I. Private study for graduate students. Prerequisite: OBOE 522 or audition. (2).

OBOE 622. GRADUATE OBOE II. Private study for graduate students. Prerequisite: OBOE 621 or equivalent. (2).

OBOE 641. GRADUATE OBOE PERFORMANCE I. Private study for graduate students in oboe performance. Prerequisite: OBOE 542 or audition. (4).

OBOE 642. GRADUATE OBOE PERFORMANCE II. Private study for graduate students in oboe performance. Prerequisite: OBOE 641 or equivalent. (4).

SAXN 521. ADVANCED SAXOPHONE I. Private study for advanced seniors and graduate students. Prerequisite: SAXN 422 or audition. (2).

SAXN 522. ADVANCED SAXOPHONE II. Private study for advanced seniors and graduate students. Prerequisite: SAXN 521 or equivalent. (2).

SAXN 541. ADVANCED SAXOPHONE PERFORMANCE I. Private study for advanced seniors and graduate students in saxophone performance. Prerequisite: SAXN 442 or audition. (4).

SAXN 542. ADVANCED SAXOPHONE PERFORMANCE II. Private study for advanced seniors and graduate students in saxophone performance. Prerequisite: SAXN 541 or equivalent. (4).

SAXN 621. GRADUATE SAXOPHONE I. Private study for graduate students. Prerequisite: SAXN 522 or audition. (2).

SAXN 622. GRADUATE SAXOPHONE II. Private study for graduate students. Prerequisite: SAXN 621 or equivalent. (2).

SAXN 641. GRADUATE SAXOPHONE PERFORMANCE I. Private study for graduate students in saxophone performance. Prerequisite: SAXN 542 or audition. (4).

SAXN 642. GRADUATE SAXOPHONE PERFORMANCE II. Private study for graduate students in saxophone performance. Prerequisite: SAXN 641 or equivalent. (4).

MUS 572, 573, 574. SECONDARY WOODWIND INSTRUMENTS. Applied minor instrument study. Performance, reed making and adjusting. (May be repeated for credit). (2 each).

Brass — (Baritone — BRTN, French Horn — FRHN, Trumpet — TRPT, Trombone — TRBN, Tuba — TUBA) and PERCUSSION — PERC

BRTN 521. ADVANCED BARITONE I. Private study for advanced seniors and graduate students. Prerequisite: BRTN 422 or audition. (2).

BRTN 522. ADVANCED BARITONE II. Private study for advanced seniors and graduate students. Prerequisite: BRTN 521 or equivalent. (2).

BRTN 541. ADVANCED BARITONE PERFORMANCE I. Private study for advanced seniors and graduate students in baritone performance. Prerequisite: BRTN 442 or audition. (4).

BRTN 542. ADVANCED BARITONE PERFORMANCE II. Private study for advanced seniors and graduate students in baritone performance. Prerequisite: BRTN 541 or equivalent. (4).

BRTN 621. GRADUATE BARITONE I. Private study for graduate students. Prerequisite: BRTN 522 or equivalent. (2).

BRTN 622. GRADUATE BARITONE II. Private study for graduate students. Prerequisite: BRTN 621 or equivalent. (2).

BRTN 641. GRADUATE BARITONE PERFORMANCE I. Private study for graduate students in baritone performance. Prerequisite: BRTN 542 or equivalent. (4).

BRTN 642. GRADUATE BARITONE PERFORMANCE II. Private study for graduate students in baritone performance. Prerequisite: BRTN 641 or equivalent. (4).

FRHN 521. ADVANCED FRENCH HORN I. Private study for advanced seniors and graduate students. Prerequisite: FRHN 422 or audition. (2).

FRHN 522. ADVANCED FRENCH HORN II. Private study for advanced seniors and graduate students. Prerequisite: FRHN 521 or equivalent. (2).

FRHN 541. ADVANCED FRENCH HORN PERFORMANCE I. Private study for advanced seniors and graduate students in French horn performance. Prerequisite: FRHN 442 or audition. (4).

FRHN 542. ADVANCED FRENCH HORN PERFORMANCE II. Private study for advanced seniors and graduate students in French horn performance. Prerequisite: FRHN 541 or equivalent. (4).

FRHN 621. GRADUATE FRENCH HORN I. Private study for graduate students. Prerequisite: FRHN 522 or equivalent. (2).

FRHN 622. GRADUATE FRENCH HORN II. Private study for graduate students. Prerequisite: FRHN 621 or equivalent. (2).

FRHN 641. GRADUATE FRENCH HORN PERFORMANCE I. Private study for graduate students in French horn performance. Prerequisite: FRHN 542 or equivalent. (4).

FRHN 642. GRADUATE FRENCH HORN PERFORMANCE II. Private study for graduate students in French horn performance. Prerequisite: FRHN 641 or equivalent. (4).

TRPT 521. ADVANCED TRUMPET I. Private study for advanced seniors and graduate students. Prerequisite: TRPT 422 or audition. (2).

TRPT 522. ADVANCED TRUMPET II. Private study for advanced seniors and graduate students. Prerequisite: TRPT 521 or equivalent. (2).

TRPT 541. ADVANCED TRUMPET PERFORMANCE I. Private study for advanced seniors and graduate students in trumpet performance. Prerequisite: TRPT 442 or audition. (4).

TRPT 542. ADVANCED TRUMPET PERFORMANCE II. Private study for advanced seniors and graduate students in trumpet performance. Prerequisite: TRPT 541 or equivalent. (4).

TRPT 621. GRADUATE TRUMPET I. Private study for graduate students. Prerequisite: TRPT 522 or equivalent. (2).

TRPT 622. GRADUATE TRUMPET II. Private study for graduate students. Prerequisite: TRPT 621 or equivalent. (2).

TRPT 641. GRADUATE TRUMPET PERFORMANCE I. Private study for graduate students in trumpet performance. Prerequisite: TRPT 542 or equivalent. (4).

TRPT 642. GRADUATE TRUMPET PERFORMANCE II. Private study for graduate students in trumpet performance. Prerequisite: TRPT 641 or equivalent. (4).

TRBN 521. ADVANCED TROMBONE I. Private study for advanced seniors and graduate students. Prerequisite: TRBN 422 or audition. (2).

TRBN 522. ADVANCED TROMBONE II. Private study trombone for advanced seniors and graduate students. Prerequisite: TRBN 521 or equivalent. (2).

TRBN 541. ADVANCED TROMBONE PERFORMANCE I. Private study for advanced seniors and graduate students in trombone performance. Prerequisite: TRBN 442 or audition. (4).

TRBN 542. ADVANCED TROMBONE PERFORMANCE II. Private study for advanced seniors and graduate students in trombone performance. Prerequisite: TRBN 541 or equivalent. (2).

TRBN 621. GRADUATE TROMBONE I. Private study for graduate students. Prerequisite: TRBN 522 or equivalent. (2).

TRBN 622. GRADUATE TROMBONE II. Private study for graduate students. Prerequisite: TRBN 621 or equivalent. (2).

TRBN 641. GRADUATE TROMBONE PERFORMANCE I. Private study for graduate students in trombone performance. Prerequisite: TRBN 522 or equivalent. (4).

TRBN 642. GRADUATE TROMBONE PERFORMANCE II. Private study for graduate students in trombone performance. Prerequisite: TRBN 641 or equivalent. (4).

TUBA 521. ADVANCED TUBA I. Private study for advanced seniors and graduate students. Prerequisite: TUBA 422 or audition. (2).

TUBA 522. ADVANCED TUBA II. Private study for advanced seniors and graduate students. Prerequisite: TUBA 521 or equivalent. (2).

TUBA 541. ADVANCED TUBA PERFORMANCE I. Private study for advanced seniors and graduate students in tuba performance. Prerequisite: TUBA 442 or audition. (4).

TUBA 542. ADVANCED TUBA PERFORMANCE II. Private study for advanced seniors and graduate students in tuba performance. Prerequisite: TUBA 541 or equivalent. (4).

TUBA 621. GRADUATE TUBA I. Private study for graduate students. Prerequisite: TUBA 522 or equivalent. (2).

TUBA 622. GRADUATE TUBA II. Private study for graduate students. Prerequisite: TUBA 621 or equivalent. (2).

TUBA 641. GRADUATE TUBA PERFORMANCE I. Private study for graduate students in tuba performance. Prerequisite: TUBA 542 or equivalent. (4).

TUBA 642. GRADUATE TUBA PERFORMANCE II. Private study for graduate students in tuba performance. Prerequisite: TUBA 641 or equivalent. (4).

PERC 521. ADVANCED PERCUSSION I. Private study for advanced seniors and graduate students. Prerequisite: PERC 422 or audition. (2).

PERC 522. ADVANCED PERCUSSION II. Private study for advanced seniors and graduate students. Prerequisite: PERC 521 or equivalent. (3).

PERC 541. ADVANCED PERCUSSION PERFORMANCE I. Private study for advanced seniors and graduate students in percussion performance. Prerequisite: PERC 442 or audition. (2).

PERC 542. ADVANCED PERCUSSION PERFORMANCE II. Private study for advanced seniors and graduate students in percussion performance. Prerequisite: PERC 541 or equivalent. (4).

PERC 621. GRADUATE PERCUSSION I. Private study for graduate students. Prerequisite: PERC 522 or equivalent. (2).

PERC 622. GRADUATE PERCUSSION II. Private study for graduate students. Prerequisite: PERC 621 or equivalent. (2).

PERC 641. GRADUATE PERCUSSION PERFORMANCE I. Private study for graduate students in percussion performance. Prerequisite: PERC 542 or equivalent. (4).

PERC 642. GRADUATE PERCUSSION PERFORMANCE II. Private study for graduate students in percussion performance. Prerequisite: PERC 641 or equivalent. (4).

MUS 582. SECONDARY BRASS INSTRUMENTS. Applied minor brass instrument study for graduate music students. Emphasis on performance and pedagogical techniques for brass instruments. (May be repeated for credit). (2).

MUS 590. SECONDARY PERCUSSION INSTRUMENTS. Applied minor percussion instrument study for graduate students. Emphasis on technical development, familiarity with standard pedagogical materials and performance of literature. (2).

Voice — VOIC

- 521. ADVANCED VOICE I.** Private study for advanced seniors and graduate students. Prerequisite: VOIC 422 or audition. (2).
- 522. ADVANCED VOICE II.** Private study for advanced seniors and graduate students. Prerequisite: VOIC 521 or equivalent. (2).
- 541. ADVANCED VOICE PERFORMANCE I.** Private study for advanced seniors and graduate students in voice performance. Prerequisite: VOIC 442 or audition. (4).
- 542. ADVANCED VOICE PERFORMANCE II.** Private study for advanced seniors and graduate students in voice performance. Prerequisite: VOIC 541 or equivalent. (4).
- 621. GRADUATE VOICE I.** Private study for graduate students. Prerequisite: VOIC 522 or equivalent. (2).
- 622. GRADUATE VOICE II.** Private study for graduate students. Prerequisite: VOIC 621 or equivalent. (2).
- 641. GRADUATE VOICE PERFORMANCE I.** Private study for graduate students in voice performance. Prerequisite: VOIC 542 or equivalent. (4).
- 642. GRADUATE VOICE PERFORMANCE II.** Private study for graduate students in voice performance. Prerequisite: VOIC 641 or equivalent. (4).
- 652. SECONDARY VOICE.** Applied minor voice study for graduate music students. (2).

PHILOSOPHY AND RELIGION

Professor Michael Harrington, chair • 302 McDonnell-Barksdale Honors College

Professors Harrington and Lawhead • Associate Professor Westmoreland • Assistant Professors Barnard, Cozad, Manson, and Thurlkill

MASTER OF ARTS

Admission Requirements • In addition to meeting Graduate School requirements, prospective students should normally show a major in philosophy or at least 18 semester hours of undergraduate philosophy courses. The graduate faculty of the department will make a decision concerning admission after reviewing an applicant's academic records, recommendations, and other relevant factors.

Thesis and Nonthesis Options • Both thesis and nonthesis options are offered for the M.A. degree. The thesis option requires 24 semester hours of course work and 6 semester hours of thesis work. The nonthesis option requires 36 semester hours of course work. The options are described in part below.

- 1. THESIS OPTION.** Students electing the thesis option should submit a one- or two-page thesis prospectus to the departmental graduate faculty by no later than the middle of their third semester. Upon approval of the prospectus and in discussion with the candidate, the faculty will select a director and two other graduate faculty to serve as the thesis committee. The thesis director will be the student's primary adviser and liaison with the graduate school, and together with the other two members of the thesis committee will evaluate the thesis and the oral examination. Prior to the oral defense of the thesis, the student must have completed the written MA comprehensive examination and the exit questionnaire.
- 2. NONTHESIS OPTION.** Students electing the nonthesis option must select their course work in consultation with and with the consent of the graduate adviser. During the third semester of graduate work, the students will notify the director of Graduate Studies of their intent to submit a paper to the graduate faculty. Upon approval of the director and in discussion with the candidate, the faculty will select three graduate faculty to hear the paper presentation. The director will be the student's primary adviser and liaison with the graduate school, and together with the other two members of the committee will evaluate the paper and the oral examination. Prior to the oral defense of the paper, the student must have completed the written MA comprehensive examination and the exit questionnaire.

Philosophy — PHIL

- 502. PHILOSOPHY IN THE UNITED STATES.** Survey of American philosophy from colonial times to present. (3).
- 503. SEMINAR.** Selected topics. Content varies. (3).
- 506. CONTEMPORARY POLITICAL PHILOSOPHY.** Philosophical issues in recent political thought. (3).
- 508. SYMBOLIC LOGIC.** Symbolic techniques used in formalizing the basic logical principles and in constructing rigorous proofs and demonstrations. (Same as LING 508.) (3).
- 511. PHILOSOPHY OF SCIENCE.** Survey of philosophical issues in scientific theory and practice, including the nature of scientific method and explanation. (3).
- 516. CONTEMPORARY ETHICAL THEORY.** Recent ethical and metaethical theories and issues: e.g., the nature of morality, relativism, the relation of ethics to law and religion. (3).
- 518. CONTEMPORARY THEORIES IN THE PHILOSOPHY OF RELIGION.** Recent work in the philosophy of religion, such as process thought, Eastern religion, and religious epistemology. (3).

519. PHILOSOPHY OF LANGUAGE. Survey of major philosophical problems in language, including meaning, reference, and the relations of language to thought and being. (3).

520. PROBLEMS IN ENVIRONMENTAL ETHICS. Selected problems, such as population dynamics, ecosystem disruption, and environmental rights. (3).

607. MAJOR WESTERN PHILOSOPHERS. One or more classical thinkers such as Plato, Aristotle, Leibniz, Hume, Kant, Hegel. (May be repeated for credit). (1-3).

609. STUDIES IN EXISTENTIAL PHILOSOPHY. Basic works and themes in existentialism, centering in the fundamental philosophical questions as they are raised in Hebrew and Greek thought, synthesized in Christian thought, and examined by the existentialist philosophers. (3).

611. PROBLEMS OF METAPHYSICS. Selected issues in theories of reality. (May be repeated for credit.) (3).

613. PROBLEMS IN THE PHILOSOPHY OF RELIGION. Topics selected in accordance with needs and backgrounds of students. (1-3).

615, 616. RESEARCH. (May be repeated for credit). (1-3).

617. PROBLEMS OF EPISTEMOLOGY. Selected issues in theories of knowledge. (May be repeated for credit.) (3).

619. VALUE THEORY. An examination of the nature and purpose of values in classical and contemporary thought. (Consent of instructor). (May be repeated for credit). (3).

697. THESIS. (1-12).

Religion — REL

503. MAJOR ISSUES IN SOUTHERN RELIGION. Selected problems in religion in the American South: e.g., biblical defenses of racial practices, the slave religion controversy, interrelation of evangelical theology and political involvement. (3).

613. PROBLEMS IN THE PHILOSOPHY OF RELIGION. Topics selected in accordance with needs and backgrounds of students. (3).

PHYSICS AND ASTRONOMY

Professor Thomas C. Marshall, chair • 108 Lewis Hall

Professors Bass, Cremaldi, Marshall, Raspet, Reidy, and Summers • Associate Professors Kroeger and Ostrovskii • Assistant Professors Bombelli, Cavagliá, and Quinn • Research Professors Breazeale, Gilbert, and Sabatier • Associate Research Professors Church, Ostrovskaya, and Waxler • Assistant Research Professors Hickey, Lu, and Stolzenburg

MASTER OF ARTS AND MASTER OF SCIENCE

Requirements • A Master of Arts in Physics requires 30 hours of suitable graduate course work, at least 15 hours of which must consist of graduate course work in physics at the 600 level. A Master of Science degree requires 24 hours of suitable course work and 6 hours of thesis; at least 12 hours of the graduate course work must consist of courses in physics at the 600 level.

Prerequisite • Thirty semester hours of acceptable undergraduate study in physics and mathematics through differential equations are usually required for admission to graduate study. New graduate students should obtain a set of departmental rules for examinations. These rules apply to all graduate degrees offered by the department.

Career Preparation • Graduate work in physics is planned primarily to meet the needs of students who are looking forward to professional careers in physics, either as teachers or as research physicists. Students are required to participate in the teaching of physics lectures or laboratory as a part of their graduate training.

DOCTOR OF PHILOSOPHY

Specific Requirements • In addition to the general requirements, candidates for the Ph.D. must complete a minimum of 54 credit hours of graduate course work exclusive of thesis credit, in a program approved by the student's advisory committee. Core courses consisting of Thermodynamics and Statistical Mechanics (PHYS 627, 628), Advanced Mechanics (PHYS 609, 610), Quantum Mechanics (PHYS 611, 612), Modern Physics (PHYS 617, 618) and Advanced Electromagnetic Theory (PHYS 621, 622) are required of all candidates. Six hours of credit in a related field such as mathematics, chemistry or engineering (or a field approved by the chair) are required, and 12 hours are recommended. A total of 30 hours of credit must be in physics courses at the 600 level.

Preliminary Examination • The preliminary examination referred to in the general requirements for the doctoral program shall cover the following fields: classical and quantum mechanics, thermodynamics, optics, electricity and magnetism, modern physics and experimental physics.

Comprehensive Examination • The comprehensive examination has both written and oral components. The written part consists of four three-hour examinations as follows: 1) classical and quantum mechanics; 2) thermodynamics and statistical mechanics; 3) electromagnetic theory and optics; 4) modern physics. The oral part of the exam can be taken only after the written part has been passed.

Physics — PHYS

- 503. SELECTED TOPICS IN PHYSICS.** Prerequisite: Consent of the instructor; may be repeated for credit up to nine hours. (3).
- 507. DIRECTED RESEARCH.** Guided experimental work for the development of research laboratory skills. (Departmental approval required; cannot be used for degree credit; may be repeated for credit). (1-3). (Z grade).
- 510. RESEARCH SEMINAR.** Philosophy and principles of modern physics research. May be repeated for credit. (Z grade). (1).
- 521. ACOUSTICS.** Mathematical description of sound propagation with various boundary conditions. Prerequisite: PHYS 402 or graduate status. (3).
- 522. ACOUSTICS LABORATORY.** A laboratory course to complement an acoustics lecture course; emphasis on a study of wave phenomena and acoustical measurements. Corequisite: PHYS 521 or graduate status. (1).
- 523. INTRODUCTION TO ELEMENTARY PARTICLE PHYSICS.** Phenomenology. Symmetries and conservation laws. Quarks, leptons, gauge bosons. Standard model. Experimental techniques of particle physics. Corequisite: PHYS 451 or graduate status. (3).
- 532. ADVANCED ACOUSTICS LABORATORY.** Advanced laboratory projects in acoustics involving experiments in sound measurement and analysis, vibration, transducers, architectural and underwater acoustics. Prerequisite: PHYS 521 or consent of instructor. (3).
- 533. SURVEY OF TOPICS IN PHYSICS I.** Topics of special interest to teachers of life and physical sciences. Not applicable to a professional degree in physics. Prerequisite: consent of instructor. (3).
- 534. SURVEY OF TOPICS IN PHYSICS II.** Topics of special interest to teachers of life and physical sciences. Not applicable to a professional degree in physics. Prerequisite: PHYS 533 or consent of instructor. (3).
- 551. THEORETICAL PHYSICS I.** Mathematical aspects of the theoretical formulation of classical and modern physics. Prerequisite: PHYS 308 or graduate status. (3).
- 552. THEORETICAL PHYSICS II.** Mathematical aspects of the theoretical formulation of classical and modern physics. Prerequisite: PHYS 551. (3).
- 605. ADVANCED ACOUSTICS.** Advanced course in theoretical acoustics. The course will treat the acoustic wave equations for a variety of actual physical situations. Prerequisites: successful completion of PHYS 521 or consent of instructor. (3).
- 609. ADVANCED MECHANICS I.** Newtonian mechanics, Lagrangian dynamics, small oscillations, rigid body motion. Hamiltonian dynamics, waves, continuum mechanics, classical field theory. (3).
- 610. ADVANCED MECHANICS II.** Continuation of Advanced Mechanics I. Prerequisite: PHYS 609. (3).
- 611. QUANTUM MECHANICS I.** Schrodinger's equation and Hilbert spaces. Symmetry and conservation laws. Path integral quantization. Quantum theory of angular momentum. Systems of identical particles and many-electron atoms. Perturbation theory. Nonrelativistic scattering. Corequisite: PHYS 617 (3).
- 612. QUANTUM MECHANICS II.** Continuation of Quantum Mechanics I. Prerequisite: PHYS 611. Corequisite: PHYS 618. (3).
- 617. MODERN PHYSICS I.** Special relativity and quantum mechanics; applications to atomic and nuclear physics, particle physics, and solid state physics. (3).
- 618. MODERN PHYSICS II.** Continuation of Modern Physics I. Prerequisite: PHYS 617. (3).
- 621. ADVANCED ELECTROMAGNETIC THEORY I.** Electromagnetic waves, scattering and dispersion, and advanced boundary value problems. (3).
- 622. ADVANCED ELECTROMAGNETIC THEORY II.** Continuation of Advanced Electromagnetic Theory I. Prerequisite: PHYS 621. (3).
- 623. INTRODUCTION TO NUCLEAR PHYSICS I.** Prerequisite: MATH 454. (3).
- 624. INTRODUCTION TO NUCLEAR PHYSICS II.** Continuation of Nuclear Physics I. Prerequisite: PHYS 623. (3).
- 625. SOLID STATE PHYSICS I.** Properties of solids and solid state theory, lattices, lattice imperfections and vibrations, cohesive energy, band structure, magnetism, transport and optical properties. (3).
- 626. SOLID STATE PHYSICS II.** Continuation of Solid State Physics I. Prerequisite: PHYS 625. (3).
- 627. ADVANCED THERMODYNAMICS AND STATISTICAL MECHANICS I.** Theory and applications of the laws of thermodynamics and statistical mechanics from the classical and quantum viewpoints. (3).
- 628. ADVANCED THERMODYNAMICS AND STATISTICAL MECHANICS II.** Continuation of Advanced Thermodynamics and Statistical Mechanics I. Prerequisite: PHYS 627. (3).
- 629. SELECTED TOPICS IN PHYSICS I.** Topics of current interest, both experimental and theoretical. (3).
- 630. SELECTED TOPICS IN PHYSICS II.** Topics of current interest, both experimental and theoretical. Prerequisite: PHYS 629. (3).
- 631. QUANTUM PARTICLE PHYSICS I.** Quantized relativistic fields. QED. Renormalization. Gauge fields. Spontaneous symmetry breaking. Electroweak interactions. QCD. (3).
- 632. QUANTUM PARTICLE PHYSICS II.** Continuation of Quantum Particle Physics I. Prerequisite: PHYS 631. (3).
- 697. THESIS RESEARCH IN PHYSICS.** (1-12).
- 797. DISSERTATION.** (1-18).

POLITICAL SCIENCE — POL

Professor Richard G. Forgette, chair • 116 Deupree Hall

Professors Albritton, Forgette, and Winkle • Associate Professors Brown, Bruce, Cooper, Palmer, and Smith • Assistant Professors Guo, Long, Nordstrom, and Schwindt-Bayer

MASTER OF ARTS

The Master of Arts (M.A.) is designed to provide students with an intensive experience in political science. There are two programs: one, which requires a written thesis, is for students primarily interested in political science research; the other, which replaces the thesis with a written comprehensive examination, is for students who are more concerned with the practical application of their political science expertise.

Admission • All applicants should hold at least a bachelor's degree from an accredited institution, have a competitive undergraduate grade-point average, and have earned competitive scores on the verbal and quantitative sections of the Graduate Record Examination (GRE). Applicants for whom English is not the native language must demonstrate linguistic proficiency suitable for graduate-level study by achieving a minimum score of 550 on the Test of English as a Foreign Language (TOEFL). Applicants also must submit three letters of recommendation, a writing sample, and a brief essay outlining their substantive interests in political science (for example, American politics and judicial behavior) and the career goals for which a graduate degree will prepare them. Fulfilling the minimum standard is not a guarantee of admission.

Requirements: Thesis Option • Thirty graduate-level semester hours, including 6 hours of methods/tools courses (POL 550, 551) and a thesis carrying 6 credit hours constitute the minimum requirement. Each candidate for the M.A. must pass an oral examination after the other requirements for the degree have been fulfilled. The examination may include the student's course work as well as the thesis. All requirements for the M.A. degree normally must be completed within four years from the date of enrollment.

Requirements: Nonthesis Option • Thirty graduate-level semester hours, including 6 hours of methods/tools courses (POL 550, 551) and a written comprehensive examination in the student's major subfield constitute the minimum requirement. Each candidate for the M.A. must pass an oral examination after the other requirements for the degree have been fulfilled. The examination may include the student's course work as well as the written examination. All requirements for the M.A. degree normally must be completed within four years from the date of enrollment.

DOCTOR OF PHILOSOPHY

The Doctor of Philosophy (Ph.D.) is designed to prepare students for a career in teaching and academic research.

Admission • Applicants to the Ph.D. program must submit three letters of recommendation, a statement of purpose outlining their substantive interests in political science (for example, comparative politics and developing nations), and a writing sample. They also must hold at least a bachelor's degree from an accredited institution, have a competitive grade point average and have earned competitive scores on the verbal and quantitative sections of the Graduate Record Examination (GRE). All students for whom English is not the native language must demonstrate proficiency in English by achieving a minimum score of 550 on the Test of English as a Foreign Language (TOEFL). Fulfilling the minimum admission standards is not a guarantee of admission.

Requirements • A student enrolled in the doctoral program will be admitted to candidacy when the following requirements have been satisfied: (1) a minimum of 54 semester hours of graduate-level course work in political science have been completed, including course work for the M.A. (done at The University of Mississippi or elsewhere), but excluding credit for the thesis or internship, (2) the methodology requirement has been met; and (3) the written and oral portions of the comprehensive examination have been passed.

Each student working for the Ph.D. is required to complete three semesters of methods/tools courses, including POL 550, POL 551, and POL 552.

Each student working for the Ph.D. is required to take a comprehensive examination consisting of two parts, one written and one oral. The written examinations shall cover both the student's major field and minor field. The oral portion of the examination will be a rigorous, comprehensive test of the student's knowledge of the discipline of political science with special emphasis on the selected subfields.

Both a dissertation prospectus and a dissertation exhibiting original research and demonstrating mature scholarship and critical judgment, as well as familiarity with the tools and methods of research, are required.

American Government and Politics

- 500. SEMINAR IN AMERICAN POLITICS.** An orientation to the major literature on American politics that introduces students to major conceptual and theoretical issues in the field. Prerequisite: consent of the instructor. (3).
- 601. SEMINAR IN JUDICIAL BEHAVIOR.** An analysis of judicial decision making, its influences and impact, in trial and appellate courts in state and federal systems. Prerequisite: consent of instructor. (3).
- 602. SEMINAR IN JUDICIAL POLITICS.** Problems in constitutional law; theories of judicial activism versus restraint; legal and political philosophies of Supreme Court justices; methods of judicial rationalization; judicial elitism. (3).
- 603. SEMINAR IN AMERICAN LEGISLATIVE POLITICS.** An examination of the academic literature on the U.S. Congress, focusing on classic studies and advanced methods, with an emphasis on preparing students for original research in the field. Prerequisite: POL 651 or 653 or consent of instructor. (3).
- 604. SEMINAR IN EXECUTIVE POLITICS.** Examination of the presidency and other chief executive offices analyzing functions, powers, and relations with other political institutions; both historical and comparative analysis. (3).
- 606. SEMINAR IN MEDIA POLITICS.** An examination of the role and function of the media in American national politics, the theories used to explain that role, and the methodologies used to test those theories. Prerequisite: POL 651 or 653 or consent of instructor. (3).
- 609. SEMINAR IN SOUTHERN POLITICS.** Analysis of Southern politics that focuses on the region's unique political history, its transformation during the 20th century, and its importance to national politics. (3).
- 612. SEMINAR IN AMERICAN POLITICAL PARTIES.** An examination of issues related to the study of political parties, especially as linkage institutions between citizens and elites. (3).
- 613. SEMINAR IN STATE POLITICS AND POLICY.** An examination of issues related to the study of state politics and policy in the United States with a focus on the study of states as laboratories for public policy and for the empirical examination of political institutions and behavior. (3).
- 614. SEMINAR IN POLITICAL PARTICIPATION AND VOTING.** An examination of the determinants of mass political behavior. Primary focus on the act of voting and forces shaping the vote decision. (3).
- 615. SEMINAR IN PUBLIC OPINION AND POLITICAL PSYCHOLOGY.** An examination of the key concepts and literature in the broad and multidisciplinary field of public opinion. (3).

Comparative Government and Politics

- 523. CONCEPTS AND THEORIES OF COMPARATIVE POLITICAL ANALYSIS.** Examination of the major empirical concepts of comparative politics and their use in theory construction for the analysis of politics within societies. Prerequisite: consent of the instructor. (3).
- 620. SEMINAR IN ADVANCED INDUSTRIAL SOCIETIES.** Major theories and issues concerning politics in advanced industrial societies, including Western Europe, Japan, Australia, the U.S., and Canada. (3).
- 621. SEMINAR IN EUROPEAN COMPARATIVE GOVERNMENT.** Theories and problems in European comparative government. (3).
- 622. SEMINAR IN POLITICAL DEVELOPMENT AND CHANGE.** Intensive examination of the provocative concepts and theories in the area of political development and change. (3).
- 624. SEMINAR IN ASIAN GOVERNMENT.** Theories and problems specific to Asian societies and politics. (3).
- 625. REFORM AND CHANGE IN [POST] COMMUNIST POLITICAL SYSTEMS.** This course examines the theoretical foundations of Communist systems both as political entities and as a subfield in Comparative Politics. (3).
- 626. COMPARATIVE BUREAUCRACIES.** A comparative look at state structures and relationships, focusing on the policy process and bureaucracy. Prerequisite: POL 623. (3).
- 627. COMPARATIVE LEGISLATURES.** Comparative study of some of the important structures, functions, and processes of legislatures and legislative-like institutions in both Western and non-Western societies. Prerequisite: consent of instructor. (3).
- 628. SEMINAR IN COMPARATIVE PARTIES AND ELECTIONS.** An examination of political parties, party systems, and elections worldwide. (3).
- 641. SEMINAR IN LATIN AMERICAN COMPARATIVE GOVERNMENT.** Theories and issues concerning politics and government with specific focus on Latin America. (3).
- 642. QUANTITATIVE APPROACHES TO COMPARATIVE POLITICS.** Theoretical and empirical approaches to the study of comparative politics in an applied setting using quantitative methodologies. (3).

International Relations

- 531. SEMINAR IN INTERNATIONAL RELATIONS.** Theories and problems in international relations. Prerequisite: consent of the instructor. (3).
- 632. QUANTITATIVE APPROACHES TO INTERNATIONAL RELATIONS.** Mathematical techniques currently applied to the study of international politics. Statistical and game-theoretic models will be explored, with special emphasis on quantitative cross-national foreign policy analysis. (3).
- 633. GLOBAL STRATEGY AND ALLIANCES.** Examination of block behavior and alliances in international politics. (3).
- 634. FORMULATION OF AMERICAN FOREIGN POLICY.** The mechanisms and institutions involved in foreign policy formulation, including the impact and interaction of both governmental and nongovernmental groups. Covers the various modes of influence utilized in foreign policy and the current behavioral literature relevant to the policy-making process. (3).

- 635. INTERNATIONAL CONFLICT IN THE NUCLEAR AGE.** Analysis of constraints and options regarding the use of military force in the nuclear era. Subjects include possible forms of nuclear and limited war, escalation models, and coercive bargaining techniques. (3).
- 636. INTERNATIONAL SECURITY LAW AND POLICY.** This course explores the complexities of the international law of conflict management and the legal structure for resolving international disputes. (Same as LAW 658). (3).
- 637. SEMINAR IN INTERNATIONAL POLITICAL ECONOMY.** An introduction to the major theoretical, historical, and current policy issues in international political economy, including the politics of international trade, monetary, and investment relations. (3).
- 638. INTERNATIONAL ORGANIZATION AND COOPERATION.** This course explores theories of international cooperation and the role of intergovernmental organizations. (3).

Methodology

- 550. RESEARCH IN POLITICS.** Introduction to the philosophy and practice of research in political science. Prerequisite: consent of the instructor. (3).
- 551. EMPIRICAL POLITICAL RESEARCH.** Introduction to elements of probability, statistics, and bivariate regression in political science. Prerequisite: consent of the instructor. (3).
- 652. APPLIED POLITICAL RESEARCH.** Hypothesis testing and inference using the general linear model. Prerequisite: consent of the instructor. (3).
- 653. ADVANCED TOPICS IN POLITICAL METHODOLOGY.** Advanced topics in political methodology, such as systems of equations, time series analysis, and limited dependent variables. (3).
- 654. FORMAL MODELS OF POLITICS.** An introduction to formal models of politics, including topics such as individual rationality and introductory game theory, collective choice theory, spatial models, voting games and coalitional rationality. (3).

Honors, Internships, Colloquia, and Individual Study

- 598. SPECIAL TOPICS IN POLITICAL SCIENCE** Study of specialized topics in the discipline. May be repeated once for credit. (3).
- 691. SEMINAR IN TEACHING.** Description of pedagogy of Political Science. The first part of the course deals with philosophical issues, goals, and approaches. The second part focuses on mechanics of good teaching. (1). (Z grade).
- 696. ADVANCED READINGS.** Self-directed readings for senior graduate students. (3).
- 698. SPECIAL TOPICS IN POLITICAL SCIENCE.** Study of specialized topics in the discipline. May be repeated for credit. (3).
- 699. READINGS AND RESEARCH IN POLITICAL SCIENCE** Independent research. Prerequisite: Instructor's permission. May be repeated once for credit. (3).

Thesis and Dissertation

- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

PSYCHOLOGY — PSY

Professor Michael T. Allen, chair • 205 Peabody Building

Professors Allen, Gross, and Hargrove • Associate Professors Christoff, Lombardo, Mendolia, Sabol, and Sufka • Assistant Professors Gohm, Johnson, Prins, Reysen, Schulenberg, and Wilson

MASTER OF ARTS

The Department of Psychology does not offer a terminal master's degree. All graduate students must be accepted into the Ph.D. program and may receive the Master of Arts as one step in the doctoral program.

DOCTOR OF PHILOSOPHY

The Department of Psychology offers programs of study in Clinical and Experimental Psychology (with areas of concentration in behavioral neuroscience, cognitive psychology, and social psychology) leading to the Doctor of Philosophy degree. The Clinical Program is fully accredited by the American Psychological Association. Completion of the clinical program requires a minimum of five years beyond the baccalaureate degree. This time is devoted to a combination of research, coursework, and practica. Clinical students also must complete a one-year, full-time internship at an agency accredited by the American Psychological Association. Admission to the Experimental Program, which is designed to be completed within 4 years, is limited to approximately four to six students each year to ensure every student a close apprentice relationship with his or her major professor. The core curriculum of study is coupled with an individualized plan of elective courses, research experiences, and teaching assignments that the student and major professor select as appropriate to the student's objectives. While neither program accepts terminal master's degree students, students in the Ph.D. programs do earn the Master of Arts and

complete a master's thesis as part of their degree requirements. Following receipt of the M.A., all students must take and pass comprehensive examinations before full admission to Ph.D. candidacy is granted. Clinical students cannot apply to internship programs before the dissertation proposal has been approved.

Admission Requirements • Applicants to the graduate programs in psychology must have completed a baccalaureate degree at an accredited institution, and must have successfully completed a minimum of 12 semester hours of psychology courses. Undergraduate course work should include General Psychology, Psychological Statistics, and at least one laboratory course. Additional course work in Physiological Psychology, Abnormal Psychology, Developmental Psychology, and some course work in biology, physiology, and/or chemistry is preferred. In addition to Graduate School requirements, applicants must submit a score on the GRE subject test in psychology, three letters of recommendation, and a statement of their reasons for pursuing a graduate degree at The University of Mississippi. Applications for admission are considered only once each year. All application materials must be received by January 15 for consideration for admission the following August.

501, 502. QUANTITATIVE METHODS IN PSYCHOLOGY. Topics treated are descriptive statistics, probability theory, hypothesis testing, linear regression, analysis of variance, experimental design, nonparametric and multivariate techniques, and computer applications. Prerequisite: for PSY 501, PSY 302; for PSY 502, PSY 501. (3, 3).

505. CONDITIONING AND LEARNING. The general field of human and animal learning including instrumental conditioning, classical conditioning, memory, and transfer. Prerequisite: 12 hours in psychology. (3).

506. HUMAN LEARNING AND COGNITION. Covers perception in the visual and auditory systems, pattern recognition and attention, features of the three major memory systems, the representation of knowledge in memory, the neurological memory, language, learning and cognitive development, problem solving and decision making, mechanisms of thought, and other related topics. (3).

510. HUMAN PHYSIOLOGICAL RECORDING IN RESEARCH AND PRACTICE. Practical and research applications of physiological recording techniques such as EEG, EMG, and EKG. Students will become familiar with actual recording procedures during the laboratory sequence. Prerequisite: PSY 528. (3).

511. THE NEURAL BASIS OF LEARNING AND MEMORY. The course will focus on habituation in the Aplysia; classical conditioning and the cerebellum; theories of hippocampal function - animal studies; temporal lobe amnesia in humans; memory impairments associated with Alzheimer's and Huntington's disease. (3).

519. GROUP DYNAMICS. Factors affecting political and social efficiency. Prerequisite: PSY 321. (3).

523. TESTS AND MEASUREMENTS. Principles of test construction, scoring, and interpretation. Prerequisite: admission to the clinical program or consent of the instructor. Prerequisite or corequisite: PSY 501. (3).

526. SOCIAL PSYCHOLOGY. An intensive review of the field of social psychology. Prerequisite: 12 hours of psychology. (3).

528. PHYSIOLOGICAL PSYCHOLOGY. The neuroanatomical and neurochemical bases of behavior. Prerequisite: 12 hours of psychology. (3).

529. ADVANCED DEVELOPMENTAL PSYCHOLOGY. Graduate-level survey of clinically relevant aspects of psychological development from infancy through adulthood. Undergraduates wishing to enroll are advised to consult the instructor. (3).

530. SINGLE SUBJECT AND SMALL GROUP RESEARCH DESIGN. Prerequisite: 12 hours of psychology and PSY 505. (3).

531. SENSATION AND PERCEPTION. A survey of classical psychophysical methods, signal detection theory, and sensory psychophysiology. Prerequisite: 12 hours of psychology. (3).

532. ATTENTION AND CONSCIOUSNESS. The seminar explores the nature and underlying mechanisms of attention and consciousness. Topics include theories of attention and consciousness, attention and duration judgment, philosophical perspective on consciousness, subliminal perception, implicit learning, and animal consciousness. Prerequisite: Graduate students in psychology and philosophy or permission of instructor. (3).

541. MENTAL RETARDATION AND DEVELOPMENTAL DISORDERS I. Structural aspects of reduced function including genetic, glandular, neurological, and psychological considerations. Prerequisite: 12 hours of psychology. (3).

543. MENTAL RETARDATION AND DEVELOPMENTAL DISORDERS II. Behavioral inadequacies including intellectual, social, motivational, emotional, and learning dysfunctions. Prerequisite: PSY 541. (3).

551. HISTORY AND SYSTEMS OF PSYCHOLOGY. Historical development of psychology from classical Greece through twentieth century. Prerequisite: 12 hours of psychology. (3).

553. THEORIES OF LEARNING. Theories of Thorndike, Pavlov, Guthrie, Skinner, Hull, and Tolman. Prerequisite: 12 hours of psychology. (3).

555. PSYCHOLOGY COLLOQUIUM. Presentation of current research by students, faculty, and visiting psychologists. Prerequisite: 12 hours of psychology. (1). (Z grade).

561. CROSS-CULTURAL TRAINING. The course will survey cross-cultural training programs designed to introduce people from one cultural background to ways of interacting effectively in a culture other than their own. (3).

575. PSYCHOSOCIAL ASPECTS OF AGING. Introduction to gerontology with a foundation in biological, psychosocial, and behavioral aspects of aging; emphasis on current research and experience working with older adults. (Same as SW 575). (3).

599. CLINICAL STAFFING. Case presentation of clients seen in practicum. Prerequisite: admission to clinical program and 12 hours of psychology. (May be repeated for credit). (1). (Z grade).

601. SEMINAR. New developments in psychology. Prerequisite: 12 hours of psychology or consent of instructor. (May be repeated for credit). (3).

- 605. ADVANCED STATISTICS.** Design and analysis of behavioral experimentation with emphasis on analysis of variance, multivariate methods, and related techniques. Prerequisite: PSY 502. (3).
- 606. METHOD AND THEORY IN PROGRAM EVALUATION.** A survey of methods used in the evaluation of social programs. Theoretical and methodological issues are stressed. Prerequisites: 501, 502 or equivalent, or consent of instructor. (3).
- 609. BEHAVIOR MODIFICATION.** Prerequisite: PSY 505. (3).
- 610. TECHNIQUES OF ASSESSMENT I: COGNITIVE TESTS.** Administration, scoring, and interpretation of individual and group tests. Prerequisite: admission to the clinical program or consent of the instructor. (3).
- 611. TECHNIQUES OF ASSESSMENT II: PERSONALITY ASSESSMENT.** Introduction to methods of assessing personality and psychopathology including projective techniques, structured tests, and interviewing. Prerequisites: consent of director of clinical training and admission to the clinical program or consent of the instructor. (3).
- 614. BEHAVIOR THERAPY.** Application of learning theory to clinical problems Prerequisites: consent of director of clinical training and admission to the clinical program or consent of the instructor. (3).
- 616. PSYCHOPHARMACOLOGY.** This course involves the study of drugs used for the treatment of mental disorders, as well as drugs of abuse. Topics include drug effects in humans, mechanisms of drug action, animal-based research directed toward understanding the neural basis of drug action, and animal models used in preclinical drug testing. Prerequisite: consent of instructor. (3).
- 617. INDIVIDUAL EXPERIMENTAL RESEARCH.** Prerequisite: 12 hours of psychology and consent of instructor. (May be repeated for credit). (1-3). (IP or letter grade).
- 621. SEMINAR.** Readings, reports, and discussions of special topics. Prerequisite: 12 hours of psychology and consent of instructor. (May be repeated for credit). (1-3).
- 622. CLINICAL ASSESSMENT PRACTICUM.** Conduct of psychological assessments in a field placement setting. Prerequisite: Admission to the clinical program, grades of at least "B" in PSY 523, PSY 610, and PSY 611. (May be repeated for credit). (3).
- 623. CLINICAL PRACTICUM I.** Involves participation on a treatment team in the Psychological Services Center. Prerequisite: admission to the clinical program and recommendation of the clinical faculty. (3). (Z Grade).
- 624. CLINICAL PRACTICUM II.** Involves participation on a treatment team in the Psychological Services Center. This course is required of all second-year clinical students. Prerequisites: standing as a second year graduate student in the clinical program. (3). (Z Grade).
- 625. CLINICAL PRACTICUM III.** Involves participation on a treatment team in the Psychological Services Center. This course is required of all third-year clinical students. Up to three hours may be taken. Prerequisites: two semesters of PSY 624. (3). (Z Grade).
- 626. CLINICAL PRACTICUM IV.** Involves participation on a treatment team in the Psychological Services Center. This course is required of all fourth-year clinical students. Up to three hours may be taken. Prerequisites: two semesters of PSY 625. (1-3). (Z Grade).
- 627. THEORIES OF PERSONALITY.** History of personality theory development with emphasis on current writers and research in the field. Prerequisite: 12 hours of psychology. (3).
- 628. CLINICAL PRACTICUM V: FIELD PLACEMENT.** Consultation, program planning and evaluation in a community mental health center, mental retardation center, or other field setting. Clinical students are required to take a minimum of three semesters, two of which must be completed consecutively at the same agency. Prerequisites: admission to the clinical program and approval of the clinical faculty. (May be repeated for credit). (3).
- 629. ADVANCED ABNORMAL PSYCHOLOGY.** Survey of etiology and correlates of adult psychopathology. Prerequisites: 12 hours of psychology and admission to the clinical program or consent of the instructor. (3).
- 631. THEORIES OF PSYCHOTHERAPY.** Overview of past and current approaches to therapy, with particular attention to understanding and integrating diverse theoretical systems. Prerequisites: PSY 629 and admission to the clinical program or consent of the instructor. (3).
- 633. BEHAVIOR PROBLEMS IN CHILDREN.** Correlates and remediation of problem behaviors and emotional disturbances in children and adolescents. Prerequisite: PSY 629. (3).
- 637. SEMINAR IN CLINICAL PSYCHOLOGY.** Readings, reports, and discussions of topics relating to the experimental foundations of clinical psychology and methods and problems in personality research. Prerequisite: 12 hours of psychology and consent of instructor. (May be repeated for credit). (3-6).
- 641. ISSUES AND ETHICS IN HUMAN RESEARCH AND PROFESSIONAL PSYCHOLOGY.** Readings, reports, and discussion of current issues, problems, and ethical procedures in research, teaching, and professional practices. Prerequisites: 12 hours of psychology and admission to the clinical program or consent of the instructor. (3).
- 647. PROBLEMS IN PSYCHOLOGY.** Individual study and reading, preparation of literature surveys and technical manuscripts, other individual projects. Prerequisite: 12 hours of psychology and approval of topic by staff. (May be repeated for credit). (1-3).
- 648. RESEARCH DESIGN.** Covers classic issues in research design such as reliability, validity, generalizability, the logic of causal inference, and ethics. Prerequisites: PSY 501 and 502. (3).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).
- 798. PSYCHOLOGY INTERNSHIP.** One calendar year of supervised, full-time, on-the-job experience in an internship facility. Clinical internships are to be taken at APA-approved facilities or their equivalent. Nonclinical internships are to be arranged in consultation with the student's major professor. Prerequisite: completion of departmental requirements and approval of the department chair. (1-3). (Z grade).

SOCIOLOGY AND ANTHROPOLOGY

Professor David Swanson, chair • 101 Leavell Hall

Professors Grisham, Johnson, Long, and Swanson • Associate Professors Dellinger, Ethridge, Ford, Kurtz, Lake, and Sisson • Assistant Professors Haenfler, Jackson, Oh, and Wrobel • Adjunct Assistant Professor Murray

MASTER'S DEGREE PROGRAMS

The M.A. degree is offered in sociology and in anthropology. The M.S.S. degree is offered in sociology only. Students planning to major or minor in this department will, at the time of first registration, ask the advice of the director of graduate studies and select a program of study adapted to their individual needs.

Prerequisites • At least 18 semester hours of satisfactory work in undergraduate theory and subject matter courses are prerequisite to graduate study in sociology. Admission is based on the undergraduate record and general scores on the Graduate Record Examination.

MASTER OF ARTS

Requirements • *General:* Graduate Record Examination general test scores are required for admission to the degree program in full standing. A minimum of one-half the candidate's graduate courses exclusive of thesis credit must be in 600-level courses. Graduate students should consult the Departmental Handbook for specific program requirements.

Sociology: The thesis option requires 24 semester hours of graduate course work and a minimum of six hours of thesis credit. The 24 course hours must include Statistics (SOC 501), Research Methods (SOC 502) and Studies in Social Theory (SOC 601). The nonthesis option requires 36 hours of graduate course work which must include Statistics (SOC 501), Research Methods (SOC 502), and Studies in Social Theory (SOC 601).

Anthropology: The Master of Arts in Anthropology requires 24 semester hours of graduate course work and a minimum of six hours of thesis credit. The 24 course hours must include Laboratory Methods in Anthropology (ANTH 572), Anthropological Theory and Methods (ANTH 601), Seminar in Cultural and Linguistic Anthropology (ANTH 603), Seminar in Biocultural Anthropology (ANTH 604), and Seminar in Archaeology (ANTH 605).

MASTER OF SOCIAL SCIENCE IN SOCIOLOGY

The student is required to have a minimum of 36 semester hours of graduate courses in social sciences, divided as follows: 24 semester hours in sociology and 12 semester hours for a minor (anthropology, classical civilization, economics, history, journalism, philosophy, political science, and Southern studies); the 24 semester hours in sociology must include Statistics (SOC 501), Research Methods (SOC 502), and Studies in Social Theory (SOC 601).

Anthropology — ANTH

504. HUMAN OSTEOLOGY. This laboratory course is intended for individuals interested in the identification and analysis of human skeletal remains from archaeological or forensic contexts. (3).

506. METHODS IN ETHNOHISTORY. Examines the cross-disciplinary concepts and methods used to reconstruct the past of people who left little or no written record, such as the concept of "the other," the dimensions of history and anthropology, archaeological evidence, documentary evidence, oral traditions, and native autohistory. (3).

507. THE ARCHAEOLOGY OF LANDSCAPE. An exploration of the economic, social, political, and ideological dimensions of natural and cultural landscapes. Students will read and discuss approaches from critical geography, social theory, anthropology, archaeology, and related disciplines. (3).

508. SHATTERZONE: THE CONSEQUENCES OF CONTACT. This course examines the consequences of contact on the native inhabitants of the southeastern United States and the subsequent social and cultural transformations that followed. (3).

511, 512. CROSS-CULTURAL STUDIES IN ETHNOGRAPHY. Comparative study of the culture areas of the world, emphasizing the effects of ecology in the differential development of culture. (3, 3).

541. INDIVIDUAL STUDY PROJECT Prerequisite: consent of instructor. (3, 3).

571. LABORATORY METHODS IN ANTHROPOLOGY. An overview of the analytical techniques of archaeology, emphasizing their development, application, and literature. (1-6).

572. LABORATORY METHODS IN ANTHROPOLOGY: QUANTITATIVE TECHNIQUES. An examination of the theory and techniques of quantitative analysis in anthropology with particular emphasis on practical application. (3).

595. SEMINAR IN LINGUISTICS. (Same as ENGL 595 and LING 595). (3).

601. ANTHROPOLOGICAL THEORY AND METHODS. Basic theory and methods applied to selected areas of anthropological analysis. (3).

606. SEMINAR IN CULTURAL AND LINGUISTIC ANTHROPOLOGY. This course examines the theory, methods, and basic concepts of cultural and linguistic anthropology as well as how various anthropologists have operationalized these through ethnography. (3).

- 607. SEMINAR IN BIOCULTURAL ANTHROPOLOGY.** This seminar focuses on providing graduate students with an in-depth background in the theoretical and methodological aspects of biological anthropology. (3).
- 608. SEMINAR IN ARCHAEOLOGY.** A review of the major theoretical developments in archaeology with an emphasis on the implications for methods and applications. (3).
- 615. FUNDAMENTALS OF LINGUISTIC SCIENCE.** (Same as LING 615). (3).
- 620. STUDIES IN ETHNOGRAPHY.** (May be repeated for credit for a maximum of 9 hours). (3).
- 621, 622. READINGS IN ADVANCED GENERAL ANTHROPOLOGY.** Review of the major contributions of leading anthropologists. (3, 3).
- 635. FIELD METHODS IN ARCHAEOLOGY.** Training in excavation methods and interpretation of results through supervised field work. Prerequisite: consent of instructor. (6).
- 697. THESIS.** (1-12).

Sociology — SOC

- 501. STATISTICS.** Introduction to descriptive and sampling statistics; emphasis on measures of central tendency, dispersion, linear correlation and parametric tests of significance. (3).
- 502. SOCIAL RESEARCH METHODS.** In this course, students will critically analyze the assumptions, strengths, and limitations of different research methods in order to develop a researchable sociological question, write a research proposal, and carry out an actual research project. Prerequisite: SOC 501. (3).
- 525. CURRENT DEBATES IN GENDER.** Analysis of contemporary research and theories on gender identity and gender inequality. Focus on social structural and symbolic interactionist approaches, multiracial feminism and the study of masculinities. Exploration of areas still missing from this sociological feminist canon. (3).
- 531. LECTURES IN COMMUNITY ORGANIZATION.** Theoretical and pragmatic aspects of community problems and development. (3).
- 535. SOCIALIZATION AND SOCIETY.** Critical examination of major theories of socialization and their support in contemporary research; major focus on socialization in the community and on social change. (3).
- 545. SEMINAR IN POPULATION STUDIES.** Population distribution, composition, growth, migration, vital processes and problems. (3).
- 551. INDIVIDUAL STUDY PROJECT.** Prerequisite: written consent of the instructor. (3).
- 561. SEMINAR IN INTRODUCTORY SOCIOLOGY.** Subject matter in introductory sociology; its relationship to sociology as a scientific discipline. (3).
- 599. HEALTH CARE IN CONTEMPORARY SOCIETY.** Development, current organization, and financing of the contemporary health-care system in the U.S. from a comparative perspective. Specific topics include provider socialization, provider-consumer interaction, health care as an industry, and the health-care system of the future. (Same as ANTH 599 and PHAD 599). (3).
- 601. STUDIES IN SOCIAL THEORY.** Basic theories as found in selected areas of sociological analysis. (3).
- 605. PRACTICUM IN RESEARCH.** Practical research experience through the development of social research designs, data collection in the field and detailed analysis and discussion of collected data. Prerequisite: written consent of instructor. (3).
- 607. STUDIES IN THE COMMUNITY.** An examination of the theory and methods of community study. Major focus is the community in change. (3).
- 611. STUDIES IN POPULATION ANALYSIS.** Current data bases, methods in demographic research and their applications. (3).
- 613. STUDIES IN MINORITY-DOMINANT RELATIONS.** Examines racial and ethnic relations in historical and comparative perspective using contemporary social scientific research and theories. (3).
- 631. STUDIES IN DEVIANT BEHAVIOR.** Sociological perspectives on deviance; comprehensive review, analysis and evaluation of theories of deviant behavior from the past to the present. (3).
- 651. FIELDS OF SOCIOLOGY.** Basic theory and methods applied to selected areas of sociological analysis. (3).
- 661. SEMINAR IN EDUCATIONAL SOCIOLOGY.** The school as a social system; its organizational forms and functions in contemporary urban society; major focus on problems and prospects of research in education. (3).
- 697. THESIS.** (1-12).

SOUTHERN STUDIES — S ST

Professor Charles R. Wilson, program director • Barnard Observatory

Professors Eagles, Fisher, Harrington, Kartiganer, Ownby, M. Williams, Wilson, and Urgo • Associate Professors Bercaw, Dewey, Ethridge, Ford, Grisham, Kullman, Long, McCauley, McKee, Namorato, Payne, and Steel • Assistant Professors Crouther, Glisson, Gussow, Moen, Watson, and Wharton

MASTER OF ARTS

Prerequisites • In addition to meeting Graduate School requirements for admission, applicants to the M.A. program in Southern studies must hold a baccalaureate degree in the humanities, arts, social sciences, or journalism. Applicants are required to submit a 500-word essay explaining why they wish to pursue an M.A. degree in Southern studies. Admissions

decisions are made by a committee composed of the program director and members of the Southern Studies Advisory Board.

Requirements • Students earn the M.A. degree in Southern studies in one of two ways: (1) complete a minimum of 36 hours of graduate course work, including SST 601, 602, and 603 (internship); or (2) complete a minimum of 24 hours of graduate course work, including S ST 601 and S ST 602, and six hours of thesis (S ST 697). All students must select courses from a minimum of three of the disciplines listed below, with a maximum of 12 hours to be taken in any single discipline.

Examination • Thesis candidates must successfully complete a thesis defense. Nonthesis candidates will be required to make a colloquium presentation to their three-member committee, to which the public will be invited.

Courses • In addition to S ST 601 and 602, which are required of every student in the Southern studies program, courses must be chosen from at least three of the following disciplines with a maximum of four courses from any single discipline: AAS 504, 593; ANTH 509, 511; ARHI 538, 539, 548, 549, 550; ENGL 568, 569, 593, 661, 663, 675, 695; HIST 605, 606, 607, 701, 702; PSC 513; REL 503; SOC 521, 607, 611, 613; THEA 521.

534. STUDIES IN DOCUMENTARY FIELD WORK. Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and video tapes, audio recordings, and field notes. (Same as ANTH 534, ART 534). (3).

598. SPECIAL TOPICS. Interdisciplinary study of specialized topics in Southern culture. (3).

601. SOUTHERN STUDIES GRADUATE SEMINAR I. Multidisciplinary reading and research seminar in Southern studies. Students will read and discuss a common core of readings while pursuing research in their individual areas of interest. (3).

602. SOUTHERN STUDIES GRADUATE SEMINAR II. Reading, discussion, and research and writing course focused on exploring various perspectives on Southern society, its development and its institutions, social classes, and ethnic and racial groups. (3).

603. INTERNSHIP. Supervised research and work at off-campus cultural institutions. A journal relating the fieldwork experiences of the intern is required of every student. Students receiving 9 hours of credit must submit a final research paper and devote full time to the internship; students receiving 6 hours of credit must devote full time to the internship, but no final research paper is required; students receiving 3 hours of credit may undertake a half-time internship. Prerequisites: 18 hours of graduate credit and consent of the department. (3, 6, 9). (Z grade).

605. ADVANCED INDIVIDUAL STUDY. Readings for individual students under the direction of the instructor. (3).

697. THESIS. (1-12).

SPANISH See Modern Languages.

SPEECH PATHOLOGY See Communicative Disorders.

THEATRE ARTS — THEA

Professor Scott McCoy, chair • 302 Fine Arts Center

Professors McCoy and Shollenberger • Associate Professors Foregger, Mizenko, and Pulliam • Assistant Professors Cantu, Edwards, and Hanson

Prerequisite to Graduate Study • A minimum of 24 semester hours of acceptable undergraduate courses is required, including theatre history, performance techniques, dramatic literature, technical theatre and directing. Twelve semester hours must be in upper-division courses in these areas. Evidence of meaningful artistic achievement/experience may, at the department's discretion, be accepted in lieu of all or part of the above.

Students for whom English is a foreign or second language must present evidence of having successfully completed the Test of English as a Foreign Language (TOEFL) with a minimum total score of 600, preferably in graduate study fields #53 (Dramatic Arts) and/or #24 (Speech).

THE MASTER OF FINE ARTS IN THEATRE DEGREE

This 60-semester hours program is a terminal degree program intended to produce performers, directors, and designers with aspirations for creative theatrical production as a profession in American educational theatre and/or the various areas and levels of commercial theatre. The primary thesis requirement is a creative project in the student's area of specialization.

Requirements • Each of the three emphases within the M.F.A. program requires 54 semester hours of course work and at least 6 hours of thesis credit. THEA 621, Bibliography and Research, and THEA 623, Dramatic Theory, are required of all students in the M.F.A. program.

Degree Requirements: There are two emphasis areas: directing and design. For each emphasis, a student is required to complete a thesis project through enrollment in 6 hours of THEA 697. In addition to the requisite study and research, MFA theses normally will require a public presentation embodying the results of the research. MFA students are required to demonstrate progress in their area of specialization through production assignments each year.

For the directing emphasis, THEA 576, 579, 581, 582, 621, 623, 684, 685, 686, and 688 are required, plus THEA 624, 625, and 626. Five elective courses, approved by the student's adviser, also must be taken.

For the design emphasis, students must take THEA 570, 576, 579, 621, 623, 624, and 625. Also, students must take 27 hours of electives chosen from among THEA 571, 572, 573, 574, 575, 641, 651, 670, 671, 672, 673, 675, 677, and 678 (some of which may be repeated once, as indicated in the course descriptions), and they must take two additional electives. At least 15 hours of these electives must be at the 600 level, and all must be approved by the student's adviser.

The department requires the General Test of the Graduate Record Examination. M.F.A. students are required to demonstrate progress in their area of specialization through production assignments each year.

All 500-level courses in theatre arts can only be taken for graduate credit.

501. FILM HISTORY. Prerequisite: consent of instructor. (3).

502. FILM CRITICISM. Prerequisite: consent of instructor. (3).

505, 506. MOTION PICTURE TECHNIQUES. Methods and practices for the film performer. Prerequisite: consent of instructor. (3, 3).

511, 512. VOCAL PRODUCTION FOR REALISTIC STYLES I, II. The vocal interpretation and performances of modern realistic plays, stressing specific vocal approaches and techniques, and their application apropos of this genre. (1,1).

513, 514. VOCAL PRODUCTION FOR CLASSIC STYLES I, II. The vocal interpretation and performance of classical plays, stressing specific vocal approaches and techniques, and their application apropos of these genre. (1,1).

515, 516. VOCAL PRODUCTION FOR ALTERNATIVE THEATRICAL STYLES I, II. The vocal interpretation and performance of nonrealistic, nonclassical plays, stressing specific vocal approaches and techniques, and their application, apropos of these genre. (1,1).

521. THE BLACK PLAYWRIGHT IN AMERICA. Development of Black playwrights in American drama. (3).

561. ADVANCED ACTING. Intensive exploration of acting problems, approaches and techniques. Combines lectures on acting theory with applied studio work. (3).

562. ADVANCED STAGE MOVEMENT. Studies in movement techniques for the advanced actor. (3).

565. ADVANCED VOICE AND DICTION. Methods of production; analysis and training of each student's voice; attention to individual career goals. Required of every graduate student during the first semester of residence. (3).

566. ADVANCED ORAL INTERPRETATION FOR THE ACTOR. Analysis and delivery of line studies and complete character studies of varying types and from various historical periods. Prerequisite: 366 and consent of instructor. (3).

570. SCENIC PAINTING FOR THE THEATRE. Historical and modern theory and techniques of scenic painting for the theatre arts. (3).

571. ADVANCED THEATRE DESIGN GRAPHICS. Execution of technical drawings, perspective, and color renderings as basis for communication of scenic design in theatre arts. Prerequisite: consent of instructor. (3).

572. ADVANCED STAGE COSTUMING. Special problems in applied costume design and theory and practice. Prerequisite: consent of instructor. (3).

573. ADVANCED STAGE LIGHTING. The history, properties and functions of stage lighting, including production styles, script analysis, lighting formulae, psychological implications of light, color, space and form, composition. (3).

574. DRAFTING AND MODEL CONSTRUCTION. Practices and techniques of drafting and model making for the theatre, emphasizing conventions and standards of technical communication for scenic design. Prerequisite: THEA 274 and THEA 370 or equivalents. (3)

575. PERIOD PATTERN DRAFTING AND DRAPING. Special problems in pattern development for period stage costumes applied to supervised studio projects. Prerequisites: THEA 273 or equivalent, or consent of instructor. (3).

576. HISTORY OF DRESS AND DECOR. Historical survey of period styles in dress and decor from classical Greece to the 20th century as related to theatre arts. Prerequisite: consent of instructor. (3).

579. HISTORY OF DRESS AND DECOR II. Historical survey of trends, innovations, and developments in the history of dress and decor from 1600 to the present, as pertaining to theatre arts. (3).

581. ADVANCED DIRECTING. All phases of theatre work; current theories of production; preparation of director's prompt book. Prerequisite: consent of instructor. (3).

582. ADVANCED DIRECTING TECHNIQUES. All phases of theatre work; current theories of production; preparation of production book. Prerequisite: consent of instructor. (3).

585. THEATRE MANAGEMENT. Promotion, finance, and organization of educational, professional, and community theatre; practical experience in University and experimental theatre. (3).

603. DIRECTED STUDY. (May be repeated for credit). (3).

620. STUDIES IN THEATRE LITERATURE. Detailed study of some one period or figure. (May be repeated for credit). (3).

621. BIBLIOGRAPHY AND RESEARCH. Introduction to graduate study in the theatre arts. (3).

- 623. DRAMATIC THEORY.** An intensive study of major dramatic forms and their structural principles as they relate to the total art form. (3).
- 624. DEVELOPMENT OF THEATRE I** Lecture/seminar. Major trends and movements in theatre from the Greek period to 1850. (3).
- 625. DEVELOPMENT OF THEATRE II.** Lecture/seminar. Major trends and movements in theatre from 1850 to 1920. (3).
- 626. DEVELOPMENT OF THEATRE III.** Lecture/seminar. Major trends and movements in theatre from 1920 to the present. (3).
- 627. MODERN DRAMA IN TRANSLATION.** Development of European drama and dramatists forming the background of the last half of the 20th century. (3).
- 628. MODERN THEATRE PRACTICES .** Current operations and artistic organization of commercial, educational, and community theatre in the United States. Emphasis on production personnel policies and practices. (3).
- 641. SCENIC DESIGN STYLES.** Exploration and implementation of visual design styles and historical period styles through design projects based on individual studio practice. Prerequisite: consent of instructor. (3).
- 642. COSTUME DESIGN FOR FILM AND TELEVISION.** Designing costumes for video, television, and film. (3).
- 651. PRODUCTION DESIGN.** Special problems in scenic design for nontheatrical performance, including opera, ballet, television, and film. Prerequisite: THEA 571 and THEA 641. (3).
- 661, 662, 663. ADVANCED ACTING PRACTICUM.** Supervised studio projects designed to demonstrate superior proficiency in acting. (3, 3, 3).
- 664. ACTING MODERN REALISM.** The interpretation and performance of contemporary realistic plays, stressing particular physical and vocal techniques and modern acting approaches and applying critical analysis to a range of modern playwrights. (May be repeated once for credit). (3).
- 665. ACTING SHAKESPEARE.** The interpretation and performance of the plays of Shakespeare, stressing particular physical and vocal techniques and classical acting approaches and applying critical analysis to a range of Shakespearean works. (May be repeated once for credit). (3).
- 666. ACTING IN ALTERNATIVE STYLES.** The interpretation and performance of plays in styles exclusive of Shakespearean and modern realistic styles, from classical Greek to Absurdist, stressing particular techniques and applying critical analysis to representative playwrights. (May be repeated once for credit). (3).
- 668. ADVANCED THEATRE PERFORMANCE TECHNIQUES.** Advanced verbal and nonverbal communication methods and practice for media and live performance. (May be repeated for credit). (3).
- 670. ADVANCED SCENIC PAINTING.** Special problems in scenic painting applied to supervised studio projects. Prerequisite: THEA 570 or equivalent. (3).
- 671, 672, 673. ADVANCED DESIGN PRACTICUM.** Supervised studio projects designed to demonstrate superior proficiency in design for the theatre arts. (3, 3, 3). (May be repeated once for credit).
- 675. TECHNICAL DIRECTION AND TECHNOLOGY FOR THE THEATRE ARTS.** Analysis of the organization and operation of theatre facilities; emphasis on technological research. (3).
- 677. COMPUTER-AIDED DESIGN STUDIES FOR THE THEATRE.** A thorough investigation of a variety of current software being used in the industry stressing literateness in the subject matter and cognition of the scope of available programs. (3).
- 678. ADVANCED THEATRE PRODUCTION TECHNIQUES .** Advanced production practicum for theatre performances using traditional and advanced methods of technology. (May be repeated for credit). (3).
- 681, 682, 683. ADVANCED DIRECTING PRACTICUM.** Supervised studio projects designed to demonstrate superior proficiency in directing. (3, 3, 3).
- 684, 685. DIRECTING MODERN REALISM I AND DIRECTING MODERN REALISM II.** The interpretation and direction of contemporary realistic plays, stressing particular staging and production techniques, and applying these techniques to a range of modern playwrights. (THEA 685 is a continuation of THEA 684; description is the same). (3).
- 686, 687. DIRECTING SHAKESPEARE I AND DIRECTING SHAKESPEARE II.** The interpretation and direction of Shakespearean plays, stressing particular staging and production techniques, and applying these techniques to a range of Shakespearean comedies and dramas. (THEA 687 is a continuation of THEA 686; the description is the same). (3).
- 688, 689. DIRECTING IN ALTERNATIVE STYLES I AND DIRECTING IN ALTERNATIVE STYLES II.** The interpretation and direction of nonrealistic, nonclassical plays, stressing particular staging and production techniques, and applying these techniques to a range of dramatic literature. (THEA 689 is a continuation of THEA 688; the description is the same). (3).
- 691, 692. PROBLEMS IN PRODUCTION.** Problems in several types of plays; experience as production assistant in University productions. (3, 3).
- 697. THESIS.** (1-12).

PATTERSON SCHOOL OF ACCOUNTANCY

Morris H. Stocks, dean

200-H Conner Hall • (662) 915-5756

Dale L. Flesher, associate dean

200-E Conner Hall • (662) 915-7623

Professors Davis, Elam, D.L. Flesher, T.K. Flesher, and Stocks • Associate Professors Burkett, Cassidy, Nichols, and Wilder • Assistant Professors Bizarro, Morf, Shaw, Walker, and Wang

Graduate Programs • The following information concerns programs for the Master of Accountancy, Master of Taxation, and the Doctor of Philosophy in Accountancy. All graduate students are expected to perform teaching and/or research in partial fulfillment of degree requirements. Student performance is reviewed regularly; students must demonstrate satisfactory progress in order to continue an affiliation with the School of Accountancy.

MASTER OF ACCOUNTANCY

The objective of the Master of Accountancy program is to provide students with greater breadth and depth in accounting education than the bachelor's or master of business administration degrees provide. The purpose of this program is to provide students not only with the knowledge and background necessary for entry into the profession but also to enable them to continue to grow and develop within the profession.

Admission • Admission to this program is based on the applicant's undergraduate record and the score made on the Graduate Management Admission Test. Test scores must be presented prior to admission. International students must earn a minimum score of 600 on the paper-based TOEFL, or 250 on the computer-based TOEFL.

Prerequisites • Students must present credit in the following undergraduate courses (or their equivalents): Accountancy 303, 304, 309, 401, 402, 405; Economics 201, 202, 301, 302; General Business 211 and Accountancy 411; Management 371; Marketing 351; Mathematics 267; and knowledge of computer programming. A minimum of a C is required in Accountancy 401, 402, and 405.

Course Requirements	Semester Hours
ACCY 509, 601, 605, and 610	12
Accountancy electives	12
Approved nonaccountancy electives	6
Total	30

MASTER OF TAXATION

The objective of the Master of Taxation is to provide students with a greater breadth and depth in accounting education and a specialization in the tax area. The purpose of this program is to provide education to allow entry into a professional tax career upon graduation and prepare for continuing growth and development.

Admission • Admission to this program is based on the applicant's undergraduate record and the score made on the Graduate Management Admission Test. Test scores must be presented prior to admission. International students must earn a minimum score of 600 on the paper-based TOEFL, or 250 on the computer-based TOEFL.

Prerequisites • Students must present credit in the following undergraduate courses (or their equivalents): Accountancy 303, 304, 309, and a minimum grade of C in 401, 402, 405; Economics 201, 202, 301, 302; General Business 211 and Accountancy 411; Management 371; Marketing 351; Mathematics 267; and knowledge of computer programming. A minimum of a C is required in Accountancy 401, 402, 405.

Course Requirements	Semester Hours
Accountancy 601, 605, and 610	9

Required tax courses: ACCY 509, 612 _____	6
Tax electives _____	6
Accountancy electives _____	6
Approved nonaccountancy electives _____	3
<hr/>	
Total _____	30

Ph.D. IN ACCOUNTANCY

For the degree programs in accountancy, each student must meet all the admission requirements of the Graduate School and present an acceptable score on the Graduate Management Admission Test, including a minimum of 60th percentile on the verbal portion. International students must earn a minimum score of 600 on the paper-based TOEFL or 250 on the computer-based TOEFL. Meeting the minimum admission requirements does not guarantee admission to the program.

Prerequisites • The prospective candidate must meet the requirements for a master’s degree in accountancy or business. In addition, the prospective candidate must have demonstrated competence in the following undergraduate areas:

- Financial and Managerial Accounting
- Auditing
- Taxation

The Program In Accountancy • The Ph.D. program in accountancy requires at least 30 hours of approved course work at the 600 level beyond the master’s degree and a dissertation. One minor field is required. One modern foreign language or an approved alternative is required. Proficiency in quantitative methods also is required. The following constitutes the quantitative proficiency requirement:

- MATH 261 and 262 (or the equivalent) with a minimum of “B” in each;
- Knowledge of Research Tools and Computer Statistical Programs (such as in MGMT 690 and MGMT 691); and
- either:
 - ECON 604 (Statistical Methods for Business and Economics)
 - or
 - ECON 609 (Methods of Mathematical Analysis)
 - or
 - ECON 612 (Operations Research).

A minimum of a 3.0 grade-point average must be obtained on the graduate courses that constitute this quantitative proficiency requirement.

The comprehensive examination in the major and each minor may not be taken until after the student has satisfied the foreign language and quantitative methods requirements and has completed all course work, or is in the last semester of course work, for a particular major or minor field. Upon completion of the written comprehensive examinations, the student will take an oral examination covering both course work and the doctoral dissertation proposal.

The course program of each Ph.D. student must be officially approved by the student’s doctoral committee and the director of accountancy graduate programs and be on file no later than the end of the first semester of course work.

501. INTERNAL/OPERATIONAL AUDITING. Emphasis on proper internal controls and on compliance with applicable laws, regulations, and policies. Prerequisite: ACCY 303 or approval of instructor.

502. OIL AND GAS ACCOUNTING. Accounting for exploration, development, production, and reserve recognition for firms in the petroleum industry; related topics in income taxes also are covered. Prerequisites: ACCY 201, 202, and 301. (3).

504. STANDARD COSTS. Trends in costing based on standards in manufacturing industries; setting standards; measuring actual costs against standards; disposition of variances. Prerequisite: ACCY 309. (3).

505. TAXATION FOR NONACCOUNTANTS. Fundamentals of federal taxation, including the background knowledge necessary to recognize the tax consequences of business and investment decisions. Prerequisite: ACCY 202. Not applicable toward a degree in accountancy. (3).

509. INCOME TAXES II. Federal and state income taxes on corporations, partnerships, estates, and trusts; a brief study of estate and gift taxes. Prerequisites: a minimum grade of C in ACCY 405; full standing admission in the graduate program in accountancy or a senior within 15 hours of the bachelor’s degree or others with consent of the instructor. (3).

514. MANAGERIAL AND BUDGETARY CONTROL. Work of the controller, with special emphasis on the construction, control, and interpretation of accounts. Budgets of various kinds; recent CPA problems dealing with budgeting. Prerequisite: ACCY 202. (3).

515, 516. ACCOUNTANCY PROBLEMS I, II. Problems and issues encountered in accounting practices. (3, 3).

519. INTRODUCTION TO TAX LAW. Survey of taxation of individuals and corporations. (Same as LAW 519). (3-6).

- 520. ACCOUNTING INTERNSHIP.** A directed internship in an organization under the supervision of accounting practitioners. Prerequisite: approval of dean. (3-6). (Z grade).
- 521. INTERNATIONAL ACCOUNTING.** Topics include comparative international accounting systems, efforts to harmonize accounting standards internationally, problems of foreign currency translation, and accounting and performance evaluation problems of multinational corporations. Prerequisite: ACCY 304 or permission of instructor. Corequisite: ACCY 402 or permission of instructor. (3).
- 525. PROFESSIONAL REPORT WRITING.** Intensive practice in professional report writing for accountants. Principles emphasized include analysis of audience, organization of ideas, clarity and conciseness of presentation, and correct grammar. Formats include memos, research reports, business letters, and other types of written communications used by accountants in practice.
- 530. INFORMATION TECHNOLOGY AUDITING.** Nature, control, and audit of computer-based accounting information systems. (3).
- 601. SEMINAR IN ACCOUNTING THEORY.** Modern accounting theory; background and applications, with emphasis on the authoritative pronouncements that influence the application of accounting theory. Prerequisite: ACCY 304. (3).
- 602. SEMINAR IN CONTEMPORARY ACCOUNTING THEORY.** Financial accounting theory; theory of income and asset valuation, with emphasis on current and historical accounting thought. Prerequisite: ACCY 601. (3).
- 603. SEMINAR IN CONTEMPORARY TAXATION.** This course will cover the theory of taxation and current topics in taxation. The objective is to provide insight into the structure of the tax system as well as to inform students of recent major changes in the tax law and procedure. (3).
- 605. COST/MANAGERIAL ACCOUNTING.** Management profit planning and budgeting control; advanced cost accounting concepts and techniques, uses of quantitative tools applied to managerial accounting, and the relationship of information systems to cost/managerial accounting. (3).
- 606. MANAGERIAL ACCOUNTING.** Uses and analysis of financial statements; cost accumulation and control; short- and long-range financial planning. Emphasis is placed on the integration of concepts through the use of comprehensive case problems. (Does not apply toward a degree in accountancy). Prerequisite: ACCY 201 and 202. (3).
- 607. SEMINAR.** Guided individual research in accounting, including research methodology. Prerequisite: ACCY 601. (3).
- 609. SYSTEMS SEMINAR.** A study of information systems concepts and applications. Case studies will provide the student an opportunity to relate systems concepts to the actual problems encountered in the analysis, design, implementation, and use of computer-based information systems. Prerequisite: ACCY 304 and knowledge of computer programming. (3).
- 610. AUDITING SEMINAR.** Philosophy, history, and development of auditing; various auditing topics selected for discussion and for written research reports. Prerequisite: ACCY 401. (3).
- 611. CORPORATIONS.** Formation, management and powers of private corporations; powers and duties of directors and stockholders and their liability for ultra vires transactions and for the debts of the corporations. (Same as LAW 601). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (3-4).
- 612. TAX RESEARCH SEMINAR.** Guided individual research in taxes; development of a separate integrated tax plan for each type of business entity. Prerequisite: minimum grade of C in ACCY 405. (3).
- 620. INDIVIDUAL STUDY.** Reading and research in a topic in the field of accountancy. Prerequisite: consent of instructor or director of graduate studies. (May be repeated once for credit). (3).
- 623. TAX PROBLEMS.** Advanced tax problems considered in seminar. (Same as LAW 623). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (1-3).
- 625. INTRODUCTION TO INTERNATIONAL TAXATION.** Taxation of multinational organizations and individuals, with particular attention to cross-border transactions. (3).
- 626. ESTATE AND GIFT TAXATION.** (Same as LAW 626). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (3).
- 629. BUSINESS PLANNING.** (Same as LAW 629). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (1-3).
- 633. INCOME TAXATION OF CORPORATIONS AND SHAREHOLDERS.** Federal income taxation of corporate distributions in the form of dividends and redemptions, reorganizations, liquidations, and the formation of the corporate enterprise. (Same as LAW 633). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (3).
- 634. TAXATION OF PARTNERS AND PARTNERSHIPS.** The income taxation of estates, partnership and Subchapter S Corporations, of the Internal Revenue Code. (Same as LAW 634). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (1-3).
- 650. SECURITIES REGULATIONS.** (Same as LAW 650). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (3).
- 660. DEFERRED COMPENSATION.** (Same as LAW 660). Prerequisite: full standing admission in the graduate program in accountancy or others with consent of instructor. (3).
- 690. PROFESSIONALISM, POLICY AND RESEARCH.** A capstone, integrative course for Master of Accountancy students. Emphasizes the environment of the accounting profession, professionalism, interaction between business policy and management process, the accountant as a manager, current developments and emerging issues, and applied research methodology. Many of the topics are covered on a case basis. (3).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

SCHOOL OF APPLIED SCIENCES

Linda F. Chitwood, dean

James D. Stafford, associate dean

George Street University House

COMMUNICATIVE DISORDERS — CD

Associate Professor Carolyn Wiles Higdon, chair • 303 George Hall

Professor Kellum • Associate Professor Higdon • Assistant Professor Miller • Acting Assistant Professor Ivy

MASTER'S DEGREE PROGRAMS

Prerequisite • The applicant must have completed an undergraduate major in communicative disorders or complete the prerequisite undergraduate course work before entering the graduate program.

MASTER OF SCIENCE

The M.S. degree is provided for students who are interested in the study of speech-language pathology. A minimum of 36 hours in non-clinical courses is required of all graduate students in accordance with the certification standards of the American Speech-Language-Hearing Association. Students desiring to write a thesis must take at least 6 hours of thesis credit in addition to the required didactic and clinical practicum courses. Students must pass a comprehensive examination in their area of specialization in the last semester of enrollment.

501. SURVEY OF COMMUNICATIVE DISORDERS. Disorders of speech, language, and audition; emphasis on causation, correlates, and management. (3).

505. NEUROPHYSIOLOGY OF COMMUNICATION. Neuroanatomical and neurophysiological bases of sensory, central, and motor aspects of language. Prerequisite: 205 and consent of instructor. (Same as LING 505). (3).

506. ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF THE AUDITORY SYSTEM. Normal and pathologic structure and function of the auditory system with emphasis on diagnosis, audiologic manifestation, and treatment of auditory disorders. (3).

507. FUNDAMENTALS OF HEARING SCIENCE. Principles of decibel notation, properties of sound, acoustics, and psychophysical measurements. (3).

513. SPEECH SCIENCE Physiology and acoustics of the speech mechanism: ventilation, phonation, resonance, articulation, and audition. Emphasis on instrumentation used in assessment and remediation. Prerequisite: CD 205 and consent of instructor. (Same as LING 513). (3).

520. ADVANCED DIAGNOSTIC TECHNIQUES. Current diagnostic theory and measurement methods for principal pathologies of speech, language, and hearing. Prerequisite: consent of instructor. (3).

521. DISORDERS OF FLUENCY. Contemporary theories of etiology and principles of management for disorders of stuttering; study of related disorders. Prerequisite: consent of instructor. (3).

522. DISORDERS OF VOICE. Organic and nonorganic disorders of voice; emphasis on functional disorders. Prerequisite: CD 205 and consent of instructor. (3).

523. PHONOLOGICAL DISORDERS. Misarticulation; emphasis on contemporary methods of management. Prerequisite: CD 201 and CD 205 and consent of instructor. (3).

524. CLEFT PALATE. Facial morphology, etiology, surgical and prosthetic correction, and orthodontia, emphasis on the rehabilitation team. Prerequisite: CD 205 and consent of instructor. (3).

526. NEUROGENIC DISORDERS OF LANGUAGE. Study of the fundamentals of neurolinguistics; clinical problems of aphasia and traumatic brain injury; other clinical applications and neurolinguistics across the life span. Prerequisite: CD 505 or consent of instructor. (3).

531. SPECIAL PROBLEMS IN COMMUNICATIVE DISORDERS. Specialized topics in speech-language pathology, speech science, deaf education, and audiology. (May be repeated for credit). (1-3).

532. WORKSHOP IN COMMUNICATIVE DISORDERS. Intensive, short-term study of selected issues and clinical procedures in communicative disorders. (1-3).

541. LANGUAGE DEVELOPMENT AND DISORDERS IN THE PRESCHOOL POPULATION. Theories and sequential stages of language development in the birth to age 6 population. Attention given to the assessment and remediation of language disorders. Prerequisite: consent of instructor. (3).

- 551. CLINICAL AUDIOLOGY.** Theory, rationale, and techniques of basic hearing evaluation, including pure tone, speech, and immittance audiometry. Calibration standards and procedures for audiological equipment. Prerequisite: CD 351 or equivalent. (3).
- 557. EDUCATIONAL AUDIOLOGY.** Diagnostic and habilitative procedures for school-age children in the school setting. (3).
- 560. MANUAL COMMUNICATION I.** A beginning course in sign language designed to familiarize the student with the various sign language systems and to provide the student with a basic core vocabulary. (3).
- 562. MANUAL COMMUNICATION II.** An intermediate course in manual communication designed to increase expressive and receptive sign-language skills, to provide understanding on the linguistic nature of American Sign Language (AMESLAN) and to promote the acquisition of AMESLAN as a second language. Prerequisite: 560 or equivalent with consent of instructor. (3).
- 575. AUDIOLOGICAL INSTRUMENTATION AND MEASUREMENT.** Familiarization with basic technical characteristics and principles of instruments used in audiology. Prerequisite: CD 507 or consent of instructor. (3).
- 591. CLINICAL PRACTICUM IN AUDIOLOGY.** Practical experience in conventional audiological techniques. (May be repeated for credit). (1-3). (Z grade).
- 592. CLINICAL SEMINAR IN SPEECH-LANGUAGE PATHOLOGY.** Issues and techniques in the evaluation and remediation of speech/language pathologies. Prerequisite: consent of instructor. (May be repeated for credit). (2). (Z grade).
- 593. CLINICAL SEMINAR IN AUDIOLOGY.** Issues and techniques in the evaluation and remediation of auditory problems. Prerequisite: consent of instructor. (May be repeated for credit). (2). (Z grade).
- 595. GRADUATE PRACTICUM.** Advanced application of diagnostic and clinical management procedures. Prerequisite: consent of instructor. (May be repeated for credit). (1-3). (Z grade).
- 601. DIRECTED STUDY.** Prerequisite: consent of instructor. (May be repeated for credit for a maximum of 9 hours). (1-3).
- 605. COUNSELING THEORY AND PRACTICE** Theoretical foundations for counseling the communicatively handicapped. Emphasis on psychoanalytical theory, self-theory, ego-counseling, behavioral counseling, and client-centered therapy. (3).
- 612. ADVANCED CLINICAL AUDIOLOGY.** Behavioral techniques theory, and interpretation of special tests for organic, functional, and central auditory processing disorders. Prerequisite: CD 551. (3).
- 613. COMMUNICATIVE DISORDERS: RESEARCH ANALYSIS AND DESIGN.** Historical and contemporary experimental approaches in communicative disorders; emphasis on normal parameters. (3).
- 615. ELECTROPHYSIOLOGIC EVALUATION.** Principles, theory, and clinical application of auditory evoked potentials and vestibular evaluation. Prerequisite: CD 506. (3).
- 616. ADVANCED ELECTROPHYSIOLOGIC EVALUATION.** Advanced techniques and application of electrophysiologic measures. Prerequisite: CD 615. (3).
- 626. APHASIA.** Study of the etiology, testing, and therapeutic principles of the management of aphasia, with special emphasis on neurological and linguistic aspects. Prerequisite: CD 505 and consent of instructor. (3).
- 627. NEUROGENIC DISORDERS OF SPEECH.** Theoretical constructs, assessment, and treatment of speech disorders of a neurologic origin in children and adults. Prerequisite: CD 505 or consent of instructor. (3).
- 630. CEREBRAL PALSY.** Etiology, diagnosis, and management procedures; special tests; related disorders. Prerequisite: consent of instructor. (3).
- 642. LANGUAGE DEVELOPMENT AND DISORDERS IN THE SCHOOL-AGE POPULATION.** Stages of language development in children over age 6; assessment and remediation of language disorders typical of the school-age child. Prerequisite: consent of instructor. (3).
- 649. PEDIATRIC AUDIOLOGY.** Development of the auditory system and auditory behavior; etiology and differential diagnosis of hearing loss; testing and rehabilitation techniques for hearing-impaired infants, preschool, and school-age children. Prerequisite: CD 506, CD 551. (3).
- 651. AURAL REHABILITATION.** Advanced study of the management of hearing-impaired individuals, including techniques for communication training, assessment of hearing handicap, and application of special amplification devices. Prerequisite: CD 551, CD 653. (3).
- 653. HEARING AIDS.** Theoretical, technical, and practical aspects of hearing aids, electroacoustic characteristics, evaluation, and analysis procedures, earmold and hearing aid modifications, and dispensing legislation. Prerequisite: CD 551. (3).
- 654. ADVANCED AMPLIFICATION: THEORY AND TECHNIQUE** Study and application of current research to the provision of amplification for the learning impaired. Prerequisite: CD 653. (3).
- 657. INDUSTRIAL AUDIOLOGY.** Effects of noise on hearing and well-being, the management of effective hearing conservation programs, and principles of noise management, including calibration of instrumentation for sound level measurement. Prerequisite: CD 506, CD 507, CD 551. (3).
- 659. SEMINAR IN AUDIOLOGY.** Selected special problems. (May be repeated for credit for a maximum of 9 hours). (1-3).
- 670. CENTRAL AUDITORY PROCESSING: FUNCTION, EVALUATION, AND DISORDERS.** Study of the anatomy and physiology of the auditory brainstem and cortical pathways, normal and disordered auditory processing, measures of central auditory function, and tools and techniques for remediation/compensation. (3).
- 673. PERCEPTION OF SPEECH AND ITS MEASUREMENT.** An introduction to basic physical properties of speech stimuli including decoding, processing, and converting speech signals with linguistic units. Prerequisite: CD 507 and consent of instructor. (3).
- 697. THESIS.** (1-12).

FAMILY AND CONSUMER SCIENCES — FCS

Associate Professor Diane Tidwell, interim chair • Lenoir Hall

Associate Professors Bomba, Knight, Tidwell, and Wachter • Assistant Professors Endo, Kwun, and Lambert

501. RECENT DEVELOPMENTS IN CLOTHING AND TEXTILES. The use of new fibers and fabrics in clothing construction; experimentation with methods and techniques. Prerequisite: 201. (3).

513. DEMONSTRATION TECHNIQUES. Principles and procedures in the organization and presentation of demonstrations in various phases of home economics. (3).

515. NUTRITION, WEIGHT CONTROL, AND WELLNESS. Principles of human nutrition applied to weight control, physical performance, wellness, and disease prevention. (3).

516. NUTRITION OF THE AGED. Nutritional needs of the aged, including concepts of menu selection and preparation. Psychological, physiological, and socio-economic factors affecting dietary problems and practices among the elderly. Prerequisite: H EC 311 or equivalent. (3).

517. COMMUNITY NUTRITION. Nutrition services and problems in the community. Supervised experience in methods for determining and implementing action programs in nutrition education. Prerequisite: H EC 311. (3).

518. MATERNAL, INFANT, AND CHILD NUTRITION. Principles of human nutrition applied to the pregnancy, infant, and child stages of the life cycle. Characteristics of normal growth and development are presented as well as special needs and problems. (3).

521. FAMILY LIVING. Personal adjustment and interaction of parents and children at each stage of development within the family unit. (3).

535. HUMAN SEXUALITY. The physiological, psychological, sociological, and ethical aspects of sexuality are addressed. Topics include, but are not limited to, the human sexual system, sexual response, gender identity and sexuality, sexual behavior and fulfillment, sexual expression, sexual value systems, sexual diseases, and sexual ethics. (3).

543. MANAGEMENT OF FAMILY FINANCIAL PROBLEMS. Alternate ways of meeting family financial needs including earning, spending, saving. (3).

593. INDIVIDUAL STUDY. Development of special projects under supervision. (1-6).

595. INTERNATIONAL STUDY TOUR. A student-paid tour of major European centers, related industries, markets, museums, cultural and historical points of interest. Requires permission of instructor, passport, visa (if applicable) and immunization shots. Prerequisites: junior or senior standing, permission of instructor.

HEALTH, EXERCISE SCIENCE AND RECREATION MANAGEMENT — HESRM

Professor Jim Gilbert, interim chair • 215 Turner Complex

Professor Gilbert • Associate Professors Acevedo, Beason, and Hallam • Assistant Professors Dupper, Ford, Jameson, Kovacs, Owens, and Zuefle

Admission to Graduate Programs • Admission is competitive, limited in number, and dependent upon availability of faculty mentors. In addition to the general requirements for admission to graduate study at The University of Mississippi, the master's applicant must have completed 24 hours of related course work in the proposed field of study.

MASTER OF SCIENCE IN EXERCISE SCIENCE. For the Master of Science in Exercise Science, a minimum of 32 semester hours of graduate study is required, which shall include:

- a. Twelve hours of Foundations: ES 611, Exercise Physiology I (3); ES 512, Foundations of Biomechanics (3); ES 609, Motor Behavior. Choose one of the following: ES 608, Methods and Procedures of Graded Exercise Testing (3); ES 612, Instrumentation and Analysis in Biomechanics (3).
- b. Eight hours of Research and Statistics: ES 625, Research Design and Evaluation (3); Statistics (departmentally approved) (3); ES 650, Seminar in Exercise Science (1, 1)
- c. Three to nine hours to be selected from the following courses: ES 512, Foundation of Biomechanics (3); ES 540, Behavioral Aspects of Exercise (3); ES 609, Motor Behavior (3); ES 610, Internship in Adult Fitness and Cardiac Rehabilitation (3); ES 612, Instrumentation and Analysis in Biomechanics (3); ES 613, Health Aspects of Physical Activity (3); ES 614, Cardiovascular Physiology (3); ES 615, Physiological Aspects of Aging (3); ES 616, Exercise Physiology II (3); ES 651/652, Advanced Individual Study (3, 3); ES 653, Independent Research (3).
- d. Three to nine hours of Terminal Experience: ES 653, Independent Research (3); ES 697, Thesis (6); ES 610, or Internship in Exercise Science (9).

MASTER OF ARTS IN PARK AND RECREATION MANAGEMENT. For the Master of Arts in Park and Recreation Management, a minimum of 33 semester hours of graduate study is required, which shall include:

Core Curriculum (18 hours):

PRM 600 — Issues and Trends in Park and Recreation Programs

PRM 601 — Park and Recreation Program Development and Promotion

PRM 602 — Assessment and Evaluation of Park and Recreation Programs

PRM 625 — Research Design and Evaluation

PRM 680 — Leisure Programming for Senior Adults

500-600 — Statistics (adviser approved)

Non-thesis Option (15 hours):

PRM 653 — Independent Research

PRM 654 — Directed Event Programming

Electives

Thesis Option (15 hours):

PRM 697 — Thesis

Electives

Students admitted to the program with an undergraduate degree from a non-accredited recreation, park, or leisure services program, or from a related discipline, may require additional undergraduate or graduate course work to develop basic areas of knowledge in the professional field. Students who have not completed an internship or who lack professional work experience within the park and recreation field will complete a 3-hour internship (PRM 627) as one of the electives within the degree program.

MASTER OF SCIENCE IN HEALTH PROMOTION • For the Master of Science in Health Promotion, a minimum of 33 hours of graduate study is required. Included in the 33-hour curriculum is a 18-hour core and one of two 15-hour options (internship or thesis).

Core Curriculum (18 hours):

HP 600 — Foundations of Health Promotion. (3).

HP 605 — Health Promotion Planning. (3)

HP 615 — Personal Health Promotion. (3).

HP 625 — Research Design and Evaluation. (3).

HP 635 — Advances in Health. (3).

HP 645 — Organization and Administration of Health Promotion Programs. (3).

Internship Option (15)

HP 627-Internship in Health Promotion (9)

Approved electives (6 hours)

Thesis Option (15)

HP 697-Thesis (6)

Statistics (adviser approval) (3)

Approved electives (6 hours)

DOCTORAL STUDY • The department offers an exercise science program of study leading to the Doctor of Philosophy degree. Admission is competitive, limited in number, and dependent upon availability of faculty mentors.

A faculty curriculum committee selected during the student's first semester will guide the student through the curriculum design. The Ph.D. requires a minimum of 93 semester hours beyond the bachelor's degree. Candidates must complete a minimum of 21 hours within the exercise science specialty area, plus 21 elective hours within the department, 15 hours of

research and statistics, 18 hours in related emphasis areas, and 18 hours of dissertation. The student also must complete written and oral comprehensive exams before undertaking the prospectus and dissertation.

GRADUATE SEMINAR • All full-time graduate students are required to attend professional seminar meetings held monthly in the HESRM Department.

Health, Exercise Science and Recreation Management — HESRM

797. DISSERTATION. (1-18).

Exercise Science — ES

512. FOUNDATION OF BIOMECHANICS. Biomechanical bases of human movement, focusing on the mechanical interaction between the human body and the external movement. (3).

542. SPORTS PSYCHOLOGY. Examination of motivation, personality, and other personal performance-related issues affecting sports. (3).

544. THE AMERICAN WOMAN IN SPORTS. A comprehensive, multidisciplinary analysis of the problems, patterns, processes, and potentials associated with the sport involvement of women in our culture. (3).

574. SELECTED PROBLEMS IN SPECIAL POPULATIONS. Selected problems confronting individuals with special needs in the areas of physical development, therapeutic activities, physiological performance and park and recreation management. (3).

608. METHODS AND PROCEDURES OF GRADED EXERCISE IN TESTING. Methods, procedures, and techniques of diagnostic and functional graded exercise testing. Aptitude regarding referral procedures, data interpretation, contraindications, protocols, equipment, and follow-up procedures regarding graded exercise testing. (3).

609. MOTOR BEHAVIOR. A theoretical and practical focus upon the improvement of human motor performance and development of perceptual-motor skills. (3).

610. INTERNSHIP IN EXERCISE SCIENCE. Supervised laboratory experience, program development, and leadership techniques related to exercise science consisting of 600 contact hours (3).

611. EXERCISE PHYSIOLOGY I. The effects of exercise on the function of the organic systems of the body. (3).

612. INSTRUMENTATION AND ANALYSIS IN BIOMECHANICS. Methods and procedures of using biomedical research equipment in biomedical research. (3).

613. HEALTH ASPECTS OF PHYSICAL ACTIVITY. An examination of the role of physical activity as it relates to health status with an emphasis on the use of exercise in mediating risk factors, and a critical analysis of the exercise epidemiological literature. (3).

614. CARDIOVASCULAR PHYSIOLOGY. In-depth study of the cardiovascular/cardiorespiratory system and its various response to physical stress. (3).

615. PHYSIOLOGICAL ASPECTS OF AGING. A survey of the physiological consequences of normal aging and pathophysiological deviations from the normal aging process. (3).

616. EXERCISE PHYSIOLOGY II. A continuation of Exercise Physiology I to include advanced study of the physical, biochemical, and environmental factors influencing physical performance. Includes critical environmental factors influencing physical performance. Includes critical analyses of current topics and laboratory investigation and demonstration. (3).

620. SELECTED TOPICS IN EXERCISE SCIENCE. Topics of current interest, both experimental and theoretical. Permission of course instructor required. Repeatable. (3, 3, 3).

625. RESEARCH DESIGN AND EVALUATION. Basic research design and application toward conducting research and evaluations in wellness, park and recreation management and exercise science. Emphasizes the interdisciplinary nature of health-related research and focuses on understanding research design. (3). (Same as WL 625 and LM 625).

650. SEMINAR IN EXERCISE SCIENCE. Lectures by faculty, visiting lecturers, and graduate students. May be repeated for credit as required by the department (Z grade) (1).

651, 652. ADVANCED INDIVIDUAL STUDY. Development of special projects under supervision. (1-3, 1-3).

653. INDEPENDENT RESEARCH. Practical experience in the organization and conduct of a research project and reporting of the results. Prerequisite: EDRS 625. (3).

697. THESIS. (1-12).

750. ADVANCED SEMINAR IN EXERCISE SCIENCE. Lectures by faculty, visiting lecturers, and graduate students. May be repeated for credit as required by department. Instructor's permission required (1) (Z).

Park and Recreation Management — PRM

510. ENTREPRENEURIAL RECREATION. Application of small business management practices to private recreation enterprises. Prerequisites: LM 471 or equivalent. (3).

539. OUTDOOR RESOURCES MANAGEMENT. Principles of development and management of natural resources, visitors, and maintenance services of outdoor recreational areas. (3)

569. STRATEGIES AND APPLICATIONS IN OUTDOOR EDUCATION. A focus on the application of selected outdoor instructional strategies for use in the areas of recreation and education. (3).

573. PROCESSES OF THERAPEUTIC RECREATION. Processes involved in the delivery of therapeutic recreation services, including assessment, program planning and implementation, documentation, and evaluation methods. (3).

600. ISSUES AND TRENDS IN PARK AND RECREATION PROGRAMS. Discussions of current research and specialized topics in recreation; presentation of papers by students, faculty, and visiting lecturers. (3).

- 601. PARK AND RECREATION PROGRAM DEVELOPMENT AND PROMOTION.** An overview of service marketing as applied to the park and recreation industry. (3).
- 602. ASSESSMENT AND EVALUATION OF PARK AND RECREATION PROGRAMS.** Assessment and evaluation concepts, approaches and methods used in park, recreation, and leisure programming. Must have completed either undergraduate assessment, planning, and evaluation course (PRM 301 or equivalent) or research methods class. (3).
- 625. RESEARCH DESIGN AND EVALUATION.** Basic research design and application toward conducting research and evaluations in wellness, park and recreation management and exercise science. Emphasizes the interdisciplinary nature of health-related research and focuses on understanding research design. (Same as ES 625 and HP 625). (3).
- 627. INTERNSHIP.** (3). (Z grade).
- 650. SEMINAR IN COMMUNITY AND RURAL TOURISM.** Exploration of the major concepts of tourism to discover what makes community and rural tourism work, how tourism is organized, methods of research in tourism, and its social and economic effects. Prerequisites: PRM 471 or equivalent. (3).
- 651, 652. ADVANCED INDEPENDENT STUDY.** Special projects in recreation and leisure studies. Prerequisite: adviser's approval. (3, 3).
- 653. INDEPENDENT RESEARCH.** Design and effectuation of a research project with adviser's approval. Prerequisite: PRM 625. (3).
- 654. DIRECTED EVENT PROGRAMMING.** Experiential opportunities for the planning, development, supervision, and leadership of a recreation program. Prerequisite: Written description of proposal including justification, objectives, and procedures must be submitted to the PRM graduate faculty prior to enrollment; permission of PRM graduate committee required. (3).
- 671. PARK AND RECREATION PROGRAM ADMINISTRATION.** Effective recreation service to the community, legal aspects, finance, agencies, public relations, programs and facilities. (3).
- 680. LEISURE PROGRAMMING FOR SENIOR ADULTS .** A study of the unique recreation and leisure needs of the mature adult; how to contend with the intervening aspects of aging, and how to program for this population in municipal, institutional, and residential settings. (3).
- 691. PRINCIPLES AND PRACTICES OF LEISURE AND RECREATION.** Foundations of recreation and leisure, the social and economic backgrounds of current viewpoints concerning recreation. (3).
- 697. THESIS.** (1-6).

Health Promotion— HP

- 507. SAFETY EDUCATION.** Principles, procedures and materials for teaching safety in school, home and community. (Required for teaching endorsement). (3).
- 600. FOUNDATIONS OF HEALTH PROMOTION.** Designed to prepare prospective directors, managers, and administrators for leadership in health promotion settings. Technical and conceptual skills of leadership will be discussed and applied toward health promotion programs in industry, hospital, and health agencies. Historical and philosophical foundations of health promotion focusing on the principles of the discipline and preparation for service as a professional. Professional ethical issues are considered (3).
- 605. HEALTH PROMOTION PLANNING.** Integration and understanding of health promotion assessment, and intervention strategies in contemporary health issues. Competency development in formulating and implementing health programs; includes understanding community organization and sustaining programs (3).
- 615. PERSONAL HEALTH PROMOTION.** An advanced study of personal health promotion; information, skills, theory and practice in assisting clients develop health-related life skills (3).
- 625. RESEARCH DESIGN AND EVALUATION.** Basic design and application toward conducting research and evaluations in health promotion, park and recreation management, and exercise science. Emphasizes the interdisciplinary nature of health-related research and focuses on understanding research design. (Same as ES 625 and PRM 625). (3).
- 627. INTERNSHIP IN HEALTH PROMOTION.** Full-time supervised field experience in an approved health promotion setting (500 hours). (9).
- 635. ADVANCES IN HEALTH .** Examination of current research as it relates to the physiological and psychological aspects of health promotion. Seminar includes paper presentation and discussion by students and faculty. (3).
- 645. ORGANIZATION AND ADMINISTRATION OF HEALTH PROMOTION PROGRAMS.** Emphasis on designing, implementing, and administering health promotion programs. Development and management of fiscal resources, human resources, grant management, procedures for requests for proposals, and requests for applications. Student also will learn how to exercise organizational leadership, and how to obtain acceptance and support for health promotion programs. (3).
- 651. ADVANCED INDEPENDENT STUDY.** Development of special projects under supervision. (1-3).
- 653. INDEPENDENT RESEARCH.** Practical experience in the organization and conduct of a research project and reporting of the results. Prerequisite: HP 625. (1-3).
- 697. THESIS.** (3-6).

Social Work—SW

Professor Carol Boyd, chair • 225 Hume Hall

Professor Boyd • Associate Professors Allen, Eftink, Moore, O'Dell, O'Quin, and Stafford • Assistant Professor Shackelford

575. PSYCHOSOCIAL ASPECTS OF AGING. Introduction to gerontology with a foundation in biological, psychosocial, and behavioral aspects of aging; emphasis on current research and experience working with older adults. (Same as PSY 575). (3).

SCHOOL OF BUSINESS ADMINISTRATION

Brian Reithel, interim dean
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Today's Business • Today's business environment requires a person who can understand and cope with dynamic and complex issues. Leaders in business, government, and other social-economic institutions must understand global economic forces, cultural diversities, and technological changes in products and processes while maintaining a core set of values and sound ethical practices. Responding to these contemporary business needs, the School of Business Administration offers professional programs designed to prepare students to contribute value to their organizations, their communities, and society.

Vision • Our vision is to strive for continuous improvement in all aspects of the learning environment in the School of Business Administration, thereby providing all students with innovative, interdisciplinary programs of study while substantially contributing to the body of business knowledge in the theoretical, as well as the practical, realms of research.

Mission • Our mission is to educate students in a learning environment conducive to excellence in meeting the complex challenges of the global marketplace. The mission of our faculty is to expand the knowledge base and to integrate this cutting-edge information into the learning experiences of students. In addition, it is the mission of the School of Business Administration to extend service to our constituents in order to enhance learning, economic development, and business growth in Mississippi, the region, and the nation.

Accreditation • The School of Business Administration was initially accredited by the American Assembly of Collegiate Schools of Business (AACSB) in 1944. Accreditation is offered only to schools that meet the strict academic standards and program requirements prescribed by this assembly. Both the undergraduate and graduate curricula received reaffirmation of accreditation in 2002. Rather than remain content with the status quo, the school continues to evaluate and revise its programs to meet standards reflective of contemporary issues and demands.

Facilities • In the fall of 1997, the School of Business Administration occupied a new building complex, providing our students with one of the most advanced instructional facilities anywhere. The new building complex was designed with students clearly in mind, providing a pleasant and efficient learning environment that integrates state-of-the-art information and instructional technology in every area. In addition to its impressive classrooms and office space, the new building complex provides a variety of large and small areas for students to study individually or in a group. More than 2,000 network connections located throughout the complex ensure that our students have easy access to the extensive business school network and the Internet from wherever they are. Two specially designed distance-learning classrooms allow face-to-face videoconferencing with guest speakers and remote classrooms. The business building complex is located in the heart of the campus near the J.D. Williams Library, the Student Union, and all administrative offices.

LECTURE SERIES

Sam and Mary Carter Lecture Series • The Sam and Mary Carter Lecture Series in Banking and Finance was established in 1987 by Celia Carter Muths and Mary Carter Speed in honor of their parents. The purpose of the series is to

bring the University outstanding banking or finance executives to make presentations to students and faculty on issues in the financial sector of our economy.

The Otho Smith Fellows Program • The Otho Smith Fellows Program, established in the fall of 1981, is funded through a grant from the Phil B. Hardin Foundation to the School of Business Administration. The grant is in honor of the late Mr. Smith, a businessman from Meridian, Mississippi, and a former president of the Ole Miss Alumni Association. Through this program, students, faculty, and the surrounding community are provided an opportunity to meet and interact with successful business executives and scholars. The purpose of these interactions is to foster understanding and appreciation of the role and duties of a successful business executive, to discuss significant issues within business, and to ascertain the relationship and responsibilities of business to society.

EXTERNALLY FUNDED FACULTY POSITIONS AND PROGRAMS

Frank Day/Mississippi Bankers Association Chair of Banking

Phil B. Hardin Chair of Marketing

Michael S. Starnes Professorship of Management

Morris Lewis, Jr. Professorship of Management

J. Ed Turner Chair of Real Estate

P.M.B. Self, William King Self, and Henry C. Self Chair of Free Enterprise Economics

Tom B. Scott Chair of Financial Institutions

Jack W. and Gwenette P. Robertson Chair of Insurance

The Robert M. Hearin Chairs of Business Administration

GRADUATE PROGRAMS

MASTER OF BUSINESS ADMINISTRATION

Dr. Phil Malone, MBA program director

Dr. John Holleman, director of MBA administration

Contact • Dr. John Holleman, director of MBA administration, jholleman@bus.olemiss.edu, (662) 915-5483
www.bus.olemiss.edu/mba

Overview • Since 1946, when the first MBA degree was awarded at The University of Mississippi, the MBA Program has earned a reputation for producing capable and qualified graduates. The program is known for its emphasis on practical knowledge and real-world experience while maintaining a high level of academic rigor. These traditional strengths now form the foundation for an entirely new MBA Program designed to give students the competitive edge in the global and technologically intensive environment that will dominate the business world in the 21st century. The MBA curriculum is designed to develop effective decision-making skills in an environment that emphasizes practical applications and real-world experience to produce highly capable graduates with marketable skills. It is application-driven, integrated, and broad-based in its approach to the educational experience. All required courses are team-taught in order to ensure that the content will be cross-functional and diverse. This innovative program makes a clear statement that we are committed to business education at the highest level of academic excellence.

The MBA Program is designed to produce graduates who possess:

- An understanding of today's global business environment that has both breadth and depth.
- Analytical competence and the ability to apply analytical techniques to practical business problems.

- An understanding of the concepts, language, and cultures of business.
- The ability to anticipate and deal with change.
- The ability to make decisions that span disciplines.
- The ability to understand and mobilize technology.
- Excellent written, oral, and presentation skills.
- Leadership experience and competencies in persuasion, negotiation, motivation, and cooperation.
- The ability to work well in teams.
- An appreciation of the value of diversity and ethical behavior.

Program Structure • The MBA Program emphasizes the development of practical management skills that address real-world business problems while maintaining a high level of academic rigor. All required courses are cross-functional and integrative. Cases and team projects involving actual business problems are common. Students develop extensive teamwork, leadership, communication, and technical skills while building a strong foundation of fundamental and advanced theoretical concepts. The effective use of computer and information technology is emphasized throughout the program. Students develop an area of specialization through elective courses, which can be tailored to individual goals and objectives.

The MBA curriculum emphasizes that real decision-making experience and extensive participation in group projects involving actual business organizations are the cornerstones of this innovative curriculum. Employers want MBA graduates who will make an immediate and lasting contribution to the value of their company. They want relevant experience and the ability to act decisively in a competitive and constantly changing global business environment. The Ole Miss MBA Program is designed to deliver this product.

Admission Requirements • Admission is competitive with a limited cohort size. Applicants will be ranked by the Admissions Committee, and admission will be awarded to the applicants of the highest rank until all positions are filled. Alternates will be assigned to fill positions that are vacated before the beginning of the MBA Program in July. At the minimum, admission in full standing requires the following:

- An undergraduate degree from a regionally accredited institution.
- A 3.0 GPA on the most recent 60 semester hours of course work.
- A GMAT score that indicates sufficient preparation for a rigorous graduate business program.
- Basic computer skills, including spreadsheet and word processing.
- Two (2) acceptable letters of recommendation.
- A 600 TOEFL score (international applicants only).
- Preference will be given to applicants with business work experience.
- Completion of the following prerequisite course work before entering the MBA Program:
 1. Introduction to Accounting Principles I
 2. Introduction to Accounting Principles II
 3. Economic Statistics I
 4. Economic Statistics II
 5. Calculus
 6. Business Finance
 7. Marketing Principles
 8. Principles of Management
 9. Management Information Systems

These admission requirements are subject to change without notice. Satisfaction of the above criteria does not guarantee admission. Admission is competitive among the pool of applicants. Students will enter the program once each year, beginning with MBA 621: Statistical Analysis in July.

All students must have a laptop or notebook computer that meets minimum approved specifications.

Conditional admission will be considered by the MBA Admissions Committee on a limited basis. Conditional admission will require the student to attain a 3.0 GPA by the end of the first semester of enrollment to be retained in the program.

Graduation Requirements • Completion of the MBA degree requires at least 35 semester hours of course work in the MBA core curriculum.

Transfers • Due to the lock-step nature of the core courses in the MBA Program, transfer credit is not accepted.

Assistantships and Fellowships • The John N. Palmer Assistantship and Fellowship Program provides financial aid and practical experience to students who have excelled in their undergraduate programs and who possess the academic and leadership skills to become successful business executives and entrepreneurs.

Courses • The 11-month MBA Program is based on a lock-step cohort system. All students will take the same courses and will be involved with the same peer group throughout this period. Courses include:

601. MANAGERIAL COMMUNICATION. Integration of communication and managerial theory with business practice using case analysis with an emphasis on persuasive, crisis, cross-cultural, and informative challenges in business interactions. (3).

602. SEMINAR SERIES. The purpose of the seminar is to complement MBA courses by providing an applied forum for presentation of diverse topics. Student will write preparation or reaction papers and present implications of current events related to the semester's course work emphasis. Prerequisite: MBA 601. (1) (to be taken two times).

606. ORGANIZATIONAL BEHAVIOR. The behavior of people in groups and organizations, concepts and theories for leadership, human resource management, as well as the development of student abilities in writing, speaking, and achieving logical, ethical, and behaviorally successful communication in organizational contexts. (3).

611. FINANCIAL ANALYSIS. Managerial and cost accounting fundamentals as well as the use of current techniques for financial analysis, capital allocation, and capital structure. (3).

612. BUSINESS DECISION MAKING. Decision making methodologies with emphasis on problems facing the firm in a changing global marketplace. Includes multivariate and time series analysis and financial forecasting as tools for the entrepreneur/manager to apply when confronted with strategy implementation decisions. (3).

613. MOBILIZING TECHNOLOGY IN THE MODERN BUSINESS. The role of information and computer technology in the modern business enterprise. Emphasizes practical application of computer and information technology to real-world problems and decision environments. Requires development of an advanced end-use application involving process re-engineering. (3).

614. BUSINESS ENVIRONMENT. Economic principles applicable to the solution of selected problems facing business decision makers; emphasizing demand theory, production theory, cost estimation, pricing, and capital budgeting. (3).

615. GLOBAL BUSINESS. The foundation theories of global business and how to effectively analyze the globalization of business. Topics covered include organization structure, strategy development, human resource management, and corporate citizenship of global organizations. (3).

621. STATISTICAL ANALYSIS. A critical examination of the theory and assumptions underlying the major multivariate statistical techniques. (3).

622. BUSINESS PLANNING AND ENTREPRENEURSHIP. Advanced analysis and decision making in a business setting. Includes financial analysis, competitive strategy and pricing, growth estimations, business condition forecasting, and product supply and demand projections. Competitive cases form a focal point for course organization. (3).

623. INTEGRATIVE BUSINESS ANALYSIS. A rigorous overview of business models and issues that change as products or services evolve through a life cycle. Emphasizes the interrelated view of functional areas within organizations as a foundation for the core skills courses. (3).

624. MBA PROJECT ANALYSIS. Implementation of methodologies taught in other MBA courses. Students address an actual business problem in their chosen areas of specialization. A written report and oral presentation will constitute the principal means by which the student is evaluated. (3).

631. CONCEPT INTEGRATION AND APPLICATION. Practical application of the knowledge skills acquired in the first-year courses to real business problems and decision environments. Emphasizes cross-functional integration of tasks and responsibilities to develop effective strategies for problem identification and resolution. (3).

Ph.D. IN BUSINESS ADMINISTRATION

Dr. Charles Noble, director of doctoral programs
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www.bus.olemiss.edu/phd/PHDGeneralInfo.aspx

Overview • The School of Business offers the Ph.D. in Business Administration in the following major fields: finance, management, management information systems, production/operations management, and marketing.

The degree of Doctor of Philosophy in Business Administration is awarded for scholarly attainment and represents the highest degree that the University may bestow on a business student. The basic purpose of the program is to enable persons who are seeking careers in institutions of higher learning (or in research or staff positions in business, industry, or government) to acquire a comprehensive, professional education.

The doctoral program provides a deep understanding of business administration and in-depth study in a major field with emphasis in finance, management, management information systems, marketing, or production operations management. A personalized program is designed for each student based upon the individual's background, experience, and needs. Students seeking the degree of Doctor of Philosophy in Business Administration make an unequivocal personal commitment to intellectual integrity and scholarship.

Admission • Admission to the Ph.D. program is highly competitive with a limited number of positions available each year. Applications will be ranked by the Admissions Committee, and admission will be awarded to the applicants of the highest rank until all positions are filled. At the minimum, admission in full standing requires the following:

- An overall undergraduate GPA of 3.00 or above; or a 3.10 GPA on the last 60 credit hours attempted at either the undergraduate and/or graduate level.
- A minimum score of 550 on GMAT test or a combined score of 1100 on quantitative and verbal portions of the GRE, as well as 4.0 on the analytical portion. Unofficial copies of GMAT/GRE test may be submitted at the time of application. However, official copies of these scores must be received by application deadline.
- Two (2) letters of recommendation from academic or professional sources.
- A 600 (paper-based) or 250 (CBT) TOEFL score (international applicants only).
- Curriculum vitae (résumé) and a brief statement of purpose.
- Preference will be given to applicants with business work experience.

These admission requirements are subject to change without notice. In **rare instances**, deficiency in one of these requirements can be offset by superior performance in other areas. Satisfaction of the above criteria does not guarantee admission. Admission is competitive among the pool of applicants. The School of Business is currently admitting students for fall semesters only.

Curricula • Each student will be required to complete a varying number of graduate credit hours, beyond the bachelor's degree, at the 600 level. The number of graduate credit hours will be determined by the student's program of study, but the overall course work will be determined by prior undergraduate and/or graduate courses in relationship to their program of study. Moreover, each student must complete at least 12 hours in a major field beyond the master's degree and at least 9 credit hours in an approved minor field(s). A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

Advisement • Upon admission to the School of Business Administration the student will be assigned an academic adviser, who with the departmental chair will structure the student's program of study. A student should be prepared to declare the course work requirements needed to complete their major and minor fields by the end of the first year of study.

Written Comprehensive Examination • All students in the School of Business Administration are required to pass a written comprehensive examination in their major field of study. A student's major field exam may be taken only upon satisfactory completion of all course work in this field, as well as the tools requirements. Depending on departmental policies, a student may be required to pass a written comprehensive exam in at least one minor field.

Dissertation and Oral Defense • The dissertation, which is supervised and evaluated by the faculty, demonstrates the student's ability to conduct research and to make a distinct and significant contribution to the common body of knowledge within one's discipline. The initial step of the process is directed toward the formulation of a written proposal that must be approved by a dissertation committee. After writing the dissertation, the candidate must successfully defend it before the dissertation committee.

Contact • For doctoral programs in business administration, contact:

Dr. Charles Noble, director of doctoral programs, cnoble@bus.olemiss.edu

Dr. Phil Malone, finance chair, pmalone@bus.olemiss.edu

Dr. Dwight Frink, management chair, dfrink@bus.olemiss.edu

Dr. Milam Aiken, MIS/POM interim chair, maiken@bus.olemiss.edu

Dr. Scott J. Vitell, marketing interim chair, svitell@bus.olemiss.edu

BUSINESS STUDIES — BUS

GRADUATE PROGRAMS. See BUSINESS ADMINISTRATION.

500. BUSINESS INTERNSHIP. Internship open to business students of junior or senior standing or to MBA students. A business field experience of at least 10 weeks of full-time employment is required. MBA students may not use this course to satisfy either a core or elective requirement. (May be repeated once.) (3). (Z grade).

604. STATISTICAL METHODS FOR BUSINESS. A case studies approach to statistical technique and computer applications or nonparametric and multivariate analysis in business. Prerequisite: ECON 301. (3).

612. OPERATIONS RESEARCH. (Same as ECON 612). Prerequisite: ECON 604 or ECON 609 or consent of instructor. (3).

621. INDIVIDUAL STUDY. (Same as BUS 620). (3).

660. RESEARCH METHODS I: RESEARCH METHODS AND PHILOSOPHY OF SCIENCE. General course in methodology/statistics to provide a broad introduction to the philosophy of science (the guiding principles behind the research process) and to expose students to some initial modes of research (e.g., qualitative versus quantitative) and more specific techniques and their appropriate use. Prerequisites: MATH 261, MATH 262, MATH 319, PSY 501, PSY 502, and graduate standing. (3).

661. RESEARCH METHODS II: SURVEY RESEARCH AND EXPERIMENTAL DESIGN. This course focuses on the study of research methods and experimental design. The primary objective of the course is to prepare students to conduct empirical research. Special emphasis is placed on in-depth understanding of the philosophy of science underlying research methods, principles of theory development, methods for enhancing the internal and external validity of research findings, and techniques for valid and reliable measurement. Some basic statistical concepts will also be covered. Prerequisite: doctoral student or consent of the instructor. (3).

662. STATISTICS I: SEMINAR IN LINEAR REGRESSION AND ANALYSIS OF VARIANCE. This course will focus on applied linear statistical methods as used in the social and behavioral sciences. Particular attention is devoted to the successful application of linear models to business research. Prerequisites: MATH 261, MATH 262, PSY 501, and PSY 502 or the equivalent. (3).

663. STATISTICS II: MULTIVARIATE AND NONPARAMETRIC STATISTICS. Applications of multivariate statistical procedures involving data reduction techniques and analyzing multidimensional relationships in business research. Topics include multivariate analysis of variance, discriminant analysis, logistic regression, exploratory factor analysis, cluster analysis, multidimensional scaling, and conjoint analysis. Prerequisites: PSY 501, PSY 502, and MATH 319. (3).

664. STATISTICS III: ADVANCED STATISTICAL TOPICS. This course is the final “tools” course requirement for students majoring in management, marketing, and MIS. The purpose of this course is to round out students’ knowledge of discipline-appropriate methods and analysis techniques with coverage of structural equation modeling and hierarchical linear modeling techniques. Prerequisites: BUS 660, BUS 661, BUS 662, and BUS 663. (3).

667. GLOBAL BUSINESS STRATEGY. The course is designed to examine the relationship between a business organization and the environment as it evolves into the global marketplace. The functional areas of the business will be analyzed to determine the necessary adaptations to each of these activities to be competitive in foreign markets. Prerequisite: doctoral student or consent of the instructor. (3).

668. CUSTOMER RELATIONSHIP MANAGEMENT. This course introduces students to the burgeoning and cross-functional field of customer relationship management. This area has its origins in marketing and MIS but has significant implications for finance, operations, management, and virtually all areas of business. In addition to introducing literature in this and related areas, the purpose of the course is to stimulate research and thinking by interested doctoral students. Prerequisites: MKTG 669 and admission to doctoral program or consent of instructor. (3).

669. DECISION SUPPORT SYSTEMS. This course draws upon fundamentals from computer science, production/operations management, information systems, database management systems, and general business principles established in previous course work. These fundamentals are reinforced and amplified in the context of developing successful decision support software systems. Familiarity with software programming and the ability to read and discuss aspects of technical journal articles is expected. Prerequisites: ECON 602 or BUS 612 and admission to doctoral program. Computer requirements—proficiency in a programming language. (3).

670. SUPPLY CHAIN MANAGEMENT. This course draws upon fundamentals that are covered in core courses on managerial economics, operations management, engineering management, industrial engineering, and operations research programs; for example, fundamentals of game theory, pricing, inventory models, aggregate planning, capacity management, or linear programming. Supply chain design and operations issues will be supported by cases. Prerequisites: ECON 602 and BUS 612 or consent of instructor. Computer requirement—Microsoft Excel. (3).

FINANCE — FIN

Dr. Phil Malone, chair

Associate Professors Cox, Cyree, Hawley, Malone, B. Van Ness, R. Van Ness, and M. Walker • Assistant Professors Epermanis and Schwartz

531. BUSINESS FINANCE TOPICS. Theory and advanced principles of finance with emphasis upon the use of modern techniques in making business decisions. (3).

533. SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT. Impact of economic factors and security markets upon security value; risk and return in efficient portfolios. Prerequisite: C minimum in FIN 331 and completion of FIN 334 and ACCY 301. (3).

534. MANAGING FINANCIAL INSTITUTIONS. Loan, investment and fund-raising problems of commercial finance companies and factors, savings and loan associations, mutual savings banks, personal loan companies, and public lending agencies. (3).

537. BANK MANAGEMENT I. Principles, problems, practices, procedures, and regulations involved in the commercial, real estate, and installment lending areas of the commercial bank. Lecture and case problems. Prerequisite: FIN 333. Offered only during the fall semester. (3).

538. BANK MANAGEMENT II. Principles, problems, practices, and procedures involved in the investment, trust, safekeeping, safe deposit, auditing, operations, marketing, and international areas of the commercial bank. Lecture case problems, and bank simulation. Prerequisite: FIN 537. Offered only during the spring semester. (3).

542. CORPORATE RISK MANAGEMENT. Corporate risks and the methods for handling them. Covers losses caused by natural disasters, legal liability suits, and financial price changes. Risk management methods include self-retention funding, loss prevention, insurance, and hedging contracts. (3).

553. ADVANCED INCOME APPRAISAL. An advanced study of appraising principles, procedures, and applications with emphasis on income property capitalization techniques. Prerequisite: C minimum in FIN 331 and completion of FIN 351. (3).

555. REAL ESTATE INVESTMENT ANALYSIS. An application of investment principles and techniques of real estate, concentrating on the determination of the economic feasibility of real estate investments and the effects of financing and income taxes upon investment profitability. Prerequisite: C minimum in FIN 331 and completion of FIN 351. (3).

561. FINANCIAL STATEMENT ANALYSIS. Theory and advanced principles of finance with emphasis upon the use of the modern techniques in making business decisions. (3).

568. INTERNATIONAL FINANCE. Introduction to the financial problems of foreign operations. Foreign exchange, transfer of funds, banking services, international financial institutions, and investment decisions with major emphasis upon operational and financial problems of multinationals. Prerequisite: consent of instructor. (3).

581. FUTURES, OPTIONS, AND SWAPS. Offers a survey of the market for derivative financial instruments, i.e., the market for futures, options, and swaps. Will provide a balanced mix of institutional, theoretical, and applied knowledge about how these instruments are designed, priced, and used in practice. (3).

620. ADVANCED DIRECTED STUDY. Students work with one or more faculty members to develop in-depth knowledge of the critical theories, research methods, and associated literature pertaining to a specific topical area. Drawing on this knowledge, the student will subsequently utilize the advice, coaching, and supervision of the mentoring faculty instructor(s) to conduct original research projects. A primary course goal is the creation of a manuscript(s) to be submitted for presentation at a scholarly conference and/or publication in a refereed journal. Prerequisite: admission to the doctoral program. (3).

622. INTERNATIONAL FINANCE. An advanced analysis of international currency and financial markets. Their role in arbitrage, hedging, intermediation, diversification, and speculative activities is investigated using asset pricing models. (3).

626. SEMINAR IN INTERNATIONAL ECONOMICS AND FINANCE. A research seminar designed to investigate contemporary theoretical and empirical issues in international economics and finance. (3).

- 631. SEMINAR IN BUSINESS FINANCE.** A doctoral seminar on the analysis of selected topics in investment and corporate finance. Prerequisite: FIN 633, FIN 635, ECON 630. (3).
- 633. INVESTMENT ANALYSIS.** Security analysis and selected problems in portfolio theory emphasizing recent theoretical and analytical developments. (3).
- 634. FINANCIAL MANAGEMENT I.** Concepts in business finance with emphasis on financial analysis, capital allocation, and optimal capital structure. (3).
- 635. FINANCIAL MANAGEMENT II.** Analysis of selected topics in financial theory. (3).
- 636. FINANCIAL MANAGEMENT OF HEALTH CARE INSTITUTIONS.** Theory and application of financial issues and techniques unique to aspects of health care institutions. (Same as PHAD 672). (3).
- 637. MANAGEMENT OF FINANCIAL INTERMEDIARIES.** Examination of the effects that savings, investing, financing, and asset structure decisions have upon financial institutions. (3).
- 642. APPLIED PROBABILITY MODELING.** Concepts of probability modeling for applications. Fundamental of statistical experiments, events, probability laws, conditional probability, random variables, expectation and conditional expectation, introduction to and applications of Markov chains, papers from literature. (Same as ENGS 627). Prerequisites: MATH 264, Unified Calculus, MATH 353, Differential Equations, graduate standing. (3).
- 644. FINANCIAL ECONOMICS: CONTINUOUS-TIME MODELS.** An introduction to continuous-time financial economic modeling under uncertainty. Analytical methods for solving these classes of models are developed. Applications to futures, options, intertemporal asset pricing, term structure theory and general contingent-claim valuation is discussed. Prerequisite: ECON 503. (3).
- 650. RESEARCH COLLOQUIUM IN ECONOMICS AND FINANCE.** Presentation and discussion of current research in economics and finance. May be repeated for credit. (1). (Z Grade).
- 695. SPECIAL TOPICS IN FINANCE.** An examination of the current topics and issues in the area of finance. Prerequisites: MATH 261, MATH 262, MATH 319, PSY 501, PSY 502, and admission to doctoral program. (3).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

MANAGEMENT—MGMT

Dr. Dwight Frink, chair

Professors Harvey, Paolillo, and Robinson • Associate Professors Canty, Frink, Krapels, and Martin • Assistant Professors Davis, Littlejohn, Novicevic, and Treadway • Clinical Assistant Professor Dorn

- 527. ADVANCED HUMAN RESOURCE MANAGEMENT.** The study of personnel management at the advanced level necessary for professional preparation. The course will include selection, placement, training, compensation, incentives, performance evaluation, and counseling. Emphasis will be on legal and practical problems. Prerequisites: MGMT 383 and senior standing or consent of instructor (3).
- 581. COLLECTIVE BARGAINING.** An introductory course to the field of collective bargaining in the private and public sectors covering such topics as the history of unionism in America, the organizing process, the negotiating process, and administration of the collective bargaining agreement. Emphasis will be on pragmatic problems confronted by employers, employees, and unions. (Same as ECON 584). Prerequisites: MGMT 383, and senior standing or graduate. (3).
- 582. EMPLOYEE RELATIONS.** This course focuses on the study of human resource management for professional preparation. This course will focus on the federal regulation of private and public sector HR management practices with particular emphasis on manpower planning, selection, employee discipline, equal opportunity compliance, workplace privacy, mandatory benefits, and fair labor standards. Prerequisites: MGMT 383, and senior standing or graduate. (3).
- 583. LABOR RELATIONS.** An advanced course analyzing the evolution and impact of labor law in the U.S. The growth of unions, the Railway Labor Act, the Norris-LaGuardia Act, and Fair Employment Law will be emphasized using the case approach. (Same as ECON 583). Prerequisites: MGMT 581 and senior standing or graduate. (3).
- 585. STRATEGIC HUMAN RESOURCE MANAGEMENT.** Introduction to the integration of HRM and organizational strategy as an important element in contemporary competitive global, diverse, and dynamic environments. Specific topics include the interactive influences of business strategies and HRM, HRM in organizations with nontraditional structures, change management, and the influences of an organization's internal and external environments on its HR strategies. Prerequisite: consent of instructor. (3).
- 587. ORGANIZATION THEORY.** Traditional and contemporary organization theories with emphasis on current research and problem solving. Prerequisite: senior standing or graduate. (3).

595. INTERNATIONAL BUSINESS MANAGEMENT. Analysis of international management concepts and practices, environmental interactions, social and cultural constraints, organizational structures, and systems of operations. Prerequisite: senior standing or graduate (3).

606. ADVANCED ORGANIZATIONAL BEHAVIOR. Advanced study of human behavior in organizations. Emphasis on research literature, problem identification, problem analysis, and solutions. (3).

620. ADVANCED DIRECTED STUDY. Students work with one or more faculty members to develop in-depth knowledge of the critical theories, research methods, and associated literature pertaining to a specific topical area. Drawing on this knowledge, the student will subsequently utilize the advice, coaching, and supervision of the mentoring faculty instructor(s) to conduct original research projects. A primary course goal is the creation of a manuscript(s) to be submitted for presentation at a scholarly conference and/or publication in a refereed journal. Prerequisite: admission to the doctoral program. (3).

664. ADVANCED MANAGEMENT RESEARCH. Development of management research skills and knowledge through lecture, discussion, and field research examining the problems of implementing and executing research methodology. (Same as MKTG 664). Prerequisites: MKTG 660, doctoral student, or consent of instructor. (3).

670. ADVANCED READINGS IN MANAGEMENT. Students are expected to develop and digest a list of readings covering a topic area within management. Students also must demonstrate oral and written competency with respect to their chosen topic area. Prerequisite: doctoral student or consent of instructor. (3).

671. GUIDED RESEARCH IN MANAGEMENT. Under the direction of a member of the research faculty in management, students learn the craft of publishing empirical research. Students must demonstrate an ability to generate a research question, develop and test hypotheses, and write up the results of an empirical study. Prerequisite: MGMT 691, doctoral student, or consent of instructor. (3).

673. SEMINAR IN HUMAN RESOURCE MANAGEMENT. An examination of advanced topics and current research affecting human resource management. Research techniques in human resource management will be emphasized. Prerequisites: MGMT 527 or consent of instructor. (3).

675. SEMINAR IN EMPLOYEE RELATIONS. Advanced study of government regulation of human resource management. Discussion of the impact of regulatory practices on such personnel issues as recruiting, selection, promotion, compensation, assignment, and working conditions; research findings. Prerequisite: MGMT 527 or consent of instructor. (3).

676. SEMINAR IN ORGANIZATIONAL BEHAVIOR. An examination of the content and methodological issues in organizational behavior. Topics examined within a seminar framework will include group dynamics, leadership, motivation, and communication. Prerequisites: MGMT 606 or equivalent and admission to doctoral program. (Same as MKTG 676). (3).

678. SEMINAR IN GROUP PROCESS. This seminar provides an in-depth analysis of group processes in organizations; course objectives include mastery of classic and current literature on work groups and an appreciation of emerging group theory and research. Prerequisites: admission to the doctoral program and consent of the instructor. (3).

679. THEORETICAL FOUNDATIONS OF MANAGEMENT. Provides an in-depth examination of the theoretical foundations underlying the field of management. Special attention is devoted to establishing a historical perspective for understanding and appreciating the continuing development of management theory, research, philosophies, and practices. A literature survey of the emergent management disciplines, including business policy/strategy, human resource management, management information systems, organizational behavior, organizational theory, and production/operations management is provided. Prerequisite: Admission to the doctoral program or consent of the instructor. (3).

695. SPECIAL TOPICS IN MANAGEMENT. Prerequisites: MATH 261, MATH 262, MATH 319, PSY 501, and PSY 502. (3).

697. THESIS. (1-12).

797. DISSERTATION. (1-18).

MANAGEMENT INFORMATION SYSTEMS — MIS

PRODUCTION OPERATIONS MANAGEMENT — MGMT

Dr. Milam Aiken, interim chair

Professor Reithel • Associate Professors Aiken, Alidaee, S. Conlon, and Rego • Assistant Professors Ammeter and M. Lewis • Research Assistant Professor K. Lewis • Clinical Assistant Professors B. Garner and J. Wee

577. OPERATIONS PLANNING AND CONTROL. Planning and control of operating systems, quality control, inventory control, maintenance, and product planning. Prerequisites: BUS 230, MGMT 372, MGMT 475 or consent of instructor. (3).

609. MANAGEMENT INFORMATION SYSTEMS. A study of management information and decision support systems with emphasis placed on applications that facilitate decision making. All applications are approached from the position of a manager's role as the user of the system. Prerequisite: MIS 309 or consent of instructor. (3).

619. ADVANCED INFORMATION SYSTEMS MANAGEMENT. Advanced study of file processing, databases and database management systems within organizations, logical models (hierarchical, network, relational, and object-oriented), query, optimization, recovery, integrity, concurrency, security, distributed databases and client-server architecture, database machines, knowledge-based and text-based systems, and data mining and warehousing. Experience in practicing data analysis, design, implementation, and administration. Prerequisite: MIS 640 or consent of instructor. (3).

620. ADVANCED DIRECTED STUDY. Students work with one or more faculty members to develop in-depth knowledge of the critical theories, research methods, and associated literature pertaining to a specific topical area. Drawing on this knowledge, the student will subsequently utilize the advice, coaching, and supervision of the mentoring faculty instructor(s) to conduct original research projects. A primary course goal is the creation of a manuscript(s) to be submitted for presentation at a scholarly conference and/or publication in a refereed journal. Prerequisite: admission to the doctoral program. (3).

640. THEORETICAL FOUNDATION OF MIS/POM. This course provides a general introduction and grounding in the MIS and POM areas and serves as a functional core course in the revised Ph.D. curriculum. Prerequisite: doctoral student or consent of the instructor. (3).

655. MANAGEMENT OF INFORMATION SYSTEMS. The course covers the issues, strategies, and tactics for effective management of an enterprise's information technology resources. The course emphasizes the development of new conceptual/research models related to the impact of information systems within organizations. Prerequisite: Doctoral student or consent of the instructor. (3).

660. PRODUCTION AND OPERATIONS MANAGEMENT. Managerial tools and techniques in production and operations management. Prerequisite: consent of instructor. (3).

674. ADVANCED OPERATIONS MANAGEMENT. Applications of management science to problems in operations management. Prerequisites: MIS 641, either ECON 609 or 612, or consent of instructor. (3).

677. INTEGER AND NONLINEAR OPTIMIZATION. Current developments in optimization theory and their application to problems in operations management. Emphasis will be on integer and nonlinear programming applications. Prerequisite: MIS 641, either ECON 609 or 612, or consent of instructor. (3).

680. PRODUCTION SCHEDULING. Current scheduling issues that managers of production planning in the industry are faced with. Traditional solution techniques and current developments are covered. Prerequisites: MATH 261 and 262, or equivalent, or consent of instructor. (3).

695. SPECIAL TOPICS IN MIS/POM. An examination of the current topics and issues in the area of MIS/POM. Prerequisites: MATH 261, MATH 262, MATH 319, PSY 501, PSY 502, and admission to doctoral program. (3).

MARKETING — MKTG

Dr. Scott J. Vitell, Jr., interim chair

Professors Ingene and Vitell • Associate Professors Bush, C. Noble, and Sloan • Assistant Professors Garg, Govind, S. Noble, and Vorhies

525. MARKETING RESEARCH. The role of research in marketing decision making, research design and methodology, appraisal of alternative research methods, concepts of dealing with and collecting primary data. Prerequisites: BUS 230, BUS 302, MIS 309, and MKTG 351 or equivalent courses, senior standing or higher. (3).

551. MARKETING POLICY AND STRATEGY. An integrated analytical approach to the study of a company's marketing management program; emphasis on marketing planning and programming for optimum profitability. Prerequisites: senior standing, 15 hours of MKTG courses, to include MKTG 351 and 367 or consent of instructor. (3).

552. INTERNATIONAL MARKETING. Study of the initiation and implementation of multinational trade, emphasis on the marketing aspects of foreign market penetration. Prerequisites: MKTG 351, senior standing or higher or consent of instructor. (3).

565. ADVANCED ADVERTISING. Problems of the advertising manager, planning, preparation, and evaluation of advertising campaigns. Prerequisites: MKTG 351 and 353, senior standing or higher or consent of instructor. (3).

620. ADVANCED DIRECTED STUDY. Students work with one or more faculty members to develop in-depth knowledge of the critical theories, research methods, and associated literature pertaining to a specific topical area. Drawing on this knowledge, the student will subsequently utilize the advice, coaching, and supervision of the mentoring faculty instructor(s) to conduct original research projects. A primary course goal is the creation of a manuscript(s) to be

submitted for presentation at a scholarly conference and/or publication in a refereed journal. Prerequisite: admission to the doctoral program. (3).

650. MARKETING MANAGEMENT. A comprehensive survey course studying managerial approaches to the making of marketing decisions. (Substitution of another 600 level marketing course permitted for student with undergraduate majors/minors in marketing.) (3).

666. RESEARCH SEMINAR: ADVANCED MARKETING RESEARCH METHODS. The objectives of this course are to review new and emerging research methodologies used in marketing and to allow the student to develop a depth of understanding of these approaches, that will permit the student to effectively use them in one's research and evaluate the research done by others. (3).

668. ADVANCED MARKETING READINGS I. A synthesis of the current and "classic" literature in marketing thought, including applications of managerial decision making to problems in marketing. Prerequisite: doctoral student or consent of instructor. (3).

669. THEORETICAL FOUNDATIONS OF MARKETING. The objectives of this course are to introduce students to the philosophy of science literature so that they will have the analytical tools needed to critically evaluate theoretical models. The course also will explore the development of theory in science, business, and most particularly, in marketing. Offered spring semester, even years. Prerequisite: doctoral student or consent of instructor. (3).

670. ADVANCED STUDIES IN CONSUMER BEHAVIOR. An analysis of the various contributors in the area of consumer research with an emphasis on current and "classic" consumer behavior literature. Prerequisites: doctoral student or consent of instructor. (3)

671. GUIDED INSTRUCTION IN PREPARING RESEARCH PROPOSALS. The goal of this course is to prepare students to begin serious development of their dissertation and to stimulate interest in research and publication. Topics covered include basic research design; review of methods of collecting data in library, field, and laboratory settings; data analysis; research funding; costing; and reporting. Prerequisite: any University student admitted to candidacy for the doctorate. (3).

695. SPECIAL TOPICS IN MARKETING. An examination of the current topics and issues in the area of marketing. Prerequisites: MATH 261, MATH 262, MATH 319, PSY 501, PSY 502, and admission to doctoral program. (3).

697. THESIS. (1-12).

797. DISSERTATION. (1-18).

SCHOOL OF EDUCATION

Tom Burnham, dean

Thomas E. Bates, assistant dean

222 Guyton Hall

(662) 915-7063

Graduate Degrees • Graduate work in education leads to the degrees of Master of Arts, Master of Education, Master of Science, Education Specialist, Doctor of Education, and Doctor of Philosophy. For specific areas of study, see the departmental sections of the School of Education following the general information below. Each time a student completes a graduate program and desires to enroll in another, an application must be submitted, and it is subject to all regulations in the current catalog.

ADMISSION TO GRADUATE PROGRAMS

Graduate programs requiring Graduate Record Examination (verbal and quantitative) score reports:

M.A. in Higher Education and Student Personnel

M.Ed. in Educational Leadership

M.A. in Curriculum and Instruction—emphasis in TESOL, emphasis in secondary education

M.Ed. in Counselor Education

Ed.S. in Educational Leadership (K-12)

Ed.S. in Counselor Education

Ph.D. in Education, emphasis in educational leadership (K-12)

Ph.D. in Counselor Education

Ph.D. in Higher Education

Ph.D. in Education, emphasis in secondary education and emphasis in TESOL

Graduate programs requiring Praxis II (Principles of Learning and Teaching—PLT or Subject Area) Exam scores:

M.Ed. in Education with emphasis in elementary education

M.Ed. in Education with emphasis in secondary education

M.Ed. in Education with emphasis in special education

Ed.S. in Curriculum and Instruction with emphasis in elementary, secondary or special education

Ed.D. in Education with emphasis in elementary education

Ph.D. in Curriculum and Instruction with emphasis in secondary education

Graduate program requiring Praxis I and Praxis II (Subject Area Exam) scores in one of the following areas: biology, chemistry, English, French, mathematics, physics, social studies, and Spanish:

M.A. in Curriculum and Instruction (subject area teaching option)

The Student's Program • An adviser will be assigned to each student upon admission to the Graduate School. At each registration the student's program should be approved by the faculty adviser. The student's program, in addition to required courses, is determined in conference with the adviser or with a committee of which the adviser is chair. This procedure is intended to provide programs in which the needs and development of the individual are paramount.

THE MASTER'S DEGREE. Admission to a master's degree program requires that the applicant:

1. See department chair for specific requirements.
2. For an additional master's degree, 30 hours or 36 hours of course work for that particular degree must be taken.
3. Students in M.Ed. programs must hold (or be eligible to hold) a Class A teacher's certificate (or its equivalent from another state). An exception to the admission requirements may be made for those programs that do not require state certification.

EDUCATION SPECIALIST DEGREE. Admission to an Education Specialist degree program requires that the applicant:

1. Hold (or be eligible to hold) a Class AA professional certificate (or its equivalent from another state). See departmental section for additional requirements.
2. Have at least two years' successful teaching experience or relevant work experience.
3. Complete program area requirements. Contact department chair for additional requirements.

DOCTORAL DEGREE. Admission to a doctoral degree program requires that the applicant:

1. Hold (or be eligible to hold) a Class AA professional certificate (or its equivalent from another state) and a master's degree from a regionally accredited institution (or meet the University's requirements for a Master of Education degree). See departmental requirements for certain exceptions.
2. Have at least a B average on any previous graduate work in and on all other work applicable to the doctoral program.
3. Have at least two years' successful teaching experience at an accredited school or college or two years' relevant work experience.
4. Complete program area requirements. Contact department chair for additional requirements.

REQUIREMENTS OF THE GRADUATE PROGRAMS IN EDUCATION

The following Professional Knowledge Base courses are common to most doctoral degree programs.

- COUN 603. Advanced Educational Psychology
- EDRS 501. Educational Statistics I
- EDRS 701. Educational Statistics II
- EDRS 605. Educational Research I
- EDRS 705. Educational Research II
- EDFD 609. The Cultural Context of Education

MASTER'S DEGREE. General requirements for all master's degrees are:

1. A minimum of one academic year (or two complete summer sessions) in residence;
2. A minimum of 30 semester hours of graduate credit;
3. Passing of a final oral and/or written examination, and, for programs that require it, passing the portfolio evaluation;
4. An overall average of B or better on all courses taken for graduate credit;
5. A six-year time limit on all work applicable toward the master's degree.

Transfer Of Graduate Credit • A maximum of 6 semester hours of graduate credit earned in another recognized institution may be accepted, subject to the following conditions, which are in addition to the general Graduate School academic regulations:

1. The student must have been admitted to a graduate degree program at the other institution at the time the course to be transferred was taken. If the student is already enrolled in a degree program at The University of Mississippi, the student may register as a transient student at the other institution, with the approval of the dean of the Graduate School.
2. The school from which the work is transferred must be accredited for graduate study by the regional accrediting association and by the National Association for Accreditation of Teacher Education.
3. The courses for which credit is transferred must have been taught by members of the graduate faculty of that institution.
4. The last three (3) semester hours must be taken at The University of Mississippi.

EDUCATION SPECIALIST DEGREE. Counselor Education. The Ed.S. program is intended mainly for (1) students who want a graduate degree but do not plan to continue to the doctorate, and (2) students whose plans for continuing to the doctorate in education are indefinite, but who wish to complete a two-year graduate program probably applicable to the doctorate. In this program appropriate master's degree credit must be integrated into the overall 66 semester-hour graduate credit requirement.

Requirements for the Ed.S. Degree • The program consists of 66 semester hours of graduate study beyond the bachelor's degree. Up to 36 hours beyond the bachelor's degree may be waived by the department on the basis of graduate work completed at other institutions. A minimum of 30 semester hours must be completed in the area of emphasis. At least 30 semester hours, including a minimum of 9 semester hours in the area emphasis, of the last 36 hours must be taken at The University of Mississippi. A student is required to take a minimum of 6 semester hours outside the School of Education. A thesis or field study is required of all students for which a minimum of 6 semester hours of thesis or field study credit must be recorded.

The department offers Education Specialist degrees with emphasis in Elementary Education, Secondary Education, and Special Education. The Ed.S. program is intended mainly for students who wish to earn a post-master's graduate degree that leads to Mississippi AAA teacher certification. Information on admission is available from the department office. Admission to the specialist program requires Praxis II, Principles of Learning and Teaching (PLT) or Praxis II Subject Area Exam scores and successful completion of a writing sample.

Specialist programs require a minimum of 36 semester hours of graduate course work beyond the master's degree. Students should complete Trends and Issues in Teaching (EDCI 658) in the first 12 hours of their programs. A culminating experience is the completion of EDEL, EDSE, or EDSP 769, a Field Study, which results in the submission of a paper to a scholarly journal. Other specific requirements for the Ed.S. degree will depend on the student's emphasis area, as determined by the program faculty. Candidates for the specialist degree must pass a final written examination.

DOCTORAL PROGRAMS. The general requirements for doctoral degrees are described on page 39. Specific requirements are given below.

Advisory Committee • An advisory committee of three faculty members (two in the student's area) shall be appointed by the department chairperson to determine the student's program of courses.

Course Requirements • At least 90 semester hours beyond the bachelor's degree (including 18 semester hours of dissertation credit) is required for graduation. A minimum of 30 hours of graduate course work beyond the master's degree must be taken at this University. All students are required to take EDRS 705 at The University of Mississippi. The student must complete 9 hours of course work outside the student's area of emphasis. A minimum of 9 semester hours must be successfully completed in areas other than education. Course work taken outside the School of Education must be approved by the student's adviser.

Grade-point Average • At the end of the first 9 semester hours attempted, the student must have a minimum grade-point average of 3.3. If the student's grade-point average is less than 3.3 the student shall be given a probationary status. To remove the probationary status the student shall bring the average to 3.3 or better at the completion of 21 semester hours. The student must thereafter maintain a 3.0 average or be dismissed from the program.

Continuous Residence • In partial fulfillment of the residence requirements, the student must be in continuous residence on The University of Mississippi campus as a full-time student taking regular class period courses for at least two adjacent regular semesters. This period of continuous residence may begin with the semester in which the student completes requirements for full admission to the degree program. The remainder of the required residence may be completed in sessions that are not adjacent. In the minimum period of continuous residence, the student must register for at least 9 semester hours of graduate work each semester. Part-time graduate students may fulfill the residence requirement by completing 24 continuous semester hours of course work within a five semester period.

Preliminary Examination • The student shall take the Preliminary Examination during the first semester or summer session following full or conditional admission to a doctoral program; the student need not be enrolled when taking the examination.

Admission to Candidacy • The student may be recommended to candidacy only after the successful completion of the foreign language requirement (if any) and comprehensive examination. When, in the opinion of the student's advisory committee, the area coordinator and department chair, the student has demonstrated qualification to complete the program of study and research leading to the doctorate, the department will recommend admission to candidacy.

Comprehensive Examination • The Comprehensive Examination shall be taken after the student has completed all required course work or during the enrollment period in which the course work is completed. The examination will be administered by the department concerned. Approval is required by the chair of the student's advisory committee and the dean of the Graduate School. The student must pass the Comprehensive Examination at least one year prior to the time the student expects to receive the degree, ordinarily not before the accomplishment of two full years of graduate work. The Comprehensive Examination for the Ph.D. degree program may not be taken until after the student has satisfied any foreign language requirement.

Dissertation • A dissertation representing independent and original research is required. The prospectus for the dissertation is formally presented, defended and filed with the Graduate School after the student has passed the comprehensive examination. A dissertation committee consisting of a minimum of four faculty members (at least two from the student's area and one from outside the department) shall be appointed by the department. A style manual for the dissertation should be obtained from the Graduate School office. The candidate must present to the Graduate School office two copies of the dissertation, which conform to the Graduate School Manual of Theses, Doctoral Essays and Dissertations.

Deadlines • Final copy of the dissertation, as approved by the chair of the candidate's committee, must be in the hands of the members of the examining committee two weeks prior to the final oral examination of the candidate.

Registration for Dissertation • See this heading under "Requirements for Graduate Degrees."

Final Examination • After the acceptance of the dissertation in final form, an oral examination must be undertaken. This examination will be given on the dissertation and its area. The two signed copies of the dissertation with the abstract should be submitted to the Graduate School prior to the deadline dates established by the Graduate School.

Fields of Study • Four areas of emphasis are offered for the doctorate: educational leadership; counselor education; elementary education; and secondary education.

CURRICULUM AND INSTRUCTION

Professor Fanny Love, chair • 316 Guyton Hall

Professors Burnham, Love, Rayne, and Sumrall • Associate Professors Blackburn, Erdim-Payne, Hanshaw, Leigh, Oliphant-Ingham, Rowland, and Tyler • Assistant Professors Adams, Chessin, Cross, Holmes, Mims, Moore, Pepper, Sullivan, Thompson, and Wiggers

Graduate Degrees • The following degrees are offered: Master of Arts in Education with emphasis in early childhood education and TESOL; Master of Education with emphases in elementary education, special education, and secondary education (biology, chemistry, English, modern languages, mathematics, physics, or social studies); Education Specialist with emphasis in elementary, secondary or special education. Doctor of Education with emphasis in elementary education; and Doctor of Philosophy in Education with emphasis in secondary education; Doctor of Philosophy with emphasis in TESOL. Applications for admission will not be considered without accompanying test scores.

Applicants applying to the TESOL program (M.A. or Ph.D. degrees) are required to submit passing Graduate Record Examination (GRE) scores according to department requirements.

Applicants applying for the master's, specialist, or doctoral programs in the Department of Curriculum and Instruction are required to submit passing scores on the Praxis II examination (Principles of Learning and Teaching (PLT) **OR** the subject area exam according to department requirements. Applicants who hold the National Board of Professional Teaching Certification are not required to submit Praxis II scores.

Applications must be received before the following dates:

- November 15 for admission for the spring semester
- May 1 for admission to both summer terms
- July 15 for admission to the fall semester

Requirements • The M.Ed. degree requires 30 semester hours of course work. All candidates for the degree must take Educational Research I (EDRS 605), Advanced Curriculum Theory and Practice (EDCI 601), and Measurement and Evaluation for the Classroom Teacher (EDCI 503).

For the emphasis in elementary education, other requirements include 15 hours of specialized course work from one emphasis area (either math/science or language arts/reading methods); and an additional 6 credit hours of elective course work is required.

For the emphasis in secondary education, other requirements include 12 hours in the subject area (math, science, social studies, English) plus 3 hours of Advanced Methods in the subject area (EDSE 642-648) and 6 hours of electives. For M.Ed. in English Education, Literature for Today's Teenagers (EDLS 525) is a prerequisite for the specialization courses.

For the emphasis in special education, other requirements include 15 hours in the major area, to include Rehabilitation of the Handicapped (EDSP 628), Readings in Research with Exceptional Children (EDSP 683), Practicum and Field Experiences with Exceptional Students (EDSP 552), two additional courses in special education, plus 6 hours of approved electives.

All M.Ed. candidates must hold or be eligible to hold a Class A certificate. They must pass a portfolio evaluation and a written comprehensive examination. In addition, M.Ed. candidates must meet all program field experience requirements.

Ed.S. Degree Program

Requirements • The Education Specialist (Ed.S.) degree requires 36 semester hours of course work with emphasis in elementary, secondary, or special education.

All Ed.S. candidates must hold and submit to the department a class AA teaching certificate or be eligible to hold a class AA teaching certificate. In addition, all Ed.S. candidates must complete an acceptable writing sample under conditions set forth by the faculty.

M.A. Degree Program • A Master of Arts in Curriculum and Instruction with an emphasis in secondary education.

The subject area teaching emphasis is available for alternate certification for arts and science majors participating in the Mississippi Teacher Corps Program. In order to receive full admission to the degree program, applicants must present evidence of having met the required score established by the Mississippi State Department of Education on the Praxis I and Praxis II (Subject Area Exam) in the content area of biology, chemistry, English, French, mathematics, physics, social studies, or Spanish. The emphasis in subject area teaching requires 30 hours of graduate course work, to include:

INITIAL SUMMER COMPONENT (9 hours)

EDSE 500. FOUNDATIONS OF SECONDARY EDUCATION
EDSE 501. CLASSROOM PRACTICES
EDSE 502. MULTICULTURAL FIELD EXPERIENCES

FALL SEMESTER (6 hours)

EDSE 600. EFFECTIVE TEACHING AND COMMUNITY SERVICE

*Students take one of the advanced methods courses that correspond to their certification area.

EDSE 642. ADVANCED METHODS OF TEACHING ENGLISH
EDCI 643. ADVANCED METHODS OF TEACHING FOREIGN LANGUAGE
EDSE 645. ADVANCED METHODS OF TEACHING MATHEMATICS
EDSE 646. ADVANCED METHODS OF TEACHING SCIENCE
EDSE 647. ADVANCED METHODS OF TEACHING SOCIAL STUDIES

SPRING SEMESTER (6 hours)

EDCI 557. COMPUTER CONCEPTS AND APPLICATIONS FOR EDUCATORS
EDSE 610. INNOVATIONS IN EDUCATION

SUMMER SESSION (6 hours)

EDRS 605. EDUCATIONAL RESEARCH I
EDLD 641. THE LEGAL CONTEXT OF EDUCATION

FALL SEMESTER (3 hours)

EDLD 501. THE EFFECTIVE PRINCIPAL

In addition, the student must successfully defend a program portfolio. For additional information about the program, contact the director of the Mississippi Teacher Corps.

The M.A. in Education with emphasis in TESOL (Teaching English to Speakers of Other Languages) is offered with both thesis and nonthesis options, totaling 36 semester hours. All candidates must pass a comprehensive examination. Consult with TESOL faculty for the requirements.

M.A. Degree Program • A Master of Arts in Curriculum and Instruction with an emphasis in early childhood education (a non-teaching certification degree)

Purpose: The M.A. program with emphasis in early childhood education is designed to meet the needs of applicants who aspire to hold a leadership role in early childhood education and desire a graduate degree. No teacher certification can be obtained with this degree. This degree **will not** be recognized by the Mississippi State Department of Education or **other** state departments for teacher certification purposes. The applicants for the Master of Arts degree must complete 30 graduate hours.

Admission Policies and Procedures: Applicants applying to the Master of Arts program in the Department of Curriculum and Instruction should follow the admission policies and procedures outlined in this document.

Applicants must meet all admission requirements of the Graduate School and the School of Education.

Admission Requirements:

1. A complete graduate application for admission must be submitted to the Graduate School.
2. One official transcript from each college/university attended.
3. A \$25 application fee (Mississippi residents exempt).
4. Official test scores from the Graduate Record Examination (GRE)—(verbal and quantitative scores).
5. The applicants must sign a document verifying their knowledge related to this non-teaching certification degree.

Program:

- I. Professional Core (9 hours)
 - EDRS 605 Educational Research
 - EDEC 500 Introduction to Early Childhood Education
 - EDEL 519 Techniques and Principles for Classroom Management
- II. Emphasis Area (15 hours)
 - EDEL 601 Child Growth and Development
 - EDEC 551 Science and Number Concepts in Early Childhood Education
 - EDEC 553 Language Conceptual Literature in Early Childhood Education
 - EDEC 555 Art and Music in Early Childhood Education
 - EDEC 557 Seminar: Social Living in Early Childhood Education
 - EDEC 570 Program Development and Administration in Early Childhood Education
 - EDEC 667 Early Childhood Education Seminar
 - EDLS 519 Selection of Media for Children
- III. Electives (6 hours)

Electives may be graduate courses with an EDEC, EDEL, EDSP, or EDRD prefix and/or any other graduate course inside or outside the School of Education.

English as a Second Language (ESL) Certification • The Department of Curriculum and Instruction, TESOL Program, proposes the following 12-hour course program to meet the competencies in (1) language principles; (2) language acquisition; (3) methodology; (4) cross-cultural awareness; and (5) assessment for an add-on endorsement to current Mississippi teaching certification: ENG 501, EDCI 631, EDCI 542, and EDCI 647.

The Ph.D. in Education with emphasis in secondary education requires 99 semester hours, including 18 dissertation hours. The 99 hours includes 18 hours of professional core courses; 33 hours of specialization to include 24 hours in a content field; and 18 hours of courses in a related field.

The Ph.D. in Education with emphasis in TESOL requires 90 semester hours beyond the bachelor's degree, including 18 credit hours of dissertation. All candidates must pass the equivalent of four semesters of foreign language studies. A written comprehensive exam precedes the writing of the dissertation. Consult with TESOL faculty for the requirements.

The Doctor of Education (Ed.D.) degree with emphasis in elementary education requires 99 semester hours, including 18 dissertation hours. This includes 33 hours of professional core, 15 hours of elementary education core, 24 hours of specialization courses, 12 hours of electives, 6 hours of doctoral seminar, and 6 hours of internship. The candidate must pass a portfolio evaluation, pass a written comprehensive examination, and write and defend a dissertation. Consult the graduate coordinator in the Department of Curriculum and Instruction for the requirements.

Curriculum and Instruction — EDCI

503. MEASUREMENT AND EVALUATION FOR THE CLASSROOM TEACHER. Standardized achievement tests and evaluation procedures in schools; practice in constructing tests and evaluation instruments. (3).

526. THE MIDDLE YEARS SCHOOL. Characteristics, functions of middle years school; its relation to modern educational practice; role of administrators, teachers, students, curriculum, facilities unique to junior high and middle schools. (3).

542. TEACHING ENGLISH AS A FOREIGN LANGUAGE. Linguistics applied to the teaching of English as a foreign language; program organization and curriculum. (3).

557. COMPUTER CONCEPTS AND APPLICATIONS FOR EDUCATORS. Professional studies in educational computing and technology: computer/technology skills, concepts, and applications for teachers: use of technology to support content areas: integration of teaching methodologies. (3).

558. INTEGRATING THE INTERNET IN EDUCATION. Instructional strategies for integrating the use of the Internet as a teaching and learning tool in education. (3).

601. ADVANCED CURRICULUM THEORY AND PRACTICE. Theories of curriculum; techniques of curriculum building; experiments; evaluation of present trends. (3).

602. CURRICULUM CONSTRUCTION. Theory and techniques of curriculum construction; construction of teaching-learning materials adapted to special needs of particular schools. (3).

631. TESTING AND ASSESSMENT IN SECOND LANGUAGE ACQUISITION. An introduction into the theoretical and the practical issues involved in the construction, interpretation, and utilization of tests of English as a second/foreign language with emphasis on performance-based assessment. (3).

635. REFLECTIVE TEACHING. Reflecting on current classroom practice through descriptive, analytical, thoughtful and critical writing. Application of the National Board for Professional Teaching Standards. (3)

643. ADVANCED METHODS OF TEACHING FOREIGN LANGUAGES. A theoretical and practical approach to the teaching of foreign languages. (3).

645. PRACTICUM IN TESOL. Supervised experiences in teaching English as a foreign language. (3).

647. CULTURAL DIMENSIONS OF SECOND LANGUAGE ACQUISITION. Sociolinguistic and ethnographic perspectives on issues faced in cross-cultural communication and language teaching in multicultural classrooms. Focus on the interaction of language, culture, and thought. (3)

651. ADVANCED INDIVIDUAL STUDY. Development of special projects under supervision. (1-6).

657. INFORMATION TECHNOLOGY FOR PROFESSIONAL EDUCATORS. This course focuses on understanding and selecting educational technologies to enhance personal, pedagogical, and institutional effectiveness. A specific focus will be on the evaluation of technology by critically analyzing current and emerging research in an attempt to develop and incorporate relevant evaluation criteria. Prerequisite EDCI 557 or instructor's approval. (3).

658. TRENDS AND ISSUES IN TEACHING. Explore trends and issues in the field of teaching in education. (3).

680. ESL PROGRAM ADMINISTRATION. An in-depth and practical inspection of the various issues related to the administration of English as a second language (ESL) programs in the United States. Prerequisites: EDCI 542, EDCI 602, EDCI 631, and EDCI 647. (3).

695. SEMINAR IN SECOND LANGUAGE ACQUISITION. General theories of acquisition; examination of historical view of acquisition; theories and models; research methods; individual variables in successful acquisition. (3).

697. APPLIED LINGUISTICS IN TESOL. Students will examine a variety of language problems undertaken in applied linguistics and relate them to major issues in TESOL. Prerequisites: EDCI 542 and EDCI 695. (3).

727. INTERNSHIP. Supervised on-the-job experiences in appropriate settings; evaluation; clinical project. (3-6).

Early Childhood Education — EDEC

500. INTRODUCTION TO EARLY CHILDHOOD EDUCATION. Principles, curriculum construction, methods, and materials in early childhood education. (3).

551. SCIENCE AND NUMBER CONCEPTS IN EARLY CHILDHOOD EDUCATION. Development of number and science concepts for nursery school through early elementary education; emphasis on content, method and laboratory techniques. (3).

553. LANGUAGE CONCEPTS AND LITERATURE IN EARLY CHILDHOOD EDUCATION. Language as communicative skill and expressive art through creative experiences; selection and use of literature to stimulate language and conceptual growth. (3).

555. ART AND MUSIC IN EARLY CHILDHOOD EDUCATION. Development of creative expression through art and music in the nursery and early elementary years; relationship between creative process and developmental stages. (3).

557. SEMINAR: SOCIAL LIVING IN EARLY CHILDHOOD EDUCATION. Sociological aspects of the family; meeting nutritional and medical needs; techniques of working with parents, community resources; development of social concepts. (3).

- 570. PROGRAM DEVELOPMENT AND ADMINISTRATION IN EARLY CHILDHOOD EDUCATION.** Planning and administering a preschool program: setting goals, physical facilities, program development, scheduling, finances, staff selection and supervision, policy development, and parent involvement. (Same as EDAD 570). (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (Same as EDEL 651, 652 and EDRD 651, 652). (1-6, 1-6).
- 661. PRACTICUM I.** Supervised experience in the 3-year-old nursery laboratory school. (3).
- 662. PRACTICUM II.** Supervised experience in the 4-year-old nursery laboratory school. (3).
- 663. PRACTICUM III.** Supervised experience in the 5-year-old kindergarten laboratory school. (3 or 6).
- 664. PRACTICUM IV.** A child development center in a disadvantaged area of the community. (3 or 6).
- 665. PRACTICUM V.** Supervised experience in a multi-age program for 6- to 9-year-old children. (3).
- 667. EARLY CHILDHOOD EDUCATION SEMINAR.** Study of selected philosophical and historical movements that have influenced the development of programs for young children, study of current model programs, and review of selected research related to contemporary issues that affect young children. (3). (Z grade).
- 697. THESIS.** (1-12).
- 767. FIELD STUDY.** Report involving original study of a problem in the candidate's field of specialization. (3).

Education — EDUC

- 555, 556. SPECIAL TOPICS IN EDUCATION.** A special topics course designed to meet the in-service needs of school districts of Mississippi. Graduate students may use 6 semester hours toward a degree. Z grade for EDUC 556 only. (May be repeated for credit). (1-6).
- 557. SPECIAL TOPICS IN EDUCATION.** (Same as EDUC 555).

Educational Media — EDAV

- 573. ORGANIZATION AND DIRECTION OF THE INSTRUCTIONAL MEDIA CENTER.** Problems in directing the media center. Evaluation of needs for media programs; their organization in colleges, schools, school systems. (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (1-6, 1-6).
- 676. THE USE OF GRAPHIC MATERIALS IN TEACHING.** Proper construction and utilization of charts, graphs, maps, globes, and other graphic material. (3).
- 697. THESIS.** (1-12).
- 767. FIELD STUDY.** Report involving original study of a problem in the candidate's field of specialization. (1-6).
- 797. DISSERTATION.** (3). (Z grade).

Elementary Education — EDEL

- 519. TECHNIQUES AND PRINCIPLES FOR CLASSROOM MANAGEMENT.** Basic behavior management principles available to the classroom teacher for effective classroom management. (3).
- 531. METHODS OF REMEDIATION IN LANGUAGE ARTS AND MATH.** Techniques for assessment and remediation of elementary students with learning problems in language arts and math; selection and proper use of appropriate teaching materials. (3).
- 601. CHILD GROWTH AND DEVELOPMENT.** Physical, emotional, intellectual, and social growth; emphasis on the effects of different aspects of development of the child; study of children in small and large groups. (Same as COUN 601). (3).
- 615. PROBLEMS AND INVESTIGATIONS IN TEACHING ELEMENTARY SCHOOL SCIENCE** Science teaching in elementary school; emphasis on developmental activities, teaching resources, and research. (3).
- 617. THE NATURE AND STRUCTURE OF THE LANGUAGE ARTS AS DEVELOPED IN ELEMENTARY SCHOOL** Creative skill aspects of language arts; oral expression, listening, usage, vocabulary, reading, writing, and handwriting. (3).
- 620. LITERACY CONNECTIONS IN THE ELEMENTARY SCHOOL** Focus on integration of the language arts and application in the elementary classroom; attention to speaking, listening, reading, writing, viewing, and visually representing across the curriculum. Prerequisite: EDEL 617. (3)
- 621. BRAIN/MIND THEORIES AND THE THEMATIC APPROACH.** Study of the brain/mind system and implications for thematic integrative planning. Use of units and projects for interdisciplinary teaching. (3).
- 623. PROBLEMS IN TEACHING SOCIAL STUDIES.** Materials, methods, and organization of social studies in elementary and secondary schools. (For teachers in service). (3).
- 625. PROBLEMS IN TEACHING MATH I.** Materials, methods, and organization of math in elementary schools as related to teaching the structure of the real number system and its subsystems. (3).
- 627. PROBLEMS IN TEACHING MATH II.** Materials, methods, and organization of math in elementary schools as related to teaching the English and metric systems; geometrical/statistical concepts and other topics. (Not to include the content of 625). (3).
- 629. CLINICAL AND DIAGNOSTIC PROCEDURES IN MATH.** Tests and clinical procedures in appraising, diagnosing, and remediating children's difficulties with math. (3).
- 630. CLINICAL PROJECTS.** A forum for graduate students at the master's degree level who are conducting and reporting on specific clinical studies done in their own classrooms and at other approved clinical sites. (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (Same as EDEC 651, 652 and EDRD 651, 652). (1-6, 1-6).

- 661. PRACTICUM IN ELEMENTARY EDUCATION.** Supervised experience in enriching educational opportunities for elementary students. (3).
- 697. THESIS.** (Same as EDEC 697 and EDRD 697). (1-12).
- 700. SEMINAR IN ELEMENTARY EDUCATION.** Problems in elementary education; emphasis on individual research for doctoral students. (3-6).
- 727. INTERNSHIP.** Supervised on-the-job experiences in appropriate settings; evaluation; clinical project. (3-6). (Z grade).
- 767. FIELD STUDY.** Report involving original study of a problem in the candidate's field of specialization. (1-6).
- 797. DISSERTATION.** (3). (Z grade).

Library Science — EDLS

- 519. SELECTION OF MEDIA FOR CHILDREN.** Evaluating and using both print and nonprint materials for children (K-8); emphasis on contemporary titles, trends, and issues and book reviews and talks. (3).
- 525. LITERATURE FOR TODAY'S TEENAGERS.** Selection and evaluation of current titles appropriate for ages 13-19; extensive reading of contemporary fiction and nonfiction; emphasis on interests of teenagers, trends and issues, and book reviews and book talks. (3).

Reading — EDRD

- 500. BASIC SKILLS IN READING.** Introduction to reading; history, overview of the field and basic instructional procedures. (3).
- 615. MATERIALS AND METHODS OF READING IN THE ELEMENTARY SCHOOL.** Organization of reading instruction in elementary school. (3).
- 616. DIAGNOSTIC AND REMEDIAL READING.** Classroom evaluation and correction of reading difficulties. Effective use of formal and informal tests to determine student needs. Selection of appropriate methods and materials for remedial instruction. Prerequisite: EDRD 500. (3).
- 617. CLINICAL DIAGNOSIS AND CORRECTION OF READING PROBLEMS.** Tests, inventories, and clinical procedures in appraising and remediating reading difficulties in a clinic setting. (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (1-6, 1-6).

Secondary Education — EDSE

- 500. PRINCIPLES OF SECONDARY CLASSROOM INSTRUCTION.** Educational principles applied to classroom motivation, learning, instruction, behavior management, and teaching strategies. Course can only be taken for graduate credit. (3).
- 501. CONTENT METHODOLOGY AND EVALUATION I.** The selection and development of content area methods, resources, and evaluation. Course can only be taken for graduate credit. (3).
- 502. MULTICULTURAL FIELD EXPERIENCES.** Field experiences in a variety of multicultural educational settings. (3).
- 600. EFFECTIVE TEACHING AND COMMUNITY SERVICE.** Application of effective teaching skills and implementation of youth community service programs. (3).
- 610. INNOVATIONS IN EDUCATION.** Exploration of educational innovation in school structures, assessment, technology, curriculum, and teacher development. (3).
- 625. TRENDS AND ISSUES IN SECONDARY EDUCATION.** Investigation and evaluation of significant current issues in secondary education; emphasis on individual research for specialist and doctoral students. (3).
- 631. CURRICULUM PLANNING FOR ART EDUCATION.** Problems in curriculum development for art programs in public schools. (Same as ARED 660). (3).
- 633. MUSIC IN THE SECONDARY SCHOOL.** Methods of implementing the music program in secondary schools. (3).
- 636. TEACHING SECONDARY SCHOOL SCIENCE.** Practical instructional experiences related to concepts, curriculum, and evaluation in science education. Emphasis will be on readings, discussion, investigations, instructional objectives, laboratory safety, content, materials, and methods. (3).
- 642. ADVANCED METHODS OF TEACHING ENGLISH.** Materials, methods, and organization of English in the secondary school. (3).
- 645. ADVANCED METHODS OF TEACHING MATHEMATICS.** Materials, methods, and organization of mathematics in secondary school. (3).
- 646. ADVANCED METHODS OF TEACHING SCIENCE.** Materials, methods, and organization of natural sciences in secondary school. (3).
- 647. ADVANCED METHODS OF TEACHING SOCIAL STUDIES.** Materials, methods, and organization of social studies in secondary school. (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (1-6, 1-6).
- 655. TRENDS IN YOUNG ADULT LITERATURE.** Contemporary titles and issues in young adult literature will be discussed. A major focus will be on using these books as a bridge to the classics. Prerequisite: consent of instructor. (3).
- 657. SEMINAR IN MUSIC EDUCATION.** Current educational principles, methods, materials; application to actual teaching through simulation, action research, seminar discussion, readings in music education literature. (Same as MUS 622). (3).
- 665. EFFECTIVE USE OF TECHNOLOGY IN SECONDARY MATHEMATICS.** Instructional methodologies and strategies for integrating the use of technology as a teaching and learning tool for secondary math. (3).

- 690. MASTERS SEMINAR IN SECONDARY EDUCATION.** Analysis of current practices and trends in secondary schools. (3).
- 697. THESIS.** (1-12).
- 700. SEMINAR: CONTEMPORARY ISSUES IN SECONDARY EDUCATION.** Investigation and evaluation of significant current issues in secondary education; emphasis on individual research for doctoral students. (3).
- 727. INTERNSHIP IN SECONDARY EDUCATION.** (3-6). (Z grade).
- 767. FIELD STUDY.** Report involving original study of a problem in the candidate's field of specialization. (1-6).
- 797. DISSERTATION.** (3). (Z grade).

Special Education and Rehabilitation — EDSP

- 541. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS I.** Basic assessment procedures of individual levels of functioning for pre-academic, elementary, and secondary programming levels. (3).
- 543. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS II.** Selection and application of specialized instructional methods and materials for the educationally handicapped at the pre-academic, elementary, and secondary levels. (3).
- 545. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS III.** Development of individualized educational plans (IEPs), implementation of individualized programming, and evaluation of programming effectiveness for the educationally handicapped at the pre-academic, elementary, and secondary school levels. (3).
- 552. PRACTICUM AND FIELD EXPERIENCES WITH EXCEPTIONAL CHILDREN.** This course provides students with a supervised experience with persons who exhibit various types of disabilities. (3). (Z grade).
- 585. EDUCATION OF GIFTED STUDENTS .** Overview of the field of gifted education including identification, assessment, learning characteristics, education, and models for delivery of services. (3).
- 590. METHODS AND MATERIALS FOR THE GIFTED.** Teaching strategies, selection of materials, the development of special programs, and evaluation procedures for the gifted. (3).
- 628. REHABILITATION OF THE HANDICAPPED.** Principles in rehabilitation; educational, mental, social, vocational rehabilitation of physically, mentally, and emotionally handicapped; educational needs of handicapped of secondary school age. (3).
- 631. ORGANIZATION OF SPECIAL EDUCATION.** The referral to placement process. Federal, state, and local laws, policies, and procedures. Financial bases, community resources, service delivery systems, program development, and models of instructional implementation. (3).
- 651. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. Prerequisite: consent of instructor. (1-6).
- 674. SEMINAR IN SPECIAL PROBLEMS.** Selected special education and rehabilitation problems. Ed.S. students only. (3).
- 676. EDUCATION AND PSYCHOLOGY OF THE EMOTIONALLY DISTURBED.** Etiology, classification, identification, personality development, and characteristic behavior of emotionally disturbed children and youth. (3).
- 678. EDUCATIONAL PROCEDURES FOR THE EMOTIONALLY DISTURBED.** Procedures, organization, techniques, methods, materials; behavioral strategies used in education of the emotionally disturbed. Prerequisite: consent of instructor and 676. (3).
- 680. ADVANCED METHODS AND MANAGEMENT FOR THE EMOTIONALLY DISTURBED.** Advanced implementation of procedures, techniques, methods, materials, research; advanced implementation of behavioral strategies and research used in the education of the emotionally disturbed. Prerequisites: consent of instructor, EDSP 676, EDSP 678. (3).
- 683. READINGS IN RESEARCH WITH EXCEPTIONAL CHILDREN.** An overview of the basic and applied research completed to date with handicapped children. Review of the categorical types of handicaps, including the etiological, psychological, educational, and vocational aspects of exceptionality. (3).
- 686. EDUCATION AND PSYCHOLOGY OF THE CHILD WITH SPECIFIC LEARNING DISABILITIES.** Overview of the field of learning disabilities (SLD) through study of the historical development of the field. The interdisciplinary nature of SLD. Psychological and behavioral characteristics of SLD. Basic assessment and diagnostic strategies. Current issues and trends in providing services to children with SLD. (3).
- 688. EDUCATION AND PSYCHOLOGY OF THE MENTALLY RETARDED.** Overview of the field of mental retardation including causes, assessment learning characteristics, education, and models for delivery of services. (3).
- 697. THESIS.** (1-12).
- 767. FIELD STUDY.** Report involving original study of a problem in the candidate's field of specialization. (3).

LEADERSHIP AND COUNSELOR EDUCATION

120 Guyton Hall

Professor Cooker • Associate Professors Burnham, Fulton, Letzring, Mullins, Smothers, Sullivan, and Wells • Assistant Professors Bates, Giunta, Melear, Reardon, Showalter, and Snow • Adjunct Professors Bryson, Papasan, and Weeks

Adult Education — EDAE

635. LIFELONG LEARNING. The development, nature, philosophy, agencies, methods, programs and problems of lifelong learning in America. (3).

636. THE ADULT LEARNER. An examination of the adult learner and the major problems faced; emphasis on factors which affect learning ability, achievement and motivation to learn through the adult years. (3).

637. METHODOLOGY IN ADULT EDUCATION. Current thinking and practice in the field of adult education methodology. (3).

COUNSELOR EDUCATION

The Graduate Program • The Master of Education (program in School Counseling and Community Counseling), the Education Specialist, and the Doctor of Philosophy (programs in Counselor Education & Supervision and School Counseling) are offered. Both programs at the master's level, educational specialist, and the doctoral program in Counselor Education & Supervision are accredited by the Council for Accreditation of Counseling and Related Education Programs (CACREP). Admissions are processed continuously. Only complete applications will be considered.

Prerequisite to Full Admission • An interview by a faculty member may be required as a condition for admission as well as the general requirements for admission to graduate study. Master's, education specialist, and doctoral students may be admitted on a provisional basis until the completion of 9 semester hours of course work with COUN faculty. After completing these 9 hours, a joint decision will be made between the faculty and the student about the student continuing in the program. Each student will be responsible for making provisions to complete this part of the total admission process. Students seeking the doctoral degree must have at least two years of successful experience as a professional employee of an accredited school or college or two years of relevant work experience.

MASTER'S DEGREE PROGRAM • A Master of Education in Counselor Education is offered with emphasis in professional counseling. Two curriculum tracks are available. The school counseling track is 48 hours and will partially fulfill requirements for the AA certification in Mississippi. The community counseling track is 60 hours and will fulfill course requirements for licensed professional counselor. Required courses for both tracks include Educational Statistics I (EDRS 501); Educational Research I (EDRS 605); Psychometric Principles (COUN 503); Introduction to the Counseling Profession (COUN 539); Life Span Development (COUN 601); Assessment in Counseling I (COUN 621); Group Procedures (COUN 643); Psychological Consultation (COUN 670); Career Counseling (COUN 680); Counseling Theory I (COUN 683); Counseling with Children and Adults (COUN 686); Counseling Skills (COUN 690); and Practicum in Counseling (COUN 693). A 600-hour internship (COUN 695) also is required. For the school counseling track, Organization and Administration of School Counseling Programs (COUN 688) also is required. For the community counseling track, also required are Diagnostic Systems in Counseling (COUN 674) and Organization and Administration of Community Counseling Programs (COUN 685). A grade of "B" or above is required in all courses that are part of the CACREP core.

EDUCATIONAL SPECIALIST DEGREE PROGRAM • The Educational Specialist in Counselor Education (emphasis in school counseling only) consists of a minimum of 66 hours of specified course work; this consists of the equivalent of a school counseling track M.Ed. (48 hours, as specified above) plus 12 hours of courses (including COUN 653, 672, and 684), plus 6 hours of a research-based field study. Completion of this degree will partially fulfill requirements in Mississippi for AAA School Counselor certification.

DOCTORAL PROGRAM • The Doctor of Philosophy in Counselor Education is offered with two curricular tracks available: counselor education & supervision (CACREP-approved) and school counseling. A prerequisite for entry to the program is the equivalent of a master's degree in counseling (48-60 hours, as specified above). Required courses include Educational Statistics II (EDRS 701); Educational Research II (EDRS 705); Group Theory and Practice (COUN 653); Counseling Theory II (COUN 684); Assessment in Counseling II (COUN 622) or approved advanced assessment course; Seminar: Issues and Ethics in Counseling (COUN 672); Supervision of Counseling Services (COUN 753), and Advanced Practicum (COUN 793). Also required are a 12-hour minor concentration, a 600-hour internship (COUN 795), written and oral comprehensive examinations, and a dissertation.

Counselor Education — COUN

503. PSYCHOMETRIC PRINCIPLES. Introduction to the principles and concepts basic to measurement. Test construction, evaluation procedures, interpretation, and ethics related to testing are emphasized. Knowledge of basic statistical principles is required. (3).

523. GROUP STUDY OF PROBLEMS. Area/problems approved by instructor. (For groups interested in improving areas/problems within an agency/system.) (3 or 6). (Z grade).

539. INTRODUCTION TO THE COUNSELING PROFESSION. History and overview of counseling as a profession. An introduction to philosophical foundations, multicultural factors, services, theories and systems, contributors, and ethics. (3).

- 545. LABORATORY: INTERPERSONAL COMMUNICATION SKILLS.** Experimental seminar in communication skills and group methods; emphasis on the dynamics of interpersonal relationships with consideration of current theoretical perspectives. (3). (Z grade).
- 551. INDIVIDUAL STUDY.** Development of special projects under supervision. Prerequisite: consent of instructor. (1-6).
- 570. MULTICULTURAL ISSUES IN COUNSELING.** Introduction to cultural diversity issues and exploration of multicultural concepts related to the counseling profession. (3).
- 573. LEARNING SEMINAR.** Systems and principles of learning. Various contributors and their theories. Knowledge of basic learning principles is required. (May be repeated for credit.) (3).
- 593. TOPICS IN COUNSELING.** Topical format to address areas of interest to professional counselors. May be repeated for credit. (3).
- 594, 595. TOPICS IN COUNSELING.** (Same as COUN 593).
- 601. LIFE SPAN DEVELOPMENT.** Physical, emotional, and social growth. Emphasis on development across the life span. (3).
- 603. ADVANCED EDUCATIONAL PSYCHOLOGY.** Survey of applied psychology in education; integration of learning theory and practice. (3).
- 605. RESEARCH IN COUNSELING.** An introduction to research methods, statistical analysis, needs assessment, and program evaluation as it relates to the field of counseling. Research activities, computational and computer applications, critical consideration of research, and accountability as scientist-practitioner will be emphasized. (3).
- 621. ASSESSMENT IN COUNSELING I.** Basic assessment principles including achievement, aptitude, and intelligence tests, interest and personality inventories, clinical interviews, case conferences, and observations. (3).
- 622. ASSESSMENT IN COUNSELING II.** Continuation of COUN 621 with more detail and emphasis on personality measures and advanced assessment techniques. (3).
- 623. INDIVIDUAL ASSESSMENT I** Administration, scoring, and interpretation of individual measures of intelligence (emphasis on Wechsler Scales), achievement, adaptive behavior, and related areas. Prerequisite: COUN 621 or equivalent. Permission of instructor. (3).
- 624. INDIVIDUAL ASSESSMENT II.** Continuation of COUN 623 with emphasis on Stanford-Binet Intelligence Scale. Prerequisite: COUN 621 or equivalent and consent of the instructor. (3).
- 625. PRACTICUM IN SCHOOL PSYCHOMETRY.** On site practicum with emphasis on administration, scoring, and interpretation of intellectual assessment instruments. Prerequisite: COUN 623 and consent of instructor; application must be submitted and approved during the preceding semester. (3-6) (Z Grade)
- 643. GROUP PROCEDURES .** Principles and dynamics of group interaction and process are examined from didactic and experiential perspectives. Application to areas of group counseling in various settings will be considered with reference to research and pertinent issues. (3).
- 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. Prerequisite: consent of instructor. (1-6).
- 653. GROUP THEORY AND PRACTICE.** Supervised practicum in leading and co-leading a group; emphasis on therapeutic factors, tasks, and techniques of the leader. Examination of research and major theories as well as ethical concerns. Prerequisite: 643, 693, and consent of instructor. (3).
- 670. PSYCHOLOGICAL CONSULTATION.** Principles and systems of consultation for use by the professional counselor. Specific techniques and role issues are presented from theoretical and applied perspectives. (3).
- 672. SEMINAR: ISSUES AND ETHICS IN COUNSELING.** Current ethical and legal guidelines and professional issues relevant to training, research, and practice in counseling. (3).
- 674. DIAGNOSTIC SYSTEMS IN COUNSELING.** Various facets of diagnosis within assessment process. Structure of the Diagnostic Statistical Manual IV (DSM IV) and its use in counseling. Prerequisite: COUN 503. (3).
- 680. CAREER COUNSELING.** Career development theories and application to counseling. Implementation of educational, occupational, social informational, and placement services within counseling. (3).
- 683. COUNSELING THEORY I.** Theories and systems of counseling/therapy. Foundations for an integrative approach to helping relationships based on major theoretical and research perspectives. (3).
- 684. COUNSELING THEORY II.** Specialized approaches to counseling/psychotherapy. Marriage and family and other specific applications. Prerequisite: COUN 683. (May be repeated for credit). (3).
- 685. ORGANIZATION AND ADMINISTRATION: COMMUNITY COUNSELING.** Organization, administration, and evaluation of community counseling programs in various settings. Effective service delivery within the guidelines of current professional and ethical standards. Prerequisite: consent of instructor. (3).
- 686. COUNSELING WITH CHILDREN AND ADOLESCENTS.** Counseling interventions specific to school-age clients. Theories, techniques, and considerations specific to the developmental needs of children and adolescents. (3).
- 687. SEMINAR IN SPECIAL PROBLEMS.** Selected problems. Prerequisite: consent of instructor. May be repeated for credit. (3).
- 688. ORGANIZATION AND ADMINISTRATION: SCHOOL COUNSELING.** Organization, administration, and evaluation of school counseling programs in various settings. Effective service delivery within the guidelines of current professional and ethical standards. Prerequisite: permission of instructor. (3).
- 690. COUNSELING SKILLS.** Preparation for supervised counseling practicum. Students are taught a conceptual model for counseling process. Exercise in self-awareness and skills for the stages of the helping relationship. Prerequisite: COUN 683. (May be repeated for credit). (3).

693. PRACTICUM IN COUNSELING. Supervised experience in counseling with application of principles, techniques, and strategies acquired in previous course work. Skill acquisition and demonstration on competencies. Prerequisite: core course work, COUN 690, approval of program faculty; application must be completed and accepted during the preceding semester; for educational psychology majors only. (3-6). (Z grade).

695. INTERNSHIP. Supervised counseling internship at an approved site. Prerequisite: program faculty approval; application must be completed during the preceding semester; for COUN majors only. (3-6). (Z grade).

697. THESIS. (1-12).

753. SUPERVISION OF COUNSELING SERVICES. Principles and methods involved in supervising and evaluating counseling processes, psychological services, testing. (May be repeated for credit). (3). (Z grade).

767. FIELD STUDY. Report involving original study of a problem in the candidate's field of specialization. (1-6). (Z grade).

793. ADVANCED PRACTICUM. Supervised counseling with case study and use of advanced approaches. Prerequisite: COUN 693; application must be submitted and approved during the preceding semester; for COUN majors only. (3-9). (Z grade).

795. INTERNSHIP. Doctoral-level, full-time supervised counseling internship at an approved site. Prerequisite: completion of comprehensive examination, acceptance of dissertation proposal, and program faculty approval. Application must be submitted and accepted during the preceding semester; for COUN majors only. (3-6). (Z grade).

797. DISSERTATION. (3-18) (Z grade).

EDUCATIONAL LEADERSHIP — EDLD

MASTER'S DEGREE PROGRAMS • The department offers an M.Ed. degree in educational leadership (36 hours, including internship) and an M.A. degree in higher education and student personnel (42 hours, nonthesis). The Higher Education and Student Personnel Degree Program is intended for those who wish to work in a student affairs division of a college or university. It is not recognized by the Mississippi State Department of Education for teacher certification purposes.

Requirements • Required courses for the M.Ed. with an emphasis on K-12 include six six-hour modules: Leadership Concepts and Skills (EDLD 671); Common Ground: School and Community (EDLD 672); Organization and Management (EDLD 673); Students, Teachers and the Educational Program (EDLD 674); Policy, Integrity, Ethics, Legal and Political Issues (EDLD 675); and an Administrative Internship (EDLD 656). The candidate must compile a covering work, including the internship, and pass an oral examination.

Required courses for the M.A. in higher education and student personnel include The Cultural Context of Education (EDFD 609); Educational Research I (EDRS 605); Organization and Governance of Higher Education (EDLD 658); Finance of Higher Education (EDLD 659); History of Higher Education (EDLD 660); Law in Higher Education (EDLD 664); Contemporary Issues of Higher Education (EDLD 665); Practicum in Student Personnel (EDLD 667, 668); Student Services in Higher Education (EDLD 689); and The College and the Student (EDLD 691). Electives may be selected from EDLD 661, EDLD 662, EDLD 694, COUN 539, COUN 630, COUN 680, or another course approved by the adviser. Each degree candidate must complete a written portfolio with an oral presentation.

SPECIALIST DEGREE • The Specialist in Educational Leadership degree with an emphasis on K-12 requires 36 hours beyond a master's degree. These additional hours include the following: six hours of foundation courses, Educational Research I (EDRS 605) and Human Resource Development (EDLD 694) nine hours of leadership core courses, Organization-Environment Interaction (EDLD 630), and Organizational Development (EDLD 750); and 18 hours of K-12 educational leadership course work, including Students, Teachers and the Educational Program (EDLD 674). Also required are 3 semester hours of Internship in Educational Administration (EDLD 756) and oral and written comprehensive exams.

DOCTORAL PROGRAM • The department offers the Ph.D. in Education with an emphasis in educational leadership (K-12) or the Ph.D. in Higher Education.

Education leadership (K-12) – Required courses include a 12-hour research component, including Educational Statistics I, II (EDRS 501, 701) and Educational Research I, II (EDRS 605, 705); and 21 hours of education leadership, which includes The Cultural Context of Education (EDFD 609), Organization-Environment Interaction (EDLD 630), Human Resource Development (EDLD 694), Administrative Theory (EDLD 700), Leadership and Management (EDLD721), Multidisciplinary Perspectives on Leadership (EDLD 730), and Organizational Improvement (EDLD 750). Also required are 18 hours of approved electives outside the leadership emphasis, 9 of which must be from outside the School of Education. In addition, the student must complete 21 hours of specialty courses in K-12 administration, of which 18 hours must be completed at The University Of Mississippi. After passing a written comprehensive examination, the candidate must write and defend a dissertation (18 hours).

Higher Education – The higher education doctoral program is divided into five components. The research component (15 hours) requires Educational Statistics I, II (EDRS 501, 701), Education Research I, II (EDRS 605, 705), and Foundations of Qualitative Methodology (EDRS 704). The leadership component (12 hours) requires candidates to take The Cultural Context of Education

(EDFD 609) and Organizational Improvement (EDLD 750), with the candidate selecting two more courses from Organization-Environment Interaction (EDLD 630), Human Resource Development (EDLD 694), Administrative Theory (EDLD 700), Leadership and Management (EDLD 721), and Multidisciplinary Perspectives on Leadership (EDLD 730). The Higher Education component (15 hours) requires Finance of Higher Education (EDLD 659), College Teaching (EDLD 662), Law of Higher Education (EDLD 664), Contemporary Issues of Higher Education (EDLD 665), and Adv. Educ. Policy Analysis (EDLD 760). In addition, the candidate must complete a minimum of 9 hours of higher education electives. For the teaching cognate, candidates must have 18 hours in a discipline. The final component is the dissertation (18 hours minimum). To introduce students to the dissertation, candidates will take a 2-hour EDLD 797 Models of Inquiry Course within the first year of their program of study. And prior to taking Research II (EDRS 705), candidates will take a one-hour EDLD 797 literature review course. After passing a written comprehensive examination, the candidate must write and defend a dissertation (EDLD 797, 15 hours).

- 500. PERSPECTIVES ON EDUCATIONAL ADMINISTRATION.** Organization and structure of American education at the national, state, and local levels. (3).
- 501. THE EFFECTIVE PRINCIPAL.** The principal as an instructional leader and unit manager. (3).
- 504. INSTRUCTIONAL IMPROVEMENT.** Promoting teacher improvement through clinical supervision and awareness of the elements of effective teaching. (3).
- 505. SCHOOL LAW SEMINAR.** Instruction in and discussion of current legal problems confronting school administrators. (3). (Z grade).
- 623. FISCAL MANAGEMENT IN SCHOOLS.** Principles of fiscal support at local, state, and federal levels; budget preparation; and distribution and management of funds. (3).
- 630. ORGANIZATION-ENVIRONMENT INTERACTION.** An examination of the relationships between educational institutions and their surrounding environment. (3).
- 631. FACILITY PLANNING AND MANAGEMENT.** Determining community and district facility needs; planning new and renovated buildings; and maintenance and operation of facilities. (3).
- 641. THE LEGAL CONTEXT OF EDUCATION.** State and federal decisions affecting public and private education; emphasis on constitutional considerations. (3).
- 643. HUMAN RESOURCE ADMINISTRATION.** Selection, preparation, certification; salaries; salary schedules, retirement, tenure, leaves of absence; professional organizations, ethics; participation in policy formulation. (3).
- 651, 652. ADVANCED INDIVIDUAL STUDY.** Development of special projects under supervision. (1-6, 1-6).
- 656. ADMINISTRATIVE INTERNSHIP.** University-supervised field experiences under the direction of an approved educational administrator. Designed to promote appropriate application of academic course work and experiences. (6).
- 658. ORGANIZATION AND GOVERNANCE OF HIGHER EDUCATION.** Basic principles of organization and governance of community colleges, colleges, and universities. (3).
- 659. FINANCE OF HIGHER EDUCATION.** Financial aspects of the operation of community colleges, colleges, and universities. (3).
- 660. HISTORY OF HIGHER EDUCATION.** An introduction to the events that have shaped higher education in the United States. (3).
- 661. THE COMMUNITY COLLEGE.** Unique role of the community college in American higher education. (3).
- 662. COLLEGE TEACHING.** Instructional strategies common to all fields in higher education. (3).
- 663. CURRICULUM IN HIGHER EDUCATION.** Background and development, aims, and problems. (3).
- 664. THE LAW AND HIGHER EDUCATION.** Study of the legal issues that affect higher education. (3).
- 665. CONTEMPORARY ISSUES OF HIGHER EDUCATION.** An examination of current issues in higher education across various subjects within the discipline. Prerequisites: Masters—EDLD 658, EDLD 659, EDLD 664, EDLD 689, and EDLD 691. Doctoral students need approval from adviser. (3).
- 667, 668. PRACTICUM IN STUDENT PERSONNEL SERVICES.** Supervised experience in a campus student personnel service. Prerequisite: 689 or consent of instructor. (3, 3).
- 671. LEADERSHIP CONCEPTS AND SKILLS.** Leadership concepts critical to school leaders; goals in pluralistic society, strategic planning, systems theory, information sources and analysis, communications skills, consensus building. (6).
- 672. COMMON GROUND: SCHOOL AND COMMUNITY.** Emerging issues and trends in school administration; community conditions and dynamics, community resources, community relations, models for school-community partnerships. (6).
- 673. ORGANIZATION AND MANAGEMENT.** School management and models of organizations; organizational development, school and district-level procedures, school safety and security, fiscal operation, school facilities, legal issues, technological support. (6).
- 674. STUDENTS, TEACHERS, AND THE EDUCATIONAL PROGRAM.** Students learning, how and what; effectively teaching, administrative support of the educational program. (6).
- 675. POLICY, INTEGRITY, ETHICS, LEGAL AND POLITICAL ISSUES.** Public education in a democratic society; political, cultural and economic systems; diversity, equity and ethical issues. (6).
- 689. STUDENT SERVICES IN HIGHER EDUCATION.** The development and organization of student personnel services in institutions of higher learning; the philosophy, methods, and techniques used in their operation. (3).
- 691. THE COLLEGE AND THE STUDENT.** The college student's needs, identity, potential, choices, and characteristics. (3).
- 692. PROPOSAL WRITING AND GRANTSMANSHIP IN FUNDED RESEARCH.** An examination of the elements that comprise a proposal, culminating in practice in proposal preparation. Integrated into the proposal writing process will be exploration into the many aspects of grantmanship. (3).

693. STATEWIDE CONTROL AND COORDINATION IN HIGHER EDUCATION. An examination of the varied methods of governing higher education activities; i.e., Boards of Trustees, Coordinating Councils, Boards of Regents, and State Commissions. Included also is an examination of the various philosophies and organizational structures that influence decisions inherent in the governance process. (3).

694. HUMAN RESOURCE DEVELOPMENT. Leader's role in developing the human resources of an organization. (3).

697. THESIS. (1-12).

700. ADMINISTRATIVE THEORY. Presentation of theories and processes in administrative positions in educational institutions; examination of the research. (3).

721. LEADERSHIP AND MANAGEMENT. Personal assessment and development of leadership and management competencies for educators. (3).

727. INTERNSHIP IN ADMINISTRATION AND HIGHER EDUCATION. (3-6). (Z grade).

730. MULTIDISCIPLINARY PERSPECTIVES ON LEADERSHIP. A seminar drawing from a variety of disciplines to broaden doctoral students' behavioral and social-scientific and humanistic backgrounds as these can enrich leadership practices. (3).

750. ORGANIZATIONAL IMPROVEMENT. A study of organizational, cultural, and strategic elements in improving the performance of educational organizations. (3).

756. INTERNSHIP IN EDUCATIONAL ADMINISTRATION. Service in an administrative position under supervision. (3 or 6). (Z grade).

760. ADVANCED EDUCATION POLICY ANALYSIS. Advanced study of educational policy-making at the state and federal level. The class requires travel to Jackson, Mississippi, and Washington, D.C. Prerequisite: EDLD 665 or EDLD 675. (3).

767. FIELD STUDY. Original study of an actual administrative problem in a school; report of thesis proportions and style. (1-6).

797. DISSERTATION. (3-18). (Z grade).

Educational Research and Statistics — EDRS

501. EDUCATIONAL STATISTICS I. An introduction to descriptive and inferential statistical techniques with a particular emphasis on conceptual, computational, and computer applications. (3).

557. COMPUTERS AND EDUCATION. An introduction to computer technology; concepts and methods in educational applications; computer impacts on education. (3).

605. EDUCATIONAL RESEARCH I. An overview of research methods used to investigate educational and psychological phenomena. (3).

701. EDUCATIONAL STATISTICS II. An in-depth study of the analysis of variance process using traditional and regression based techniques. Conceptual, computational, and computer applications are emphasized. Prerequisite: 501. (3).

702. INSTITUTIONAL RESEARCH AND PLANNING IN HIGHER EDUCATION. Outlines the development of institutional research at colleges and universities; reviews common institutional research functions; provides practical exercises in the conduct of studies, data presentation and analysis; describes the development of structured planning processes at colleges and universities. (3).

704. FOUNDATIONS OF QUALITATIVE RESEARCH METHODOLOGY. An in-depth analysis of the various forms of qualitative research. It is intended that this course will provide students with a theoretical and practical starting point for utilizing this method of research. (3).

705. EDUCATIONAL RESEARCH II. An in-depth study of specific research methods used to investigate educational and psychological phenomena. Prerequisites: EDRS 501, 605, 701. (3).

710. DESIGN OF EXPERIMENTS. Theory and methods in the planning and statistical analysis of experimental studies. Prerequisite: 701 or equivalent; consent of instructor. (3).

Foundations of Education — EDFD

507. CONTEMPORARY ISSUES IN AMERICAN EDUCATION. Significant current questions under discussion in American education. (3).

521. RECENT DEVELOPMENTS IN EDUCATIONAL PRACTICE Investigation and evaluation of selected contemporary innovations in teaching and the conducting of educational programs. (3).

603. ADVANCED EDUCATIONAL PSYCHOLOGY. Applied psychology in the area of guidance; interests, attitudes, habits; school learning; special education; staff personnel; tests and measurements. (3).

607. THE PROFESSIONAL PHILOSOPHY. Relation of various philosophies to modern educational practice. (3).

609. THE CULTURAL CONTEXT OF EDUCATION. History and development of education with emphasis on cultural origins. (3).

611. COMPARATIVE EDUCATION. Comparisons among patterns of education currently followed in other countries. (3).

613. EDUCATION AND SOCIAL INTERACTION. Ways in which selected cultural factors and trends affect the process and organization of education. (3).

SCHOOL OF ENGINEERING

Kai-Fong Lee, dean

101 Carrier Hall

(662) 915-7407

THE GRADUATE PROGRAM

Courses • The majority of the graduate courses in engineering are above the 550 level and do not carry a departmental designation. These courses are listed under ENGINEERING and ENGINEERING SCIENCE. Other courses are listed by individual departments.

Admission Requirements • For admission in full standing, the general admission requirements of the Graduate School must be satisfied by the applicant. An applicant slightly deficient in the admission requirements may be granted conditional admission requiring completion of additional undergraduate courses or demonstration of the ability to work successfully at the graduate level, or both.

Adviser • The dean of the School of Engineering will assign each new student a temporary adviser. At the earliest convenience, the student will meet with the temporary adviser to select a permanent adviser. The student in consultation with the permanent adviser will select the graduate committee who will direct the student's program. Until the permanent adviser is selected, the temporary adviser and the student will determine the student's course of study.

THE MASTER OF SCIENCE PROGRAM

Fields of Study • The M.S. in Engineering Science is intended to educate the student in some specialized topic in engineering science. The major field of study need not be in one of the traditional areas such as chemical, civil, electrical, geological, and mechanical engineering but may be in areas such as aeroacoustics, computer science, materials science and engineering, computational hydroscience, environmental engineering, or telecommunications.

Requirements • The general requirements for the degree of Master of Science in Engineering Science are stated in the section on Requirements for Graduate Degrees. There is no foreign language requirement for these degrees. The student may complete the M.S. degree requirements under either (1) thesis option, which requires a minimum of 30 hours of graduate credit, including 6 hours of thesis; or (2) nonthesis option, which requires a minimum of 30 hours of graduate credit of which a minimum of 3 hours should be earned from a design-oriented program or research project course. The following are degree completion requirements for some of the established fields of study.

For the emphasis in aeroacoustics, the thesis and nonthesis options are available. Both options require as a minimum 30 semester hours of graduate credit (to include 6 hours of math-related courses) in which the student's adviser must approve all course selections. Under the thesis option, the minimum of 30 graduate credits shall consist of 24 hours of graded course work and 6 thesis hours. The nonthesis option requires as a minimum 30 hours of graded course work. Regardless of option, each candidate must pass a final oral examination.

For the emphasis in chemical engineering, required courses include Advanced Transport Phenomena I, II (CH E 560, 561), Thermodynamics of Chemical Systems (ENGR 665), and Chemical Reaction and Reactor Analysis I (ENGR 669). The student also must take three semesters (1 hour each) of the Research Seminar (CH E 515).

For the emphasis in civil engineering and the emphasis in environmental engineering, the thesis option requires at least 24 hours of course work and at least 6 hours of thesis credit. The non-thesis option requires 27 hours of course work and a 3-hour project or research course with a written report, final presentation, and oral examination. Course work for either option must be approved by the student's advisory committee.

For the emphasis in computational hydroscience and engineering, the thesis option entails 24 credit hours of course work (plus at least 6 thesis hours), including 12 hours of core courses in Numerical Methods, Fluid Dynamics, Transport Phenomena, and Hydrosciences, and 12 hours of approved electives. The nonthesis option includes an additional 3 hours of approved electives, as well as the completion of a research project and report. Both options require the publication of a technical paper in either a journal or a conference proceeding; attendance and presentation at research seminars; and passing the comprehensive oral exam.

For the emphasis in computer science, the student must satisfy the departmental distribution requirement by selecting courses in the areas of Applications, Systems, and Theory (two courses from one area and at least one course from each of the other two areas). Lists of the currently available courses falling into these three distribution areas are available from the Computer Science Department. Also required are a minimum of 9 semester hours from computer science courses at the 600 level. For the thesis option, no more than 6 credit hours may be earned from thesis hours (ENGR 697). For the nonthesis option, 3 semester hours must be earned from an independent study research project (ENGR 693); the student must complete a written project paper and pass an oral examination on the work in the project area.

For the emphasis in electrical engineering, the thesis option requires at least 24 hours of course work and at least 6 hours of thesis credit. Of the 24 hours of course work, 3 to 6 hours can be in an approved minor area, at least 1 hour must be in seminar, and no more than 3 hours can come from research credit outside the thesis. The nonthesis option requires 27 hours of course work and a 3-hour project or research course with a written report, final oral presentation, and a final oral exam. Course work for either option must be approved by the student's advisory committee.

The emphasis in electrical engineering (electromagnetics) requires 13 semester hours of core courses in electromagnetics theory and applications: Special Projects—Numerical Methods in Electromagnetics (ENGR 597); Advanced Electrodynamics (ENGR 621); Advanced Microwave Measurements (ENGR 619); Passive Microwave Circuits (ENGR 623); and the 1-hour Seminar (ENGR 695). Also required are 5 semester hours in specific areas of electromagnetics including microwave circuits, antennas, electromagnetics, and computational electromagnetics; courses include ENGR 590, ENGR 593, ENGR 622, ENGR 624, ENGR 625, ENGR 627, ENGR 628, ENGR 687, ENGR 691, ENGR 693 (no more than two semester hours), and ENGR 699. For the non-thesis option, the student also must complete 9 hours of electives, including 3 to 6 hours as a minor from mathematics, physics, or another area with approval, and technical electives from the areas listed above; for the thesis option, the student must complete 6 hours of electives, including 3 to 6 hours in a minor field. The non-thesis candidate also must complete a 3-hour project or research course with written report and oral presentations, and a final oral exam; the thesis candidate will take at least 6 thesis hours.

For the emphasis in geology and the emphasis in geological engineering, all course selection for both the thesis and nonthesis options must be approved by the student's advisory committee. The thesis option requires a minimum of 6 semester hours of thesis credit. The nonthesis option requires the successful completion of an applied project approved by the student's committee.

For the emphasis in hydrology, the student must complete 24 semester hours of course work plus 6 hours of thesis. The 24 hours of course work includes 13 hours of required courses [Hydrogeology (GEOL 505), Environmental Geochemistry (GE 503), Groundwater Mechanics (ENGR 636), and Contaminant Transport (ENGR 645)], 6 hours from an approved list of electives (GE 518, CE 541, CE 542, CE 543, ChE 545, GEOL 615, ENGR 537, ENGR 616, ENGR 637, ENGR 648), and an additional 5 hours as approved by the student's committee. Up to 3 hours of ENGR 695 (seminar) may be used as part of the required hours provided that the seminar schedule includes critiqued presentations by the enrolled students.

For the emphasis in materials science and engineering, the thesis option requires a minimum of 24 hours of course work as specified and approved by the student's adviser and 6 hours minimum of thesis credit. A "project option" entails 27 hours of approved course work and 3 hours of a research project, plus a written report on the project and a comprehensive oral exam covering the project and all course work.

For the emphasis in mechanical engineering, the thesis option requires a minimum of 24 hours of course work as specified by the student's adviser and 6 hours minimum of thesis credit. A "project option" entails 27 hours of approved course work plus 3 hours of a research project, plus a written report on the project and a comprehensive oral exam covering the project and all course work. A third, nonthesis option includes 30 hours of approved course work and a comprehensive oral exam.

For the emphasis in telecommunications, only the thesis option is available. In addition to 6 hours of thesis, 24 hours of course work is required. This typically will include courses in wireless communications, digital communications, communications networking, probabilistic modeling, telecommunications policy, and management information systems. Course work must be approved by the program director.

Computational Science Certificate Program • A unique certificate program in computational science has been established for graduate students in other disciplines who are interested in computational methods using advanced computing techniques, including supercomputers. A certificate will be awarded to a graduate student in any instructional program who has completed all degree requirements in his or her discipline and a specified program of computational science courses.

DOCTORAL PROGRAM

ENGINEERING SCIENCE • The candidate's studies for the degree of Doctor of Philosophy in Engineering Science will be in specialized areas of engineering, which may or may not cut across departmental and school lines. It is not the intent of the program to offer the student a general science or general engineering education. Instead the program is designed with great flexibility so that the student may specialize in fields of engineering science that are taught in different departments and in different schools. The course work in the program will be directed to enable the student to do modern research on topics such as soil mechanics, fluid mechanics, materials science, aeroacoustics, systems analysis, applied mathematics, statistical thermodynamics, electromagnetic theory, antennas, plasmas and computer methods in geology and geostatistics, computational hydroscience, and environmental engineering.

Requirements • At or near the beginning of the student's work beyond the master's degree, the School of Engineering (all emphases) requires a preliminary examination to determine the student's qualifications to undertake a program leading to the doctorate and to assist the student's advisers in planning the program.

The Ph.D. in Engineering Science with an emphasis in aeroacoustics requires as a minimum 66 semester hours of graduate credit beyond the baccalaureate degree. The student's adviser must approve all course selections. At the adviser's discretion, a preliminary examination may be required at or near the beginning of the student's work beyond the master's degree. A comprehensive written examination must be passed before entering the dissertation process.

The Ph.D. in Engineering Science with an emphasis in chemical engineering requires no specific courses beyond those specified for the M.S. degree. A total of 90 credit hours are required, and specific course work is stipulated by the candidate's advisory committee. Each student is required to conduct a semester-long investigation of a research or design problem in an area other than his or her dissertation area. Before undertaking the dissertation, the student must pass three three-hour written comprehensives and an oral examination.

For the emphasis in civil engineering required courses include Finite Element Analysis I (ENGR 590), Continuum Mechanics (ENGR 617), and two approved mathematics courses (3 hours each). The remaining course work is determined by the student's advisory committee. A total of 60 semester hours beyond the baccalaureate is required, of which 18 must be dissertation hours. Before admission to candidacy, the student must pass written and oral comprehensive exams.

The concentration in computational hydroscience and engineering involves 48 credit hours of course work including core courses and electives, 12 hours of research topics, and 18 dissertation hours. Students may specialize in either hydroscience/engineering system modeling or computational methodologies applicable to hydro-systems modeling. Other requirements include the publication of at least two refereed papers (preferably one of them to be published in a professional journal); participation in research seminars; completing assigned research projects; and passing written and oral comprehensive exams.

For the Ph.D. in Engineering Science with an emphasis in computer science, the student must present a master's degree in the field or the equivalent and take additional classes adding up to 54 hours of course work beyond the bachelor's degree. This may include no course numbered lower than CSCI 510, and a minimum of 18 hours must be in computer science courses at the 600 level. The student may count up to three nonregular courses (9 hours), such as independent study, towards the degree. No more than 27 semester hours may be transferred from another university. The student must pass four written comprehensive exams: one each in systems, languages, and algorithms, and one selected from the following: artificial intelligence, graphics and visualization, data management and retrieval, software engineering, or another area approved by petition to the graduate committee.

The Ph.D. in Engineering Science with an emphasis in electrical engineering requires at least 48 hours of course work and at least 18 hours of dissertation credit. Of the 48 hours of course work, 12 hours must be in an approved minor area, at least 2 hours must be in seminar, and no more than 6 hours can come from research credit outside the dissertation. Course work must be approved by the student's advisory committee.

The Ph.D. in Engineering with an emphasis in electrical engineering (electromagnetics) requires 36 semester hours in the major field out of a total 48 semester hours of graded course work beyond the bachelor's degree. Included in these requirements are the following core courses: Advanced Electrodynamics (ENGR 621); Passive Microwave Circuits (ENGR 623); Advanced Microwave Measurements (ENGR 619); Special Projects—Numerical Methods in Electromagnetics (ENGR 597); Antennas (ENGR 625); and Seminar (ENGR 695). Other courses are to be taken in specific areas of electromagnetics including microwave circuits, antennas, electromagnetics, and computational electromagnetics. These related courses include ENGR 590, ENGR 593, ENGR 622, ENGR 624, ENGR 625, ENGR 627, ENGR 628, ENGR 655, ENGR 687, ENGR 691, ENGR 693 (no more than two semester hours), ENGR 699, ENGR 729, or other courses with approval. The candidate must take 12 semester hours of graded courses in a minor area

(mathematics, physics, or another appropriate field with approval). A written comprehensive exam is taken during the first year of residency.

The Ph.D. in Engineering Science with an emphasis in both geology and geological engineering requires 54 semester hours of graduate credit beyond the bachelor's degree; selection of courses must be approved by the student's advisory committee. Successful completion of both written and oral comprehensive exams is required before undertaking the dissertation.

For the emphasis in hydrology, the student must complete 48 semester hours of course work beyond the bachelor's degree plus 18 hours of dissertation. The 48 hours of course work includes 13 hours of required courses [Hydrogeology (GEOL 505), Environmental Geochemistry (GE 503), Groundwater Mechanics (ENGR 636), and Contaminant Transport (ENGR 645)], and 6 hours from an approved list of electives (GE 518, CE 541, CE 542, CE 543, ChE 545, GEOL 615, ENGR 537, ENGR 616, ENGR 637, ENGR 648). Remaining credit hours will be fulfilled with courses approved by the student's committee. Up to 3 hours of ENGR 695 (seminar) may be used as part of the required hours provided that the seminar schedule includes critiqued presentations by the enrolled students. Students must pass a written and oral comprehensive exam before completing the dissertation research.

The Ph.D. in Engineering Science with an emphasis in materials science and engineering requires 30 semester hours of course work as specified and approved by the student's adviser committee, plus 12 hours of research and 18 dissertation hours. Comprehensive exams must be passed before entering the dissertation process.

The Ph.D. in Engineering Science with an emphasis in mechanical engineering requires 30 semester hours of course work as specified by the student's advisory committee, plus 12 hours of research and 18 dissertation hours. Comprehensive exams must be passed before entering the dissertation process.

Residency • Three academic years of full-time study, or the equivalent, beyond the bachelor's degree constitute the minimum residence requirement. A minimum of two academic years of full-time graduate work beyond the master's degree must be completed at The University of Mississippi. At least one academic year of full-time graduate work beyond the master's degree must be completed in continuous residence; the remainder of the residence requirement may be satisfied in periods that are not continuous.

Conferring the Doctorate • The completion of certain specific requirements does not lead necessarily to the conferring of the doctorate. The degree is conferred only after the candidate has demonstrated satisfactorily to the faculty of the School of Engineering and the Graduate School, by intelligence, scholarship, industry, and personal qualities, the student's right to the doctorate.

Preliminary Examination • At or near the beginning of the student's work beyond the master's degree, the School of Engineering requires a preliminary examination to determine the student's qualifications to undertake a program leading to the doctorate and to assist the student's advisers in planning the program.

Comprehensive Examination • The student must undertake the comprehensive examination at least one year prior to the time the student expects to receive a degree, ordinarily not before the completion of two full years of graduate work, after having satisfied the foreign language requirements and having completed all or nearly all of the program of courses. The examination usually will be both written and oral. It will examine thoroughly the student's knowledge of the field and overall engineering background.

ENGINEERING — ENGR

Professor Kai-Fong Lee, coordinator of Graduate Study

Graduate students with academic backgrounds in the traditional areas of engineering may have special interests in the following courses listed under engineering:

Aeroacoustics: 558, 585, 590, 591, 592, 601, 603, 604, 605, 606, 608, 609, 611, 612, 613, 617, 658, 671, 672, 679, 685, 711, 713, 715, 716, 720.

Chemical Engineering: 551, 553, 594, 601-608, 633-635, 651, 663, 665, 667, 669-670, 711-717.

Civil Engineering: 558, 572, 585, 590-594, 601, 603-604, 630-635, 638-640, 647, 649, 671-674, 685, 687, 690, 702, 706, 713-714.

Computer Science: 501-512, 514, 517-518, 520, 521, 618, 652-654, 656-657, 659-662, 664, 666.

Electrical Engineering: 559, 619-628, 687, 729.

Geological Engineering: 537, 572-573, 577, 579, 581-582, 600, 602, 614-615, 632, 638-644, 646, 651, 706, 749.

Materials Science and Engineering: 553, 558, 585, 590, 593, 594, 617, 642, 658, 671-679, 683, 684, 685, and ME 526, 530-540

Mechanical Engineering: 551, 553, 558-559, 561-562, 585, 601, 603-609, 611-613, 617, 631-632, 658, 663, 667, 671-674, 677-679, 683-684, 689, 702, 711-717, 720, 779.

Telecommunications: 610, 618, 629, 686, 688.

501. FUNDAMENTALS OF COMPUTER SCIENCE. Survey of fundamental topics in computer science, including machine, assembler and high-level languages, design of assemblers, loaders, macro processors and compilers, operating system concepts, and other material essential for graduate work in computer science. (3).

502. SOFTWARE SYSTEMS. Survey of fundamental topics in computer technology as a continuation of ENGR 501. Topics covered include introduction to database technology, formal languages, graphical user interfaces, advanced operating system design, as well as algorithm and interface design (not to be used to satisfy computer science degree requirements). Prerequisite: ENGR 501 or consent of instructor. (3). CSCI equivalent: 515.

503. NATURAL LANGUAGE PROCESSING. CSCI equivalent: 517.

504. FORMAL THEORY COMP LANG. CSCI equivalent: 520.

505. COMPUTER SYSTEMS ENGINEERING. CSCI equivalent: 521.

506. OPERATING SYSTEMS. CSCI equivalent: 523.

507. DISTRIBUTED OS DESIGN. CSCI equivalent: 524.

508. COMPILER CONSTRUCTION. CSCI equivalent: 525.

509. COMPUTER ARCHITECTURE. CSCI equivalent: 530.

510. ARTIFICIAL INTELLIGENCE. CSCI equivalent: 531.

511. ANALYSIS OF ALGORITHMS. CSCI equivalent: 533

512. EXPERT SYS LOGIC PROG. CSCI equivalent: 541.

514. PERFORMANCE ANALYSIS. CSCI equivalent: 551.

515. ACOUSTICS. Mathematical description of sound propagation with various boundary conditions. (Same as PHYS 521) (3).

516. COMPUTER NETWORKS. Analysis of loosely coupled computer communication, communication protocols, and network services; an open systems interconnection model is presented and compared to selected examples of computer networks. (3).

517. SOFTWARE ENGINEERING I. CSCI equivalent: 562.

518. FAULT TOLERANT COMPUTING. CSCI equivalent: 563.

520. DATA BASE SYSTEMS II. CSCI equivalent: 575.

521. SPECIAL TOPICS IN COMP SCI. CSCI equivalent: 581.

537. ENVIRONMENTAL ENGINEERING II. Interdisciplinary overview of environmental engineering. Ecology, toxicology, treatments, hydraulics/hydrology, computational simulation, waste repositories. Prerequisite: CE 471 or equivalent. (3).

551. ENGINEERING THERMODYNAMICS. Advanced classical thermodynamics of systems of constant composition; emphasis on topics particularly useful to thermodynamic analysis in engineering. (3).

553. HEAT TRANSFER. Transient and multidimensional heat conduction, free and forced convection, thermal radiation; design of heat transfer systems; analytical and numerical methods. Prerequisite: PHYS 212, ENGR 310, ENGR 321 or equivalent. (3).

558. VIBRATION ANALYSIS. This course is intended to establish a systematic treatment of problems in the vibration of linear systems. Topics covered include systems with multiple degrees of freedom, properties of vibrating systems, vibration of continuous systems, and approximate numerical methods for finding natural frequencies. (3).

559. ELEMENTS OF ROBOTICS. This course will concentrate on the mechanical aspects of robotic manipulators, including manipulator kinematics, dynamics, and trajectory generation. This course will provide a thorough treatment of the fundamental skills underlying the use and mechanics of manipulators. (3).

561. SPACECRAFT SYSTEMS DESIGN I. (3).

562. SPACECRAFT SYSTEMS DESIGN II. (3).

572. ADVANCED SANITARY ANALYSIS. Introduction to advanced theoretical concepts in sanitary engineering with special emphasis on inorganic, organic, and physical chemistry. Prerequisite: CE 471. (3).

573. ENVIRONMENTAL REMEDIATION. Characterization and remediation of contaminated soil and ground water. Sources of contamination, regulations, health effects, sampling, monitoring, analysis and remediation technologies. (3).

577. GEOPHYSICS I. Gravity and magnetic theory and methods. Prerequisite: consent of instructor. (3).

579. GEOPHYSICS II. (3).

581. APPLCN-GEOPHYSICS. (3).

582. INTERDISCIPLINARY FIELD PROJECTS. Interdisciplinary field projects for geologists, geological engineers, and civil engineers. For example, the course may cover waste management design, or off-shore drilling and sampling, or mineral recovery projects. Prerequisites: consent of instructor. (1-6).

585. MECHANICS OF COMPOSITE MATERIALS I. Development of constitutive laws governing the thermo-mechanical response of composite material systems. Micromechanical and macromechanical modeling, laminate theory, definition and comparison of failure criteria. Damage modeling and fatigue studies. Prerequisite: ENGR 312 or equivalent. (3).

590. FINITE ELEMENT ANALYSIS I. Basic concepts and principles of the finite element method; discretization and interpolation techniques; element formulations; applications for analysis of engineering problems. Prerequisite: consent of instructor. (3).

- 591, 592. ENGINEERING ANALYSIS.** Application of higher mathematics to engineering problems; special emphasis on the expression of engineering problems in mathematical terminology. Prerequisite: MATH 353. (3, 3).
- 593, 594. APPROXIMATE METHODS OF ENGINEERING ANALYSIS I, II.** Application of approximate methods to solve boundary value problems and Eigen value problems; variational principles and numerical methods: finite difference, finite element, computer simulation. Prerequisite: MATH 353 or consent of instructor. (3, 3).
- 596, 598. SPECIAL PROJECTS.** (Same as ENGR 597).
- 597. SPECIAL PROJECTS.** Approved investigation of original problems under direction of a staff member. (May be repeated for credit). (1-3).
- 600. ADVANCED GEOCHEMISTRY.** Application of chemical principles to geological problems. Prerequisites: GEOL 221, 222, CHEM 106 or consent of instructor. (3).
- 601. COMPRESSIBLE FLOW.** General equations, one-dimensional gas dynamics; shocks and waves, two-dimensional flows, perturbation theory; similarity rules, effects of viscosity and conductivity. (3).
- 602. LITHOSTRATIGRAPHY.** Quantitative map and lithofacies analysis for the purpose of defining and evaluating depositional systems using surface and subsurface data. Prerequisite: GEOL 313 or GEOL 315 (3).
- 603. FLUID MECHANICS I.** Equations of motion, potential and stream function; complex variable application, conformal transformation; flow-past cylinders, Schwartz-Christofel transform, vortex motion. (3).
- 604. FLUID DYNAMICS II.** Navier-Stokes equation, viscous flow, boundary layer, laminar and turbulent flow, open channel flow, flow in porous media. (3).
- 605. CONVECTIVE HEAT AND MASS TRANSFER.** A study of heat and mass transfer by classical methods; includes laminar and turbulent flow, entrance region convection, variable fluid properties, aerodynamic heating, free convection. (3).
- 606. NUMERICAL HEAT TRANSFER AND FLUID FLOW.** Study of numerical methods for solving conduction, convection, and mass transfer problems including numerical solution of Laplace's equation, Poisson's equation, Navier-Stokes equations and the general equations of convection. (3).
- 607. STATISTICAL THERMODYNAMICS.** Thermodynamic properties of gases; introduction to quantum mechanics; distribution functions; partition functions; properties of real gases; problems in ionized gases. (3).
- 608. PHYSICAL GAS DYNAMICS.** Microscopic aspects of gas dynamics; elementary kinetic theory, development of Boltzmann equation, Chapman-Enskog development, collisional processes; transport properties. (3).
- 609. TIME SERIES ANALYSIS.** Study of random processes and methods for analyzing random signals. Topics include stationarity, ergodicity, correlation, coherence, continuous and digital spectral analysis, data sampling considerations, and filtering. Prerequisite: consent of instructor. (3).
- 610. DATA COMMUNICATIONS PROTOCOLS.** Introduction to modern protocols. Layering of communications processes including the OSI model, TCP/IP. Standard communications functions and how they are achieved under the framework of these protocols. Performance analysis and error control. (3).
- 611. AEROACOUSTICS.** Theory of aerodynamic sound generation; jet noise; boundary layer noise; turbo machinery noise; helicopter noise; sonic booms; atmospheric effects of propagation. Prerequisite: ENGR 603 or 604 or 605, PHYS 605, or consent of instructor. (3).
- 612. AEROELASTICITY.** Study of structural deformations due to time-dependent fluid flow phenomena over surfaces; effects of gusts and turbulence; structural design criteria. Prerequisites: ENGR 558, ENGR 603 or 604 or 605, or consent of instructor. (3).
- 613. EXPERIMENTAL METHODS IN AERODYNAMICS/AEROACOUSTICS.** Principles of experimentation; intrusive/non-intrusive methods of measuring static and dynamic phenomena; jet and wind tunnel testing considerations; anechoic facility testing. Prerequisites: ME 401 or equivalent, ENGR 609, or consent of instructor. (3).
- 614. GEOMETRICS.** Map analysis of spatial geological data as applied to petroleum, coal, ore, and geotechnical exploration and evaluation. (Same as GEOL 614) Prerequisite: GE 413. (3).
- 615. ANALYTICAL PETROLEUM GEOLOGY.** Analysis and design of petroleum exploration and production programs. (3).
- 616. ISOTOPE HYDROGEOLOGY.** Applications of stable and radioactive isotopes for solving environmental and low-temperature geologic problems. Problems that will be addressed include measurement techniques and limitations, tracing the origin of water and contaminants in natural systems, applications for global climate change and paleoclimates, quantifying infiltration and groundwater travel rates, and age dating of water. Prerequisites: CHEM 105 and 106. (3).
- 617. CONTINUUM MECHANICS.** Continuum hypothesis, forces and stress fields, displacement and strain fields, governing field laws, applications to fluid, solid and magnetofluid mechanics, electrodynamics, electro- and thermoviscoelasticity. (3).
- 618. CODING FOR ERROR CODE.** This course provides a working knowledge of the use of codes to minimize error in the transmission of data using block and convolutional codes. Prerequisites: TC 491 (Digital Comm.), CSCI 361, MATH 264, Probability/Statistics. (3).
- 619. ADVANCED MICROWAVE MEASUREMENTS.** Modern microwave measurement techniques for passive and active microwave circuits, materials scatters and antennas. Prerequisite: ENGR 621 or consent of instructor. (3).
- 620. ADVANCED REMOTE SENSING.** Lecture and laboratory study of advanced topics in remote sensing, including classification and georeferencing. Prerequisite: GE 510. (3).
- 621. ADVANCED ELECTRODYNAMICS.** Boundary-value problems. Green's functions, general transmission systems, coupled transmission systems, microwave optics, scattering. Prerequisite: EL E 441. (3).
- 622. ADVANCED ELECTROMAGNETIC THEORY.** Lectures on recent developments in electromagnetic theory. Prerequisite: ENGR 621. (3).
- 623. PASSIVE MICROWAVE CIRCUITS.** Guided electromagnetic waves, linear multiports, computer analysis and optimization of microwave circuits, multiconductor transmission lines, filters. Prerequisite: EL E 441. (3).

- 624. ACTIVE MICROWAVE CIRCUITS.** Microwave semiconductor sources, noise in linear circuits, microwave transistor amplifiers, parametric amplifiers, theory of nonlinear oscillators. Prerequisite: ENGR 623. (3).
- 625. ANTENNAS.** Aperture antennas, array synthesis, linear antennas, thin-wire antennas, traveling-wave antennas, frequency independent antennas; reciprocity principle and receiving antennas. Prerequisite: EL E 525. (3).
- 626. NUMERICAL METHODS IN ELECTROMAGNETICS.** Formulation and numerical solution of electromagnetic problems using current computational tools. Prerequisite: EL E 441, equivalent, or consent of instructor. (3).
- 627. RAY METHODS IN ELECTROMAGNETICS.** Application of the Geometric Theory of Diffraction (GTD) to electromagnetic scattering problems, scattering from a half plane, reflection from planar and curved surfaces, diffraction from straight and curved edges and wedges. Prerequisite: ENGR 621. (2-3).
- 628. ADVANCED NUMERICAL METHODS IN ELECTROMAGNETICS.** Advanced topics in the formulation and numerical solution of electromagnetic problems using current computational tools. Prerequisites: ENGR 621, ENGR 626. (3).
- 629. TELEVISIONS SYSTEMS II.** Current practice and future development in TV, especially High Definition TV. Techniques of scanning, resolution, waveform design, and modulation, as well as regulatory aspects of television, will be covered. Prospects of commercialization of HDTV will be discussed. Prerequisite: PS 362, TC 409 or consent of instructor. (3).
- 630. UNIT PROCESSES AND OPERATIONS IN ENVIRONMENTAL ENGINEERING I.** Theory and application of physical and chemical unit processes and operations available for the treatment of water and wastewater. Prerequisite: CE 471. (3).
- 631. UNIT PROCESSES AND OPERATIONS IN ENVIRONMENTAL ENGINEERING II.** Theory and application of biological processes available for the treatment of wastewater. Prerequisite: ENGR 630. (3).
- 632. SLUDGE TREATMENT AND DISPOSAL.** Basic theory of sludge handling; treatment, disposal, and design application. Prerequisite: consent of instructor. (3).
- 633. PROCESS DYNAMICS AND CONTROL I.** Design of control systems for chemical processes and selected topics of an advanced nature. (3).
- 634. TREATMENT AND DISPOSAL OF INDUSTRIAL WASTES.** Classification, characterization, and study of industrial waste by industrial category. Selection and combination of unit processes/unit operations for treatment. Prerequisite: consent of instructor. (3).
- 635. OPTIMIZATION.** Theory and practice of optimization, analytical and numerical methods for single- and multivariable functions; functions of continuous variable. (3).
- 636. GROUNDWATER MECHANICS.** This course focuses on the physics of subsurface flow and transport including: mass and momentum conservation, storage, compressibility, capillarity, and Darcy's Law in porous media. Governing equations, critical assumptions, and boundary and initial conditions for models of single and multiphase flow and transport in porous and fractured media are explored. Prerequisite: GE 450 or equivalent or permission of instructor. (3).
- 637. GROUNDWATER MODELING. (3).**
- 638. HAZARDOUS WASTE MANAGEMENT.** Introduction to waste management, risk assessment, environmental legislation. Characterization of hazardous waste, minimization and resource recovery, remediation of failed hazardous waste sites, case histories. Prerequisite: consent of instructor. (3).
- 639. ENVIRONMENTAL SYSTEMS ENGINEERING.** Mathematical modeling techniques including Lagrange multipliers, searching, linear programming, dynamic programming, simulation, optimization over time. Numerous applications in environmental engineering. Prerequisites: MATH 264, CE 471. (3).
- 640. STREAM AND ESTUARINE ANALYSIS.** Extensive coverage of the fundamentals of stream, estuarine, and ocean interactions. Development of the mathematical formulations describing the distribution of conservative and nonconservative pollutants in natural waters. Prerequisite: consent of instructor. (3).
- 641. CLAY PETROLOGY.** (Same as GEOL 641). (3).
- 642. X-RAY DIFFRACTION ANALYSIS OF INORGANIC CRYSTALLINE MATERIALS.** (Same as GEOL 642). (4).
- 643. ADVANCED GEOMORPHOLOGY.** Surface processes associated with specific physiographic districts. Prerequisite: consent of instructor. (3).
- 644. CARBONATE PETROLOGY.** Advanced problems in carbonate rock genesis and distribution. Prerequisite: GEOL 221, 222, 309, 315, or consent of instructor (3).
- 645. CONTAMINANT TRANSPORT.** Conceptual and mathematical models for the transport of contaminants in natural systems. Primary attention given to contaminant transport in aquifers, with secondary attention given to transport in the unsaturated zone, in the atmosphere, and at the water-atmosphere boundary. Prerequisite: GE 450 or CD 442. (3).
- 646. ADVANCED STRATIGRAPHY.** Advanced problems in stratigraphy. Prerequisite: GEOL 221, 222, 309, 315, or consent of instructor. (3).
- 647. PAVEMENT MANAGEMENT SYSTEMS.** Study of basic elements of pavement management; data collection; databases; single-year prioritization; performance prediction; multiyear prioritization; optimization. Prerequisite: CE 585. (3).
- 648. NUMERICAL MODELING IN GEOSCIENCE & ENGINEERING.** Numerical methods in geomechanics, including processes in groundwater, soil, and rock mechanics. Solutions of ordinary and partial differential equations will be approximated, emphasizing finite-difference methods. Introduction to finite element methods and boundary element methods. Prerequisites: MATH 353, GE 450 or CE 431 or equivalents. (3).
- 649. ADVANCED FOUNDATION ENGINEERING.** Earth pressure theories; bearing capacity; control of groundwater in excavation, shoring, and underpinning; foundations subjected to dynamic forces. Prerequisite: CE 433. (3).
- 650. RADAR REMOTE SENSING.** Concepts of radar imaging, image systems, image characteristics. Digital processing of SAR images to extract information on Earth's surface. Prerequisites: GE 470, GE 510, or equivalent. (3).
- 652. ADVANCED COMPILER DESIGN.** Investigation into the theory of lexical analysis, syntax-directed translation, type checking, code generation, code optimization, and compiler project coordination. Prerequisite: CSCI 525. (3).

- 653. COMPUTER STRUCTURES.** In-depth study of the upper levels of computer structure (down to the internal register transfer level) including design choices, design needs and structural variations in organizing processors, memories I/O devices, controllers and communication links. An extensive review of several current machines is made. (3).
- 654. INFORMATION SYSTEMS PRINCIPLES.** Introduction to the theory and practice related to the development and operation of information systems. Study of data base management principles, data management systems, and general purpose software for data management systems. System and performance evaluation. (3).
- 656. OPERATING SYSTEMS DESIGN CONCEPTS.** Design objectives of operating systems. Sequential and concurrent processes, processor management, memory management, scheduling algorithms, resource protection. System design and performance evaluation. (3).
- 657. TIMESHARING COMPUTER SYSTEMS.** A study of the major design goals, implementation concepts and mechanisms of timesharing systems, including motivation for the development of timesharing systems and discussions of the hardware/software concepts important to timesharing system implementation. (3).
- 658. ADVANCED VIBRATION.** Vibration of discrete systems, plate and shell types, structures, combined structures, composite material, nonlinear and random vibrations. Prerequisite: ENGR 558 or consent of instructor. (3).
- 659. ADVANCED INFORMATION RETRIEVAL.** Theoretical aspects of information retrieval. Comparison and evaluation of techniques for enhancement of recall and precision performance. Design of user/system interface; applications of natural language processing. Experimental and intelligent information retrieval systems. Prerequisite: CSCI 345 or consent of instructor. (3).
- 660. SOFTWARE ENGINEERING II.** Software quality assurance, software testing techniques, software testing strategies, software maintenance, and configuration management. (3).
- 661. COMPUTER NETWORKS II.** Continued analysis of loosely coupled computer communication, constraints on intercomputer communication, communication protocols, and network services. LAN data link protocols, transport services and other high-level network functions are examined in detail. Prerequisite: CSCI 361 and CSCI 561 or consent of instructor. (3).
- 662. ADVANCED ARTIFICIAL INTELLIGENCE.** Advanced aspects of artificial intelligence. Logical foundations of AI. Machine learning, planning, representation of commonsense knowledge, image understanding. Intensive study of artificial intelligence programming techniques and languages. Prerequisite: CSCI 531. (3).
- 663. ADVANCED RATE AND EQUILIBRIUM PROCESSES.** Selected topics in fluid mechanics, heat transfer, mass transfer, and other physical separations important to chemical plant design and operation. (May be repeated for credit). (3).
- 664. THEORY OF CONCURRENT PROGRAMMING.** Topics in the theory of concurrent programming. Models of concurrency. Programming logics. Emphasis on the formal specification and verification of concurrent programs. Case studies drawn from several areas of computer science. Prerequisite: CSCI 550. (3).
- 665. THERMODYNAMICS OF CHEMICAL SYSTEMS.** Phase and reaction equilibria in multicomponent chemical engineering applications; non-ideal considerations. (3).
- 666. FAULT TOLERANT COMPUTING.** Reliability, safety, availability, maintainability, and performance modeling; fault-tolerant design in VLSI; software reliability growth models; fault-tolerant data structures and algorithms; design diversity; self-stabilizing fault tolerance; Byzantine failures; performance and reliability tradeoffs. Prerequisite: CSCI 423. (3).
- 667. MASS TRANSFER I.** Unified treatment of momentum, energy, and mass transport with emphasis on mass transport and transfer in flowing, non-isothermal, multicomponent, reacting systems. (3).
- 669, 670. CHEMICAL REACTION AND REACTOR ANALYSIS I, II.** Single and multiple chemical reactions and reactor systems; system characterization and design. (3, 3).
- 671. ELASTICITY.** Classical solutions; complex variable solutions, nonlinear elasticity, thermoelasticity, crack propagation, punch problems. Prerequisite: CE 521 or equivalent. (3).
- 672. VISCOELASTICITY.** Integral and differential operator forms of constitutive relationships, relaxation and creep characteristics, integral and Fourier transform methods. Laplace transform methods and approximate inversion techniques. Dynamic response problems and temperature-dependent effects. Nonlinear behavior characterization. Prerequisite: 617. (3).
- 673. PLASTICITY.** Introduction to the physical foundations of plasticity. Modern treatments of constitutive theory (including thermodynamics and internal variables). Theory of yield criteria, flow rules, hardening rules, limit analysis and shakedown theorems. Large-deformation plasticity and dynamic plasticity. Prerequisite: ENGR 617. (3).
- 674. FRACTURE MECHANICS.** Stress fields near crack tips; modes of fracture; stress intensity factors; numerical methods. Critical stress intensity; fracture toughness. Energy considerations; the J -Integral. Crack-tip plasticity; small-scale yielding; crack-opening displacement. Fatigue; cyclic deformation; fatigue crack initiation. Prerequisite: ENGR 617 or equivalent. (3).
- 677. PLATES AND SHELLS.** Classical plate history; variational methods; thick plates; large deflections; membrane theory of shells. Prerequisite: ENGR 671. (3).
- 678. ELASTIC STABILITY.** Concepts of stability of equilibrium; buckling of beams, plates, and shells under various loadings; approximations of eigenvalues; flutter of elastic systems, wings, panels and hydrofoils. Prerequisite: ENGR 671. (3).
- 679. WAVE PROPAGATION.** Elastic waves, loss mechanisms and attenuation, sources for elastic waves, waves in layered media, effects of gravity, curvature and viscosity, Rayleigh's principle. Prerequisite: ENGR 671. (3).
- 680. ADVANCED ACOUSTICS.** Advanced course in theoretical acoustics. The course will treat the acoustic wave equations for a variety of actual physical situations. Prerequisite: successful completion of PHYS 521/ENGR 515 or consent of instructor. (Same as PHYS 605). (3).
- 683. ADVANCED PHYSICAL METALLURGY.** Discussion of microstructural relationships for understanding material behavior. Topics include defect structures, solidification — transformation mechanisms and kinetics, and microstructural modification techniques. Prerequisite: ME 530 or consent of instructor. (3)

- 684. ADVANCED MECHANICAL METALLURGY.** Discussion of mechanical and metallurgical fundamentals to explain the mechanical behavior of engineering materials. Applications to tensile and torsional loading, hardness, fatigue, creep, and embrittlement included. Prerequisite: ME 531 or consent of instructor. (3).
- 685. MECHANICS OF COMPOSITE MATERIALS II.** Advanced techniques of modeling and analyzing the behavior and response of composite material systems. Nonlinear behavior, both constitutive and geometric. Emphasis on the use of finite element analysis, computational simulation. Prerequisites: ENGR 585 or equivalent; ENGR 590 or equivalent. (3).
- 686. MULTIMEDIA TECHNOLOGIES II.** The design of appropriate instructional material using interactive video production techniques including sound and graphics. Technical analysis of requirements and design tradeoffs. The economics of video disc production will be discussed. Prerequisite: TC 409; ENGR 585. (3).
- 687. SPECIAL FUNCTIONS FOR APPLICATIONS.** Polynomials, basic special functions, series and integral solutions of differential equations, asymptotic methods, properties of major special functions, applications. (3).
- 688. CURRENT ISSUES IN TELECOMMUNICATIONS.** Survey of modern communications systems, practices, technology, business applications, and regulatory issues. Wireless systems, protocols, problems in propagation, spectral allocation, and modulation techniques. Asynchronous Transfer Mode and B-ISDN. Use of satellites for personal communications. Prerequisites: TC 501 and TC 534 or equivalent. (3).
- 689. CONTROL OF ROBOTICS MANIPULATORS.** Covers topics of robot control such as the linearization of nonlinear models, controller design, adaptive control of robot arm motion, and control of forces and torques exerted on an object by the end-effector. Prerequisite: ENGR 559, 330 or EL E 331, or consent of instructor. (3).
- 690. FINITE ELEMENT ANALYSIS II.** Three-dimensional element formulations; nonlinear analysis; dynamic response, time-dependent behavior; advanced mesh-generation techniques. Prerequisite: ENGR 590 or equivalent. (3).
- 691. SPECIAL TOPICS IN ENGINEERING SCIENCE I** (May be repeated for credit). (1-3).
- 692. SPECIAL TOPICS IN ENGINEERING SCIENCE II.** (Same as ENGR 691).
- 693. RESEARCH TOPICS IN ENGINEERING SCIENCE I.** Individual research in selected areas of interest. Prerequisite: consent of instructor. (May be repeated for credit). (1-3).
- 694. RESEARCH TOPICS IN ENGINEERING SCIENCE II.** (Same as ENGR 693).
- 695. SEMINAR.** Presentation of papers by faculty, visiting lecturers, and graduate students. Prerequisite: consent of instructor. (May be repeated for credit). (1).
- 696. SEMINAR IN ENVIRONMENTAL ENGINEERING.** Presentations on topics in environmental engineering/science by faculty, visiting lecturers, and graduate students. Prerequisite: consent of instructor. (May be repeated for credit). (1).
- 697. THESIS.** (1-12).
- 699. SPECIAL PROJECTS IN ENGINEERING SCIENCE** Individual design or research projects in selected areas of interest. Prerequisite: consent of instructor. (May be repeated for credit). (1-6).
- 702. FINITE ELEMENT ANALYSIS OF FLUID FLOWS.** Applications of FEM for fluid flow simulation; discussion on current developments; research on individual projects. Prerequisite: ENGR 590 or equivalent. (3).
- 706. ADVANCED WASTE TREATMENT PROCESSES IN SANITARY ENGINEERING.** An intensive study of the biological processes used for the treatment of domestic sewage and industrial wastes, with special emphasis on environmental factors which affect process rates and efficiencies. Prerequisite: consent of instructor. (3).
- 711. TURBULENCE** Introduction to probability theory; stochastic processes and statistical continuum theory; kinematics and dynamics of homogeneous turbulence; isotropic turbulence; turbulent shear flows. (3).
- 712. STATISTICAL THEORY OF TURBULENT DIFFUSION.** Molecular and turbulent diffusion theories; dispersion of dissolved and suspended matter in closed conduits, streams, lakes, estuaries, oceans. Prerequisite: CE 441 or ME 401, ENGR 310. (3).
- 713. HYDRODYNAMIC STABILITY.** General theory of stability; stability of a hydrodynamic system; normal mode analysis; initial value problems; energy dissipation; small and finite disturbances. (3).
- 714. COASTAL HYDRODYNAMICS.** Water wave theory; tides, hurricane surges, harbor resonance, interaction of waves and structures; estuary dynamics; stratified flows; salinity intrusion; modeling. Prerequisite: CE 441 or ME 401, ENGR 310. (3).
- 715. APPLIED HYDRO- AND AEROMECHANICS I.** Subsonic internal and external hydro- and aeromechanics; effects of compressibility, cavitation and viscosity; airfoils and finite wings, turbomachinery, slender bodies, wakes and trails. (3).
- 716. APPLIED HYDRO- AND AEROMECHANICS II.** Transonic, supersonic, and hypersonic aerodynamics including viscous effects; blunt bodies and the associated shock layer, aerodynamic heating, ablation. (3).
- 717. SPECIAL TOPICS IN THERMAL SCIENCE** Selected topics of an advanced nature. (May be repeated for credit). (1-3).
- 720. ADVANCED TURBULENCE.** Analytical, theoretical, and numerical approaches to turbulence; turbulence modeling. Prerequisite: ENGR 711 or consent of instructor. (3).
- 729. SPECIAL TOPICS IN ELECTROMAGNETIC THEORY.** (May be repeated for credit). (1-3).
- 749. SPECIAL TOPICS IN SOIL SCIENCE** (May be repeated for credit). (1-3).
- 779. SPECIAL TOPICS IN SOLID MECHANICS.** (May be repeated for credit). (1-3).
- 797. DISSERTATION.** (1-18).

ENGINEERING SCIENCE — ENGS

Graduate students with academic backgrounds in the traditional areas of engineering may have special interests in the following courses listed under engineering science:

Computer Science: 603, 606

Electrical Engineering: 633

Telecommunications: 610, 627

603. ANALYSIS OF ALGORITHMS. Introduction of the analysis of computer algorithms as well as concepts of computational complexity; sorting, matrix multiplication, other (for computer engineering/telecommunications majors). Prerequisites: ENGR 502 or consent of instructor. (3).

606. COMPUTER NETWORKS. Analysis of loosely coupled computer communication; communication protocols and network services; an open systems interconnection model is presented and compared to selected examples of computer networks (for computer engineering/telecommunications majors). Prerequisite: ENGR 501, TC 501 or equivalent.

610. TELECOMMUNICATION NETWORK ENGINEERING. Team design project developed in cooperation with industry. Students accomplish the design and document the results in a report and in an oral presentation. Prerequisites: ENGR 653, ENGS 603, and ENGS 606. (3).

627. APPLIED PROBABILITY MODELING. Concepts of probability modeling for applications. Fundamental of statistical experiments, events, probability laws, conditional probability, random variables, expectation and conditional expectation, introduction to and applications of Markov chains, papers from literature. (Same as FIN 642). Prerequisites: MATH 264, Unified Calculus; MATH 353, Differential Equations; graduate standing. (3).

633. MICROWAVE FILTERS. Error correction for microwave network analyzers. Multiconductor transmission lines, voltage, and current eigenvectors. Lumped element filter prototypes, commensurate filters, impedance inverters. Prerequisites: ENGR 623. (2)

CHEMICAL ENGINEERING — C H E

Professor Peter C. Sukanek, chair • 134 Anderson Hall

Professors Chen, Sadana, and Sukanek • Associate Professors O'Haver and Williford • Assistant Professor Scovazzo

Graduate or prospective graduate students with backgrounds in chemical engineering may have special interests in the following courses listed under engineering: 551, 553, 594, 601-617, 633-635, 651, 662-670, 711-717.

511. PROCESS DYNAMICS AND CONTROL. Mathematical analysis of chemical processes in the unsteady state; design of control systems; use of the analog and digital computer in process control. (3).

513. SPECIAL TOPICS IN CHEMICAL ENGINEERING. (May be repeated for credit). (1-3).

515. RESEARCH SEMINAR. Philosophy and principles of engineering research. (1). (Z grade).

520. BIOCHEMICAL ENGINEERING. An overview of microbiology and biochemistry. The development of models for microbial kinetics. The design of reactors and auxiliary equipment for microbial systems. (3).

530. COAL UTILIZATION AND POLLUTANTS CONTROL. The structure, properties, reactivities, and use and conversion technologies of coal. Emphasis will be placed on combustion and its environmental issues. (3).

541, 542. ENGINEERING APPLICATIONS OF CHEMICAL INSTRUMENTATION I, II. Theory, use, and limitations of Spectroscopic and Chromatographic Methods of Sample Analysis. (3, 3).

545. COLLOID AND SURFACE SCIENCE. Develop an understanding of the fundamental concepts of colloid and surface science, including the nature and types of surfactants, surfactant phase behavior, surface tension and capillary, and absorption. (3).

560, 561. ADVANCED TRANSPORT PHENOMENA I, II. Development and use of the equations of conservation of mass, energy, and momentum in continuous materials. The use of detailed and integral balances. (3, 3).

593. GRADUATE PROJECTS IN CHEMICAL ENGINEERING. Individual design or research projects for chemical engineering students in the nonthesis M.S. program. Prerequisite: consent of the instructor. (1-3). (Z grade).

CIVIL ENGINEERING — C E

Professor A. H.-D. Cheng, chair • 203 Carrier Hall

Professors Cheng and Prasad • Associate Professors Jao, Mullen, and Uddin • Assistant Professors Al-Ostaz, Fox, and Song

Graduate or prospective graduate students with backgrounds in civil engineering may have special interests in the following courses listed under Engineering: 558, 572, 585, 590-594, 601, 603-604, 617, 630-640, 647-649, 658, 671-679, 685, 687, 690, 696, 702, 706, 711-714.

511. STRUCTURAL ANALYSIS II. Advanced topics in structural analysis; matrix methods and finite element modeling; structural instability; structural dynamics; system identification and health monitoring algorithms; computational simulation and visualization. Prerequisite: CE 411 or consent of instructor. (3).

514. DESIGN OF PRESTRESSED CONCRETE STRUCTURES. Pre- and post-tensioning technologies; material properties; response to and design for axial load, flexure, shear, and torsion; application to buildings and bridges. Corequisite: CE 412. (3).

521. ADVANCED MECHANICS OF MATERIALS. Classical methods for second-order analysis of deformable bodies; failure criteria; torsion of thin walled sections; unsymmetrical bending of straight beams; curved beams; beam on elastic foundation; plates and shells; buckling. Prerequisites: ENGR 310, 312. (3).

- 531. SOIL MECHANICS II.** Soil variability, strength, and deformation; flow of water through soil; settlement calculation; stability problems including earth pressure; retaining structures; slope stability; bearing capacity of shallow and deep foundations. Computer applications. Prerequisite: CE 431. (3).
- 541. FLOW IN OPEN CHANNELS.** Uniform and nonuniform flow; gradually varying flow; rapidly varying flow controls; subcritical and supercritical transitions; unsteady flow; level-poor routing; flood waves. Prerequisite: CE 442. (3).
- 542. FLOW IN POROUS MEDIA.** Steady, homogeneous flow; prediction of transport properties; wells, seepage, drainage, recharge; nonhomogeneous flow. Prerequisite: CE 442. (3).
- 543. SEDIMENT TRANSPORT.** Fall velocity, particle, size analysis, incipient motion, bed form mechanics, suspended loads; stream flows, natural river processes; transport of liquid-solid mixtures in pipelines. Prerequisite: CE 442. (3).
- 561. CIVIL ENGINEERING SYSTEMS.** Engineering applications of linear programming, dynamic programming, PERT -CPM, game theory, stochastic systems. Prerequisite: MATH 353. (3).
- 570. INFRASTRUCTURE MANAGEMENT.** Overview of nation's infrastructure assets and rehabilitation/renovation needs; methodologies for development and implementation of performance monitoring and maintenance management systems for roadways, bridge structures, airports, and other infrastructure facilities; condition assessment and nondestructive evaluation; application of new materials and remote sensing and spatial technologies; Intelligent Transportation System (ITS) and computer applications for infrastructure asset management. Prerequisite: senior standing or consent of instructor. (3).
- 581. TRANSPORTATION ENGINEERING II.** Advanced topics in transportation engineering and management with emphasis on intermodal facilities; physical design and traffic management; measures of system effectiveness and performance; environmental and social impacts; Intelligent Transportation System (ITS) technologies; applications of remote sensing and spatial technologies and GIS; economic evaluation of alternatives; computer modeling and simulation. Prerequisite: CE 481 or consent of instructor. (3).
- 585. HIGHWAY PAVEMENTS.** Stress analysis of pavements, traffic estimation, material characterization, condition monitoring and evaluation, current design schemes, computer applications. Corequisite: CE 431. (3).
- 590. AIRPORT PLANNING AND DESIGN.** Impacts of national transportation policies with emphasis on ground, aviation, and intermodal facilities; financing resources; collection and use of traffic and passenger data for airport planning and design; travel demand forecasting; capacity analysis; visual aids and air traffic control; runway orientation and geometric design; design of terminal areas and ground access; basic pavement structural design and maintenance management; environmental impacts and economic assessment; airport applications of remote sensing and spatial technologies; GIS, and Intelligent Transportation System (ITS) technologies. Prerequisite: senior standing or consent of instructor. (3).

COMPUTER AND INFORMATION SCIENCE — CSCI

Associate Professor H. Conrad Cunningham, chair • 201 Weir Hall

Associate Professors Cunningham, Lawhead, Maginnis, Schoenly, and Wilkins • Assistant Professors Fan, Rhodes, and Rice

Graduate or prospective graduate students with backgrounds in computer science may have special interests in the following courses listed under engineering: 652-657, 659-662, 664, 666, 686.

NOTE: All courses numbered 515 and above have the prerequisite “senior standing in computer science or consent of instructor,” as well as any specific courses indicated in the course description.

- 500. FUNDAMENTAL CONCEPTS IN COMPUTING.** An intensive study of the formal concepts needed for graduate study in computer science. CSCI graduate students only. Prerequisite: consent of instructor. (3).
- 501. FUNDAMENTAL CONCEPTS IN SYSTEMS.** An intensive study of the fundamental concepts of operating system and machine structures and the associated programming techniques. CSCI graduate students only. Prerequisite: consent of instructor. (3).
- 502. FUNDAMENTAL CONCEPTS IN ALGORITHMS.** An intensive study of the fundamental concepts of algorithms and data structures and the associated programming techniques. CSCI graduate students only. Prerequisite: consent of instructor. (3).
- 503. FUNDAMENTAL CONCEPTS IN LANGUAGES.** An intensive study of the fundamental concepts of programming languages and the associated software system structures. CSCI graduate students only. Prerequisite: consent of instructor. (3).
- 517. NATURAL LANGUAGE PROCESSING.** Computer processing of natural language text at morphological, lexical, syntactic, and semantic levels; algorithms and procedures for sentence parsing and analysis; applications of natural language processing techniques. (3).
- 520. FORMAL THEORY OF COMPUTER LANGUAGES.** A detailed study of mathematical models of regular and context-free languages, nondeterministic and deterministic models; closure properties, design algorithms; simplification of grammar. (3).
- 521. COMPUTER SYSTEMS ENGINEERING.** Analysis of computer system components and manufacturing economics, and how they influence design goals, direct architectural development, create hardware/software issues and modify implementation concepts, as well as system and circuit packaging. (3).
- 523. OPERATING SYSTEMS.** Design and construction of operating systems for shared program computers; various contemporary operating systems. Prerequisite: CSCI 423. (3).
- 524. DISTRIBUTED OPERATING SYSTEM DESIGN.** Analysis of operating system design principles for multiple computers; a distributed operating system model is presented and compared to selected network and distributed operating system examples. Prerequisite: CSCI 423 or equivalent. (3).

- 525. COMPILER CONSTRUCTION.** Introduction to techniques used in current compilers for computer languages; the syntactic specification of programming languages and an introduction to syntax-directed compiling. (3).
- 530. COMPUTER ARCHITECTURE AND DESIGN.** Structured organization and hardware design of digital computers; register transfers, micro-operations, control units and timing, instruction set design, microprogramming; automated hardware design aids. (3).
- 531. ARTIFICIAL INTELLIGENCE** Use of the computer in human problem solving. Game theory, decision trees, Markov decision problems, selected topics. (3).
- 533. ANALYSIS OF ALGORITHMS.** Introduction into the analysis of efficiency of computer algorithms and concepts of computational complexity; sorting, matrix multiplication, other. Prerequisite: CSCI 311 or consent of instructor. (3).
- 541. EXPERT SYSTEMS AND LOGIC PROGRAMMING.** Expert systems and knowledge engineering. Computer systems to emulate human expertise. Rule-based and other knowledge representation techniques. Knowledge engineering as a model for expert systems development; logic programming for expert systems implementation. Prerequisite: CSCI 531 or consent of instructor. (3).
- 550. PROGRAM SEMANTICS AND DERIVATION.** A study of formal methods for the specification, derivation, and verification of computer programs. Predicate logic; notations for specification of programs; programming language semantics; calculational techniques for derivation of programs; case studies. (3).
- 551. COMPUTER SYSTEM PERFORMANCE ANALYSIS.** Defining, parameterizing, and evaluating models of computer systems. The emphasis is on applying queuing network models and simulation techniques as tools to evaluate the performance of centralized and distributed computer systems. Prerequisite: MATH 475 or consent of instructor. (3).
- 555. FUNCTIONAL PROGRAMMING.** The principles and techniques of programming with functions. Purely functional programming languages; recursion; higher-order functions; reduction models; strictness; type systems; list operations; infinite data structures; program synthesis and transformation. (3).
- 561. COMPUTER NETWORKS.** Analysis of loosely coupled computer communication, communication protocols, and network services; an open systems interconnection model is presented and compared to selected examples of computer networks. Prerequisite: CSCI 423 or equivalent. (3).
- 562. SOFTWARE ENGINEERING I.** Software engineering paradigms, requirement analysis and specification, design of reliable software; data flow, data structure, and object oriented design methodologies. (3).
- 575. DATABASE SYSTEMS II.** Review of database systems with special emphasis on data description and manipulation languages; data normalization; functional dependencies; database design; data integrity and security; distributed data processing; design and implementation of a comprehensive project. Prerequisite: CSCI 475 or consent of instructor. (3).
- 581. SPECIAL TOPICS IN COMPUTER SCIENCE.** (May be repeated for credit). (1-3).
- 582. SPECIAL TOPICS IN COMPUTER SCIENCE.** (Same as CSCI 581).
- 595. GRADUATE COMPUTER SCIENCE INTERNSHIP.** Internship in approved settings to enhance the educational experience of the student through supervised training in a professional computer science environment. Completion of an internship is recommended for all students but this credit does not count toward completion of degree requirements. Prerequisites: approval by CIS Graduate Committee, GPA of at least 3.0, and completion of 9 graduate computer science hours. (3). Z grade.

ELECTRICAL ENGINEERING — EL E

Professor Allen W. Glisson, chair • 302 Anderson Hall

Professors Daigle, Elsherbeni, Glisson, and Kishk • Associate Professors Goggans, Gordon, and Yakovlev • Assistant Professors Cao, Hutchcraft, Matalgah, and Yang

Graduate or prospective graduate students with backgrounds in electrical engineering may have special interests in the following courses listed under Engineering: ENGR 618-628, 729 and ENGS 627, 633.

- 521, 522. ELECTRICAL ENGINEERING PROJECTS.** Approved investigation of problem under direction of a member of the staff. (May be repeated for credit). (3, 3).
- 523. MICROWAVE ENGINEERING.** Microwave integrated circuits, scattering matrix description of microwave circuit elements, computer analysis of cascade two-ports, microwave semiconductor devices. Prerequisite: ELE 441. (3).
- 525. INTRODUCTION TO ANTENNAS.** Linear antennas and use of computer programs for analysis and design. Arrays of antennas, beam shaping methods, and mathematical techniques. Prerequisite: ELE 441. (3).
- 533. ELECTRONIC PROPERTIES OF MATERIALS.** Theories of electron/atom interactions and electron transport are examined to explain the electronic properties of solids. Junctions, magnetic and optical properties also are discussed with special emphasis on semiconducting materials. (3).
- 561. MICROWAVE CIRCUIT DESIGN.** Design projects on passive and active microwave circuits (self-paced). Prerequisite: ELE 433, 523 or consent of instructor. (6 lab hours). (2).

TELECOMMUNICATIONS — TC

Professor John N. Daigle, program chair • 20 Anderson Hall

Professor Daigle • Assistant Professors Cao and Matalgah

- 501. FOUNDATIONS OF COMMUNICATIONS.** A theoretical foundation for the analysis and design of communications systems. Fourier analysis, Nyquist sampling theorem, and the Shannon Channel Capacity theorem. Analog and digital modulation techniques including amplitude, frequency, and pulse code modulation, etc. (3).
- 529. TELEVISIONS SYSTEMS I** The history of television will be presented. Early approaches to imagery transmission will be covered. The emergence of the NTSC standard for black-and-white TV will be emphasized, as will the compromise leading to color TV. Fundamentals of TV engineering will be covered. Prerequisite: PS 362; TC 409 or consent of instructor. (3).
- 531. ADVANCED SATELLITE COMMUNICATIONS.** Detailed consideration of the technical aspects of satellite communications including microwave link engineering, multiple access and modulation techniques used in modern satellites as well as the logistics involved in developing and launching telecommunications satellites. Prerequisites: TC 431 or equivalent. (3).
- 533. ADVANCED OPTICAL COMMUNICATIONS SYSTEMS.** Detailed consideration of the technical aspects of optical communications systems including light wave system components, proponents, propagation, loss by dispersion and absorption, and systems measures (i.e., signal-to-noise ratio). Prerequisite: TC 433. (3).
- 534. WIRELESS MOBILE COMMUNICATIONS.** Focuses on today's modern cellular and personal communications systems, satellite-based systems, and their technical and regulatory aspects. The technical aspects include modulation techniques, propagation characteristics, bit error rate, and multipath. Prerequisites: TC 491. (3).
- 535. DIGITAL COMMUNICATIONS.** Introduction to digitization and transmission of voice, including the most common voice digitization algorithms, multiplexing, and modulation. Network management, including timing, synchronization, and control are included. An introduction to ISDN and B-ISDN is provided. (3).
- 585. MULTIMEDIA TECHNOLOGIES I** Introduction to the technologies and applications of what is called multimedia in the telecommunications and computer industries. The laser and compact discs are introduced as adjuncts to the computer. Interactive uses are defined and demonstrated. Prerequisites: TC 409. (3).

GEOLOGY AND GEOLOGICAL ENGINEERING

Professor R. P. Major, chair • 118 Carrier Hall

Professors Aughenbaugh and Major • Associate Professors Davidson, Easson, and Kuzmaul • Assistant Professors Holt and Panhorst

Master of Science in Engineering Science • (GEOLOGICAL ENGINEERING). See page 170. It should be pointed out that the following collateral courses, some of which are normally listed under "geology" at other universities, are offered by the Graduate School and can be taken for credit toward the advanced degrees in geology and geological engineering: **ENGINEERING** — Fundamentals of Computer Science, Geophysics I, II, Applications in Geophysics, Heat Transfer, Ground Water Hydrology, Wave Propagation, Turbulence, Statistical Theory of Turbulent Diffusion, Coastal Hydrodynamics, Special Topics in Thermal Science, Special Topics in Soil Science. **MARINE BIOLOGY** — Marine Science, Salt Marsh Ecology, Marine Ecology. **CIVIL ENGINEERING** — Sediment Transport, Environmental Engineering II.

Geological Engineering — G E

- 500. INTRODUCTION TO GEOCHEMISTRY.** Application of chemical principles to geological problems. Prerequisites: GEOL 221, 222, CHEM 106, 333 or ENGR 320, 321, or consent of instructor. (3).
- 502. CONSTRUCTION GEOLOGICAL ENGINEERING.** Design and construction procedures for geology-related problems in heavy construction. (3).
- 503. ENVIRONMENTAL GEOCHEMISTRY.** Chemical interaction between water and aquifer minerals, organic minerals, and contaminants. Prerequisite: CHEM 106. (3).
- 504. ENVIRONMENTAL GEOCHEMISTRY LAB AND FIELD METHODS.** Water quality measurement and evaluation for natural, contaminated, and industrial waste water. Prerequisite: CHEM 106. (1-2).
- 506. GEOMECHANICS FOR GEOLOGISTS.** Application of geomechanics to geological problems. Prerequisite: consent of instructor. (3).
- 507. REGIONAL GEOLOGICAL ENGINEERING.** Geological engineering problems associated with each area of the United States. Prerequisite: consent of instructor. (3).
- 510. REMOTE SENSING.** Theory and principles of remote sensing technology; mission design and analysis of remotely sensed data, given cost and technological constraints, for geologic applications. Prerequisite: consent of instructor. (1 lecture, 4 lab hours). (3).
- 511. SPATIAL ANALYSIS.** GIS analysis of the relationships of mapped features. Course will include application and integration of GIS, image processing, and mathematical models. Prerequisite: GEOL 500 or GE 470 or consent of instructor. (3).
- 513. ECONOMIC GEOLOGY.** Study of the formation and classification of ore deposits; exploration techniques; evaluation of reserves; and extraction techniques. Prerequisites: GEOL 222 and GEOL 303. (3).
- 518. QUANTITATIVE METHODS IN GEOLOGY AND GEOLOGICAL ENGINEERING.** Quantitative methods in geology and geological engineering. (3).
- 520. GEOLOGY AND GEOLOGICAL ENGINEERING COMPUTER APPLICATIONS.** The use of computer programs for earth science applications. Prerequisite: GEOL 221, 222, 313, 315, or consent of instructor. (3).

- 525. ENGINEERING SEISMOLOGY.** Origin of earthquakes, their effects on structures and the selection of ground-motion parameters for earthquake-resistant design. Prerequisite: consent of instructor. (3).
- 530. ADVANCED GEOMECHANICS.** Applications of the principles of geomechanics to engineering problems dealing with earth materials. Prerequisite: consent of instructor. (3).
- 535. ADVANCED ROCK MECHANICS.** The application of mechanics to solving problems in rock engineering for both surface and underground conditions. Prerequisite: consent of instructor. (3).
- 560. MANAGEMENT OF WASTE PRODUCTS.** A survey of managing hazardous and nonhazardous wastes and their ultimate disposal. Prerequisite: consent of instructor. (3).
- 561. DESIGN OF WASTE REPOSITORIES AND CONTAINMENT FACILITIES.** Assessment of factors that govern site selection, site evaluation, and landfill design. Prerequisite: GE 460 or GE 560. (3).
- 577. GEOPHYSICS I.** Gravity and magnetic theory and methods. Prerequisite: consent of instructor. (Same as ENGR 577). (3).
- 591. SPECIAL TOPICS.** Lecture or lecture/lab courses on specific topics and on a one-time basis. (1-3).

Additional geological engineering courses listed under engineering include:

- | | |
|----------|--|
| ENGR 600 | Advanced Geochemistry (3). |
| ENGR 602 | Lithostratigraphy (3). |
| ENGR 614 | Geometrics (3). |
| ENGR 615 | Analytical Petroleum Geology (3). |
| ENGR 616 | Isotope Hydrogeology (3). |
| ENGR 620 | Advanced Remote Sensing (3). |
| ENGR 641 | Clay Petrology (3). |
| ENGR 642 | X-ray Diffraction Analysis of Inorganic Crystalline Materials (4). |
| ENGR 643 | Advanced Geomorphology (3). |
| ENGR 644 | Carbonate Petrology (3). |
| ENGR 645 | Advanced Sedimentation (3). |
| ENGR 646 | Advanced Stratigraphy for Engineers (3). |
| ENGR 650 | Radar Remote Sensing (3). |
| ENGR 651 | Ground Water Hydrology (3). |

Geology — GEOL

NOTE: Courses are marked with an asterisk to indicate 2 lecture, 2 laboratory hours.

- 500. GEOGRAPHIC INFORMATION SYSTEMS.** Geographic information systems are combinations of computer software, hardware and data bases (maps). These systems are used to analyze and display geographical information necessary for government and industrial planning. (4).
- 505. HYDROGEOLOGY.** Groundwater hydrology for geologists. Prerequisites: GEOL 303 and 313 or consent of instructor. (4).
- 506. ADVANCED PETROLOGY.** The genesis of each of the three major rock groups by use of general collections and detailed suites of rocks and by classroom lecture. Prerequisites: GEOL 221, 222. (4).
- 515. DIRECTED STUDIES.** Individual investigation of an original problem either as a senior research problem or a graduate research problem for nonthesis credit. (May be repeated for credit). (1-3).
- 530. GEOLOGY FIELD STUDIES.** Field projects for graduate students. Prerequisite: GEOL 221, 222, 313, 303 or consent of instructor. (3).
- 531. PHYSICAL MARINE GEOLOGY.** Physical processes at work on the shores of Mississippi Sound. Prerequisite: GEOL 314. (3).
- 532. CHEMICAL MARINE GEOLOGY.** Supervised research in chemistry of the waters of Mississippi Sound; geochemistry of the bottom. Prerequisite: GEOL 314; CHEM 105, 106. (3).
- 535. GEOCHEMISTRY.** Application of chemical principles to geologic problems; crystal chemistry. Prerequisite: GEOL 221, CHEM 106, 333 or consent of instructor. (3).
- 550. OCEANOGRAPHY AND MARINE GEOLOGY.** Advanced study of the principles of ocean basin tectonics, seawater composition, waves, tides, currents, and marine and coastal marine sedimentation. Prerequisite: GEOL 314 or consent of instructor. (3).
- 555. GEOLOGY AND GEOLOGICAL ENGINEERING SEMINAR.** A weekly seminar course in diverse earth science subjects for senior and graduate earth science majors. Prerequisite: senior or graduate status. (May be repeated for credit). (1). (Z grade).
- 591. SPECIAL TOPICS.** Lecture or lecture-lab courses on specific topics and on a one-time basis. (1-3).
- 603, 604. EARTH SCIENCES I, II.** The solid Earth, the atmosphere, and the hydrosphere as a system, with basic consideration of the place of the physical and biologic sciences in Earth study. Prerequisite: consent of instructor. (2 hours lecture, 1-2 hours laboratory). (3, 3).
- 609, 610. EARTH SCIENCE PROJECTS.** Prerequisite: 603, 604 and consent of instructor. (May be repeated for credit). (1-3, 1-3).
- 611. ADVANCED STUDIES IN GEOLOGY.** Lecture and study topics which cover areas not included in formal graduate courses. (1-3).
- 613. INSTRUMENTAL AND ANALYTICAL PROCEDURE.** Modern techniques and methods for the application of various types of analytical instrumentation in geoscience research. (May be repeated for credit). (1-3).

- 614. GEOMETRICS.** Map analysis of spatial geological data as applied to petroleum, coal, ore and geotechnical exploration and evaluation. (Same as ENGR 614) Prerequisite: GE 413. (3).
- 615. GEOSTATISTICS.** Operational aspects and interpretation of geological data using statistics and data analysis. Prerequisite: consent of instructor. (3).
- 630. COASTAL PLAIN GEOLOGY.** Stratigraphy, depositional patterns, and dominant process; emphasis on Gulf Coastal Plain; field studies. Prerequisite: GEOL 314. (3).
- 641.* CLAY PETROLOGY.** Geologic significance of composition and crystal chemistry of the principal clay-mineral and zeolite group. Prerequisite: GEOL 222 and consent of instructor. (3).
- 642. X-RAY DIFFRACTION ANALYSIS OF INORGANIC CRYSTALLINE MATERIALS.** (4).
- 643. ADVANCED GEOMORPHOLOGY.** Surface processes associated with specific physiographic districts. Prerequisite: consent of instructor. (3).
- 644. ADVANCED PALEONTOLOGY.** Consideration of specific problems in invertebrate paleontology (including micropaleontology) and paleoecology. Prerequisite: GEOL 309. (3).
- 645. ADVANCED SEDIMENTATION.** Analysis of sedimentation process and response patterns as indicators of depositional environment, dispersal, and basin evolution. Prerequisite: GEOL 314 or consent of instructor. (3).
- 646. ADVANCED STRATIGRAPHY.** Analysis of components of recent depositional systems and case studies of ancient analogues. Prerequisite: GEOL 314 or consent of instructor. (3).
- 647. SEDIMENTARY PETROLOGY.** Advanced treatment of the principals and recent advances in sedimentary petrology with particular emphasis on textural and geochemical aspects of diagnosis. Prerequisite: GEOL 314 or consent of instructor. (4).
- 648. METAMORPHIC PETROLOGY.** Metamorphic rock chemistry and mineralogy; time and space relationships of metamorphic rocks in consideration of global tectonics. Prerequisite: consent of instructor. (3).
- 651. DESIGN OF WASTE REPOSITORIES AND CONTAINMENT FACILITIES.** Assessment of factors that govern site selection, site evaluation, and landfill design. Prerequisite: GE 460 or GE 560. (3).
- 690. SCIENTIFIC WRITING SEMINAR.** Exercises in scientific writing format and style, with particular emphasis on writing abstracts and manuscripts for publication in refereed archival journals. May be repeated once for credit. (1).
- 697. THESIS.** (1-12).

MECHANICAL ENGINEERING — M E

Professor Jeffrey A. Roux, chair • 201 Carrier Hall

Professors Mantena, Roux, Smith, Sharma, Vaughan, and Wang • Associate Professors Lackey, McCarty, and Sinha • Research Professor Seiner • Research Assistant Professors Chambers, Gui, and Ukeiley

Graduate or prospective graduate students with backgrounds in mechanical engineering may have special interests in the following courses listed under Engineering: 601-604, 611, 711-717 (fluid mechanics); 551, 605-608, 663, 667-668 (thermodynamics, heat and mass transfer); 614-617 (plasmas and magnetohydrodynamics); 585, 590, 683, 684, 685 (materials science and engineering); 671-682 (solid mechanics); 590, 702 (finite elements).

521, 522. PROJECTS. Approved investigation of original problem under direction of a staff member. (3, 3).

523, 524. SPECIAL TOPICS IN MECHANICAL ENGINEERING. Supervised reading of specialized topics beyond these available in existing courses. Prerequisite: consent of instructor. (3, 3).

526. EXPERIMENTAL METHODS. Generalized theory for designing engineering experiments, processing experimental data, including proper procedures for handling time varying quantities and uncertainties. Some state-of-the-art techniques will be used to illustrate the theory. (3).

530. PHYSICAL METALLURGY. Application of chemical and microstructural control for understanding material behavior. Topics include a brief survey of relevant areas of thermodynamics and kinetics, phase diagram, diffusion, solidification, solid state transformations, recovery, recrystallization, and grain growth. Prerequisite: ENGR 313. (3).

531. MECHANICAL BEHAVIOR OF ENGINEERING MATERIALS. The dislocation concept of plastic deformation is introduced and used to explain the relationships between microstructure and mechanical properties. The phenomena of strain hardening, creep, fatigue and fracture are discussed in detail. Prerequisite: ENGR 313. (3).

532. GLASSES AND CERAMICS. The application of atomic structure to a study of physical properties of amorphous systems and ceramics. Topics include classical ceramic bodies, glasses, refractories, cermets, cements, and electronic ceramics. Prerequisite: ENGR 313. (3).

533. ELECTRONIC PROPERTIES OF MATERIALS. Theories of electron/atom interactions and electron transport are examined to explain the electronic properties of solids. Junctions, magnetic, and optical properties also are discussed with special emphasis on semiconducting materials. (3).

534. PROPERTIES AND SELECTION OF MATERIALS. Fundamental relationships that govern the properties of materials are examined and used to optimize the selection of engineering materials. Materials covered include metals, plastics, ceramics, and composites. (3).

535. EXPERIMENTAL STRESS ANALYSIS. The theories of experimental stress analysis techniques are examined in detail with special emphasis on the application of strain measurement methods, brittle coatings, transmission and reflection photoelasticity. (3).

538. EXPERIMENTAL CHARACTERIZATION OF POLYMERIC COMPOSITES. Methods for the experimental characterization of polymeric composites. Topics include testing standards, test methods, and data analysis precedes. Prerequisites: ENGR 313, 314. (3).

540. FAILURE ANALYSIS. Tools, techniques, and theories of failure analysis. Topics include failure analysis tools, mechanical aspects failure analysis, macrofactographic features, and the role of failure in design. Prerequisites: ENGR 313, 314. (3).

555. HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC). The theory and design of HVAC systems for buildings with emphasis on fundamental principles, regulations, and design. Prerequisites: ENGR 321, 322. (3).

SCHOOL OF PHARMACY

Barbara G. Wells, dean

1017 Thad Cochran Research Center

Marvin C. Wilson, associate dean for academic affairs

1023 Thad Cochran Research Center

Charles D. Hufford, associate dean for research and graduate programs

1024 Thad Cochran Research Center

MASTER'S DEGREE PROGRAMS

Studies leading to a Master of Science degree in pharmaceutical sciences (medicinal chemistry, pharmaceuticals, pharmacognosy, pharmacology, and pharmacy administration) are available. All master's program students will be required to complete a minimum of 24 semester hours of course work and 6 hours of thesis.

To be assured of consideration for admission in the fall semester, applications must be received in full (application form, transcripts, letters of recommendation, official GRE, GMAT, and TOEFL test scores) in the Graduate School by April 1 of the same calendar year. All applicants will be considered for financial aid; no specific application is required. Admission requirements peculiar to each department are listed below.

MEDICINAL CHEMISTRY

For students in the medicinal chemistry program, the following conditions apply:

Admission • Two letters of recommendation, including at least one from a faculty member in the major department, are required.

Undergraduate Requirements • Although the majority of the students admitted to the program have degrees in pharmacy, chemistry, and/or biochemistry, there is no specific undergraduate degree required for admission. Undergraduate requirements that may need to be satisfied during graduate study (or can be completed prior to graduate study), depending on the student's selected research problem and area of interest, can include biochemistry, instrumental analysis, pharmacology, and physical chemistry.

Graduate Course Requirements • Medicinal chemistry is a multidisciplinary chemistry-centered science involved in applying both chemical and biological principles to a study of chemical substances capable of exerting specific effects on a biological system. In practice, the medicinal chemist is involved in designing, synthesizing and characterizing medicinal agents intended for the management and/or therapy of disease states. Students will be required to enroll in the following courses:

1. Students entering the program with no background in medicinal chemistry will take Advanced Medicinal Chemistry I, II (MEDC 501, 502) (6 hours);
2. Medicinal Chemistry Research Methodology (MEDC 503) (3 hours);
3. Seminar on Current Medicinal Chemistry Topics (1 hour).

Two departmental seminars are required of master's degree candidates. Students are required to attend seminars each semester irrespective of whether they present a seminar that semester or whether they are enrolled in seminar.

Students are encouraged to take at least one drug action and design course.

Foreign Language Requirement • None.

PHARMACEUTICS

For students in the pharmaceuticals program, the following conditions apply:

Admission • A minimum score of 600 on TOEFL is required for international students.

Undergraduate Requirements • Students should have completed the requirements for an undergraduate degree in pharmacy or related area. In addition, if not previously taken, the following undergraduate courses will be required;

integral and differential calculus (equivalent to MATH 261, 262), six semester hours of physical chemistry (equivalent to CHEM 331, 332) and college level biology (equivalent to BISC 160, 162).

Graduate Course Requirements • The following graduate courses are considered to comprise the core of the master's curriculum:

1. Seminar in Current Pharmaceutical Topics (PHARM 543, 544).
2. Statistics and Experimental Design (BISC 504 or PYS 501).
3. Analytical Pharmaceutics (PHAR 535).
4. Pharmacokinetics (PHAR 546 or PHAR 660).
5. Product Development (PHAR 649).

Two of the following:

1. Advanced Pharmaceutics I (PHAR 641).
2. Advanced Pharmaceutics II (PHAR 642).
3. Stability of Pharmaceutical Systems (PHAR 644).
4. Surface Phenomena (CHE 545 or PHAR 645).
5. Advanced Pharmacokinetics (PHAR 660).
6. Applied Pharmaceutics (PHAR 650).

Additional courses may be required by the student's graduate advisor and/or advisory committee. If a required course is unavailable, the Pharmaceutics Department graduate faculty may approve an alternative course for a particular student.

Thesis • A thesis based upon experimental work in the general area of pharmaceutics is also required.

PHARMACOGNOSY

For students in the pharmacognosy program, the following conditions apply:

Admission • Two letters of recommendation, at least one from a faculty member in the major department and a letter of interest.

Undergraduate Requirements • Applicants with undergraduate degrees in pharmacy, chemistry, or some other program which provides a sound background in chemistry, i.e., biology, chemical engineering, or chemical technology, will be considered for admission. Training in the biological sciences is desirable but not essential for admission.

Graduate Course Requirements • The following core courses are required:

1. Seminar on Topics of Interest in Natural Products (PHCG 543, 643) 2 hours;
2. Natural Product Chemistry (PHCG 627, 628), 6 hours;
3. Analysis of Natural Product Drugs (PHCG 631, 632, 633), 9 hours;

PHARMACOLOGY

For students in the pharmacology program, the following conditions apply:

Admission • A statement of purpose for enrollment by the applicant and three letters of recommendation, at least one from a faculty member in the major area, are required. All admission decisions will be made after March 1 and communicated to the applicant by April 15.

Requirements • The master of science degree in pharmacology requires the core courses listed below, as well as at least 6 thesis hours. In addition, students are expected to enroll in the Pharmacology Seminar (PHCL 643) each semester. Students who have earned a baccalaureate degree in pharmacy, toxicology, chemistry, biological science, psychology or a related field are eligible to apply for admission to the graduate program. Undergraduate course prerequisites include physiology, biochemistry or cell biology, advanced mathematics (level of calculus), and organic chemistry.

Graduate Course Requirements

1. Introduction to Pharmacology I (PHCL 563), 4 hours;
2. Principles of Life Science Research (PHCL 501), 1 hour;

3. Biometry and Experimental Design and Analysis (BISC 504) or equivalent, 3 hours;
4. Problems in Pharmacology and Toxicology (PHCL 541), 1 hour;
5. General Principles of Pharmacology and Toxicology I (PHCL 675), 4 hours;
6. Physiological Chemistry (PHCL 669), 4 hours;
7. Advanced Physiology (PHCL 661), 4 hours;
8. Directed Studies in Pharmacology and Toxicology (PHCL 651), 1 hour;
9. Directed Studies in Pharmacology and Toxicology (PHCL 652), 1 hour;
10. Seminar: Current Topics in Pharmacology and Toxicology (PHCL 643), 4 hours;
11. Thesis (PHCL 697), 6 hours.

An experimental research project and thesis in the area of pharmacology or toxicology is required.

PHARMACY ADMINISTRATION

For students in the pharmacy administration program, the following conditions apply:

Admission • A score on the Graduate Management Admissions Test (GMAT) is acceptable in lieu of GRE. A minimum score of 600 on TOEFL is required of international students.

Undergraduate Requirements • A degree in pharmacy is preferred; however, students with degrees in disciplines related to marketing and management may be considered for admission upon demonstration of a commitment to pursue a degree in the field of pharmaceutical marketing, management, or marketing research.

Graduate Course Requirements • The following core courses are required.

1. Primary Data Techniques (PHAD 579);
2. Research Methodology and Techniques (PHAD 688);
3. Advanced Drug Marketing (required for marketing track) or Drug Development and Marketing (PHAD 683, or PHAD 692);
4. Health Systems Management (PHAD 689);
5. Current Topics in Pharmacy Administration (PHAD 543, 544);
6. Health Economics (PHAD 693).

DOCTORAL DEGREE PROGRAMS

Studies leading to the Doctor of Philosophy degree are available in medicinal chemistry, pharmaceuticals, pharmacognosy, pharmacology, and pharmacy administration.

To be assured of consideration for admission in the fall semester, applications must be received in full (application form, transcripts, letters of recommendation, official GRE, GMAT, and TOEFL test scores) in the Graduate School by April 1 of the same calendar year. All applicants will be considered for financial aid; no specific application is required. Admission requirements peculiar to each department are listed below.

DOCTOR OF PHILOSOPHY IN MEDICINAL CHEMISTRY

Admission • Two letters of recommendation, including at least one from a faculty member in the major department, are required.

Undergraduate Requirements • Although the majority of the students admitted to the program have degrees in pharmacy and/or chemistry, there is no specific undergraduate degree required for admission. Undergraduate requirements that may need to be satisfied during graduate study (or can be completed prior to graduate study), depending on the student's selected research problem and area of interest, can include biochemistry, instrumental analysis, pharmacology, and physical chemistry.

Graduate Course Requirements • Medicinal chemistry is a multidisciplinary chemistry-centered science involved in applying both chemical and biological principles to a study of chemical substances capable of exerting specific effects on a biological system. In practice, the medicinal chemist is involved in designing, synthesizing and characterizing medicinal agents intended for the management and/or therapy of disease states. The graduate course requirements for a Ph.D. in Medicinal Chemistry consists of a minimum of 16 graduate course hours in medicinal chemistry, 9 hours of chemistry courses, and 6 hours in a minor emphasis area. These requirements can be satisfied in the following way:

1. Students entering the program lacking a background in medicinal chemistry will take Advanced Medicinal Chemistry I, II (MEDC 501 and 502). These courses will not satisfy the departmental graduate requirement for the Ph.D. degree.
2. Medicinal Chemistry Research Methodology (MEDC 503) (3 hours);
3. Three of the five drug action and design courses offered (9 hours);
4. Either Heterocyclic Compounds (MEDC 609), a Selected Topics course (MEDC 610), Pharmaceutical Protein Design and Development (MEDC 630) (3 hours); Bioorganic Chemistry (MEDC 618), or Combinatorial Chemistry (MEDC 620).
5. Seminar on Current Medicinal Chemistry Topics (1 hour).

At least 9 hours of chemistry courses are required. Advanced Organic Chemistry (CHEM 527, 528, or CHEM 530) may comprise 6 of these hours. Analysis of Natural Products Drugs (PHCG 633, 3 hours) may substitute for 3 of the remaining hours. A minor emphasis is required and consists of at least 6 graduate credit hours in pharmacology, biochemistry, biology, pharmaceuticals, toxicology, an approved area of chemistry, or any other approved area. Combinations of the above areas may constitute the minor area with the approval of the student's adviser.

Foreign Language Requirement • None.

Examinations • To successfully complete the cumulative examination sequence, each student must demonstrate a broad competency in five medicinal chemistry topic areas.

Within four months of completion of all cumulative examinations, a student must present a written research proposal and orally defend the proposal before the faculty of the department.

Three departmental seminars are required of doctoral degree candidates. Students are required to attend seminars each semester irrespective of whether they present a seminar that semester or whether they are enrolled in seminar.

DOCTOR OF PHILOSOPHY IN PHARMACEUTICS

Admission • A minimum score of 600 on TOEFL is required for international students.

Undergraduate Requirements • Students should have completed the requirements for an undergraduate degree in pharmacy or related area. In addition, if not previously taken, the following undergraduate courses will be required: Calculus through Differential Equations (equivalent to MATH 261-264, and MATH 353); six semester hours of Physical Chemistry (equivalent to CHEM 331, 332); and college biology.

Graduate Course Requirements • The following graduate courses are considered to comprise the core of the doctoral curriculum:

1. Seminar in Current Pharmaceutical Topics (PHAR 543, 544).
2. Statistics and Experimental Design (BISC 504 or PYS 501).
3. Analytical Pharmaceutics (PHAR 535).
4. Advanced Pharmacokinetics (PHAR 660).
5. Product Development (PHAR 649).
6. Advanced Pharmaceutics I (PHAR 641).
7. Advanced Pharmaceutics II (PHAR 642).
8. Stability of Pharmaceutical Systems (PHAR 644).
9. Surface Phenomena (PHAR 645 or CHE 545).
10. Applied Pharmaceutics (PHAR 650).

Additional courses may be required by the student's graduate advisor and/or advisory committee. If a required course is unavailable, the Pharmaceutics Department graduate faculty may approve an alternative course for a particular student.

Comprehensive Examination • For admission to candidacy, the student must successfully complete a comprehensive examination administered by the graduate faculty of the department.

Dissertation • A dissertation based upon an independent research project followed by an oral defense of this project is also required.

DOCTOR OF PHILOSOPHY IN PHARMACOGNOSY

Admission • Applicants with undergraduate degrees in pharmacy, chemistry, or some other program which provides a sound background in chemistry, i.e., biology, chemical engineering, or chemical technology, will be considered for admission. Training in the biological sciences is desirable but not essential for admission. Two letters of recommendation, at least one from a faculty member in the major department, are required.

The core curriculum for the Ph.D. degree in pharmacognosy is as follows:

1. Seminar on Current Topics of Interest in Natural Product Chemistry (PHCG 543, 544, 643, 644)
2. Natural Product Chemistry (PHCG 627, 628);
3. Analysis of Natural Product Drugs (PHCG 631, 632, 633);

Ordinarily, Ph.D. students will present a minimum of 36 hours of credit in course work beyond the baccalaureate in addition to 18 hours of credit in dissertation.

Seminars • Each semester a seminar program will be arranged. Each student will present a minimum of four seminars during the period of graduate study.

Important Examinations • The following series of examinations will be used to follow the progress of students in the doctoral program:

1. **COMPREHENSIVE WRITTEN AND ORAL EXAMINATIONS.** For admission to candidacy, the student must successfully complete both written and oral comprehensive examinations administered by the faculty of the department. The oral comprehensive examination will be given within 60 days of the completion of the written comprehensive examination. Students who fail to pass the required comprehensive examinations will be terminated from the doctoral program.
2. **ORIGINAL RESEARCH PROPOSAL.** Within six months of passing the oral comprehensive examination, doctoral students will submit and orally defend an original research proposal.
3. **DISSERTATION DEFENSE.** After completing all other requirements, a doctoral candidate must present and defend his/her dissertation.

Foreign Language Requirement • None.

DOCTOR OF PHILOSOPHY IN PHARMACOLOGY

The graduate faculty of the department offers advanced areas of study and research leading to the Ph.D. degree with emphasis in pharmacology or environmental toxicology. There is a close association between the graduate programs in the school and programs in the departments of Biology, Psychology, Medicinal Chemistry, and the Research Institute of Pharmaceutical Sciences. The multidisciplinary nature of the graduate program leads to cooperative and rewarding research efforts and provides excellent educational opportunities for graduate students enrolled in these programs. Students are prepared for careers in academics, industry, or government service.

Admission • Students who have earned a baccalaureate degree in pharmacy, toxicology, chemistry, biological science, psychology, or a related field are eligible to apply for admission to the graduate program. All admission decisions will be made after March 1 and communicated to the applicant by April 15.

Degree Requirements • The Doctor of Philosophy degree in pharmacology requires the core courses listed below, as well as at least 18 dissertation hours. In addition, students are expected to enroll in the Pharmacology Seminar (PHCL 643) each semester.

Physiological Chemistry (PHCL 669); Introduction to Pharmacology (PHCL 563); General Principles of Pharmacology and Toxicology I and II (PHCL 675, 676); Advanced Physiology (PHCL 661); Statistics I (BISC 504 or equivalent);

Principles of Life Science Research (PHCL 501); Problems in Pharmacology (PHCL 541); and Directed Studies in Pharmacology and Toxicology I and II (PHCL 651, 652).

The advisor should assist in course selection. Written and oral comprehensive exams precede admission to the dissertation stage. The dissertation represents the results of independent and original research. A manuscript describing the research and suitable for publication in a refereed journal should be presented simultaneously with the dissertation. Degree requirements also include a final oral examination, mainly in defense of the dissertation.

Research Interest • Research facilities available to departmental graduate students include but are not limited to laboratory areas and analytical equipment shared with the Research Institute of Pharmaceutical Sciences, and the National Center for Natural Products Research. In addition, the department has laboratory space and equipment for conducting mammalian, insect and aquatic pharmacological and toxicological studies. The department contains laboratories for studying the behavior of rodent and aquatic species. Equipment is available for in vitro and in vivo testing of various physiological parameters in various species, as well as for biochemical experimentation. A molecular modeling laboratory and other support facilities are available in the School of Pharmacy to enhance the activities of the department. In addition, the Department of Biology Field Station is available to conduct aquatic toxicological studies in a field setting. The department has a close working relationship with the National Center for Toxicological Research (NCTR) in Jefferson, Arkansas. Formal arrangements can be made for selected students to gain valuable research experience at NCTR or at other external governmental or private research facilities.

DOCTOR OF PHILOSOPHY IN PHARMACY ADMINISTRATION

Admission • Admission is limited to students with a master's or Pharm.D. degree or higher, and a minimum B+ (3.2 on a 4.0 scale) average on their prior degree program(s). A score on the Graduate Management Admissions Test (GMAT) is acceptable in lieu of GRE. A minimum score of 600 on TOEFL is required of international students. In addition to test scores, the faculty will review other supporting application materials before making its final decision. Three or more recommendations addressing the student's potential for academic work as well as his/her future potential are required. It is helpful if the recommendations go beyond the information required by the University's standard recommendation form that accompanies the application package.

Applicants to the doctoral program with a master's degree that required a thesis must submit the thesis for review by the department. Applicants with a master's or Pharm.D. degree that did not require a thesis will, if accepted, be required to demonstrate their ability to undertake and successfully complete individual research to the satisfaction of the departmental faculty. This demonstration is satisfied by the completion of a problems course in which the student initiates and completes an original research project, which shall be of thesis quality. Pharm.D. applicants to the doctoral program may be asked to take preparatory courses prior to taking core courses for the degree but will not be required to complete the master's program.

The core curriculum required of all doctoral students in Pharmacy Administration is as follows:

1. Independent Study: Research in Pharmacy Administration (PHAD 674);
2. Advanced Quantitative Analysis I (PHAD 680);
3. Advanced Drug Marketing (PHAD 683);
4. Health Systems Management (PHAD 689);
5. Drug Development and Marketing (PHAD 692);
6. Advanced Quantitative Analysis II (PHAD 681);
7. Secondary Data Techniques (PHAD 687).

PHARMACY ADMINISTRATION — PHAD

Associate Professor Noel E. Wilkin, chair • 223 Faser Hall

Professors Alidaee, Garner, and Vitell • Associate Professors Juergens, McCaffrey, O'Quin, and Wilkin • Assistant Professors Bentley, Bouldin and Sangasubana

541, 542. PROBLEMS IN PHARMACY ADMINISTRATION. Investigation of individual problems. Prerequisite: consent of instructor. (1-4, 1-4).

543, 544. SEMINAR IN CURRENT HEALTH TOPICS. (1, 1). (Z grade).

- 579. PRIMARY DATA TECHNIQUES.** Overview of primary research techniques used in pharmaceutical marketing research. Included questionnaire development, sampling, and data collection through various personal interview and self-administered survey methods. (3).
- 586. FOOD, DRUG AND COSMETIC LAW.** Federal regulation of food, drugs and cosmetics, drug advertising, and products liability. (Same as LAW 689). (3).
- 597. MEDICAL ANTHROPOLOGY.** Social factors in health and illness. Social influences on need, demand, provision, and compliance with medical care. (Same as ANTH 597). (3).
- 599. HEALTH CARE AND CONTEMPORARY SOCIETY.** Development, current organization, and financing of the contemporary health care system in the U.S. from a comparative perspective. Specific topics include provider socialization, provider-consumer interaction, health care as an industry, and the health care system of the future. (Same as ANTH 599 and SOC 599). (3).
- 661. EPIDEMIOLOGY AND HEALTH DATA MANAGEMENT.** Methods and techniques of health data collection with emphasis on use in health planning. (3).
- 672. FINANCIAL MANAGEMENT OF HEALTH CARE INSTITUTIONS.** Theory and application of financial issues and techniques unique to aspects of health care institutions. (Same as FIN 636). (3).
- 673. SEMINAR IN HEALTH PLANNING.** Application of planning techniques to regional and local health systems. Prerequisite: 661 or consent of instructor (3).
- 674. RESEARCH IN PHARMACY ADMINISTRATION.** Investigation of individual problems. (1-3).
- 675. HEALTH AGENCY ADMINISTRATION.** Structured, supervised experience in health care agencies. (1-3). (Z grade).
- 679. ADMINISTRATIVE RESIDENCY.** Residency in approved health care institution or agency; written reports required. (1-6). (Z grade).
- 680. ADVANCED QUANTITATIVE ANALYSIS I.** An examination of a number of procedures falling under the general category of analysis of variance (ANOVA), concluding with a discussion of bivariate (simple) and multiple regression. Prerequisite: a 500-level statistics course. (3).
- 681. ADVANCED QUANTITATIVE ANALYSIS II.** An examination of the use of a number of multivariate statistical techniques, including logistic regression and discriminant analysis, conjoint analysis, cluster analysis, factor analysis, and structural equation modeling. (3).
- 683. ADVANCED DRUG MARKETING.** Factors affecting acceptance, distribution, promotion, and economics of drug marketing. (3).
- 684. MARKETING HEALTH CARE SERVICES.** Techniques required to identify health markets and the marketing functions necessary to meet their needs. (3).
- 685. HEALTH CARE ORGANIZATION AND ADMINISTRATION.** Case applications of principles of health care organization. (3).
- 687. SECONDARY DATA TECHNIQUES.** Techniques and principles useful in using secondary data to answer research questions, including data and data source evaluation, accessing and preparing secondary databases, and review of common data types and sources. (3).
- 688. RESEARCH METHODOLOGY AND TECHNIQUES.** An introduction to the research process from project inception to its conclusion. Students will be exposed to issues surrounding the establishment of the problem statement, hypothesis generation and testing, measurement, research design, sampling theory, data collection and analysis, and ethical conduct in research. (3).
- 689. HEALTH SYSTEMS MANAGEMENT.** Presentation of advanced management concepts supplemented with individual case studies. (3).
- 692. DRUG DEVELOPMENT AND MARKETING.** Industrial administrative procedures in developing and marketing new drugs. (3).
- 693. HEALTH ECONOMICS.** Economic problems of health care for the community; programs for medical and health care; financing health care. (3).
- 694. PHARMACEUTICAL ECONOMICS.** This course will explore the multiple facets of the economics of pharmaceuticals and the pharmaceutical industry, including the role of pharmaceuticals in health care markets and the interaction of public policy and pharmaceutical markets. (3).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

MEDICINAL CHEMISTRY — MEDC

Professor Mitchell Avery, interim chair • 417 Faser Hall

Professors Avery, Borne and Williamson • Associate Professor Rimoldi • Assistant Professors Doerksen and McCurdy

- 501. ADVANCED MEDICINAL CHEMISTRY I.** Advanced study of organic medicinal agents with emphasis on names, synthesis, chemical properties, and pharmacological properties. Readings in the current literature required. Prerequisite: consent of department. (3).
- 502. ADVANCED MEDICINAL CHEMISTRY II.** Continuation of MEDC 501. Readings in the current literature required. Prerequisite: MEDC 501. (3).
- 503. MEDICINAL CHEMISTRY RESEARCH METHODOLOGY.** Lecture and hands-on laboratory in various methods used in medicinal chemistry research. (3).
- 541, 542. PROBLEMS IN MEDICINAL CHEMISTRY.** Investigation of individual problems. Prerequisite: consent of instructor. (1-4, 1-4).

- 543, 544. SEMINAR ON CURRENT MEDICINAL CHEMISTRY TOPICS.** A seminar consisting of presentations by faculty, graduate students, B.S. Pharmaceutical Science/Medicinal Chemistry track students and invited speakers. (1, 1).
- 609. HETEROCYCLIC COMPOUNDS.** Methods of synthesis of medicinally important compounds that contain a heterocyclic ring system. (3).
- 610. SELECTED TOPICS IN MEDICINAL CHEMISTRY.** Recent advances emphasizing mechanisms of drug action and other new concepts. (May be repeated for credit). (3).
- 611. DRUG ACTION AND DESIGN I: INTRODUCTION TO COMPUTER-AIDED LIGAND DESIGN.** Modern molecular modeling methods and techniques pertinent to molecular design and the simulation of molecular properties and interactions. Examples include modeling of small molecules at the level of mechanics calculations up to *ab initio* calculations; homology modeling of proteins and related validation methods; docking interactions of ligands and receptors. (3).
- 612. DRUG ACTION AND DESIGN II: QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS.** Introduction to simple mathematical models of drug action (2D-QSAR) and application of the concepts to the use of computer-aided drug design to develop 3D pharmacophore models based on quantitative structure-activity relationships (3D-QSAR). (3).
- 613. DRUG ACTION AND DESIGN III: DRUGS AFFECTING THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM.** Discussion and application of the design, synthesis, and biological activities of drugs affecting both the central and peripheral nervous system. (3).
- 614. DRUG ACTION AND DESIGN IV: CHEMOTHERAPY OF INFECTIOUS DISEASES.** Overview of antimicrobial and antiviral chemotherapy as related to drug design, chemical syntheses, structural classes, mechanisms of pharmacological action, toxicities, resistance mechanisms, and clinical usefulness. (3).
- 615. DRUG ACTION AND DESIGN V: CANCER CHEMOTHERAPY.** Detailed examination of the field of cancer chemotherapy as related to chemical syntheses, structural classes, mechanisms of pharmacological action, toxicities, resistance mechanisms, and clinical usefulness. (3).
- 618. BIOORGANIC CHEMISTRY.** The study of the chemical interactions and catalytic strategies fundamental to drug design and development, using the principles of organic chemistry as the intellectual framework for addressing biological problems at the molecular level. (3).
- 620. COMBINATIONAL CHEMISTRY: THEORY & PRACTICE.** Parallel synthesis and product analysis sequel to molecular modeling and QSAR. (3).
- 630. PHARMACEUTICAL PROTEIN DESIGN AND DEVELOPMENT.** This course focuses on the chemical and structural characteristics of protein pharmaceuticals that make them different from conventional pharmaceutical products. (3).
- 643, 644. SEMINAR ON CURRENT MEDICINAL CHEMISTRY TOPICS.** A seminar consisting of presentations by faculty, graduate students, B.S. Pharmaceutical Science/Medicinal Chemistry track students and invited speakers (1, 1). (Z grade).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

PHARMACEUTICS — PHAR

Professor Marvin C. Wilson, interim chair • 104A Faser Hall

Professors Elsohly and Chambliss • Associate Professor B. Avery and Wyandt • Assistant Professors Repka, and Stodghill

- 535. ANALYTICAL PHARMACEUTICS.** This course is designed to teach the basic analytical pharmaceuticals techniques necessary to perform analysis of drugs and dosage forms. (4)
- 541, 542. PROBLEMS IN PHARMACEUTICS.** Investigation of individual problems. Prerequisite: consent of instructor. (1-4, 1-4).
- 543, 544. SEMINAR IN CURRENT PHARMACEUTICAL TOPICS.** (1, 1)
- 641, 642. ADVANCED PHARMACEUTICS.** Advanced physical, chemical, and biopharmaceutical concepts that apply to pharmaceutical systems. (3,3).
- 644. STABILITY OF PHARMACEUTICAL SYSTEMS.** Investigation of individual drug stability problems using the theoretical concepts covered in 641, 642. (3).
- 645. SURFACE PHENOMENA.** Develop an understanding of the fundamental concepts of colloid and surface science. (3).
- 649. PRODUCT DEVELOPMENT.** Problems involved in the development of successful formulas for medicinal products. Prerequisite: 641, 642. (3).
- 650. APPLIED PHARMACEUTICS.** The course combines theory with practical applications. Emphasis is placed on solving problems that occur during product development in the pharmaceutical industry. (2).
- 654. SPECIAL PROBLEMS IN BIOPHARMACEUTICS.** Individual biopharmaceutical problems treating physical and chemical properties of drugs and drug systems as they relate to drug transport systems IN VIVO. Prerequisite: 641, 642. (3).
- 660. ADVANCED PHARMACOKINETICS.** A comprehensive study of the time course of drug absorption, distribution, metabolism, and excretion, and the relationship of these processes to the intensity and time course of pharmacologic effects of drugs and chemicals. Prerequisite: PHAR 642 or consent of instructor. (3).
- 697. THESIS.** (1-12).
- 797. DISSERTATION.** (1-18).

PHARMACOGNOSY — PHCG

Professor Daneel Ferreira, chair • 443 Faser Hall

Professors Clark, Ferreira, Hufford, Pasco, and Zjawiony • Associate Professors Hamann, Khan, Nagle, Ross, and Slattery
• Assistant Professor Zhou

522. CULTIVATION AND PROCESSING OF MEDICINAL PLANTS. Cultivation, drying, and milling of plants yielding medicinal substances. (2).

541, 542. PROBLEMS IN PHARMACOGNOSY. Individual investigation of problems of current interest in pharmacognosy. (1-4, 1-4).

543, 544. SEMINAR IN TOPICS OF INTEREST ON CURRENT NATURAL PRODUCTS CHEMISTRY. (1, 1).

545, 546. INDIVIDUAL STUDY IN PHARMACOGNOSY RESEARCH. Individual readings, discussions, and presentations of research literature in natural products chemistry. (1-6, 1-6).

620. SELECTED TOPICS IN PHARMACOGNOSY. An in-depth discussion of recent advances in knowledge of plant and animal materials with biological properties of interest to pharmaceutical scientists. (May be repeated once for credit). (3).

627, 628. NATURAL PRODUCT CHEMISTRY. A comprehensive consideration of the chemistry and pharmacology of those natural product constituents important because of their biological activity. Included are the broad classes, the alkaloids, the terpenoids, the steroids, the flavanoids, and other related groups. (3, 3).

631. ANALYSIS OF NATURAL PRODUCT DRUGS. A discussion of techniques used for identification and determination of structure of substances of natural origin. Included for discussion are isolation techniques, chromatographic techniques, and micro techniques. (3).

632. ANALYSIS OF NATURAL PRODUCT DRUGS. A discussion of techniques used for identification and determination of structure of substances of natural origin. Included for discussion are physical methods and spectroscopic techniques of structure elucidation. (3).

633. ANALYSIS OF NATURAL PRODUCT DRUGS. A discussion of Fourier-transform nuclear magnet resonance techniques including 2D-NMR for the determination of structure of substances of natural origin. Prerequisite: 632. (3).

634. BIOSYNTHESIS OF PLANT CONSTITUENTS. A study of the biosynthetic pathways producing physiologically active products found in natural sources. (3).

636. FERMENTATION CHEMISTRY. Chemical aspects of the production of pharmaceutically and economically important substances by microorganisms. (3).

643, 644. SEMINAR ON CURRENT TOPICS OF INTEREST IN NATURAL PRODUCTS CHEMISTRY. (1, 1). (Z grade).

697. THESIS. (1-12).

797. DISSERTATION. (1-18).

PHARMACOLOGY — PHCL

Professor Robert C. Speth, chair • 303 Faser Hall

Professors Matthews, Speth, Verlangieri, Walker, Waters, and M. Wilson • Associate Professors Haasch, Matsumoto, Sabol, and Sufka • Assistant Professors S. Wilson and Willett

501. PRINCIPLES OF LIFE SCIENCE RESEARCH. This course consists of facilitated discussions of the topics in the syllabus. Students are assigned to be discussion facilitators for one or two topics. (1).

541. PROBLEMS IN PHARMACOLOGY. Investigation of individual problems. Prerequisite: consent of instructor. (May be repeated for credit). (1-3).

563. INTRODUCTORY PHARMACOLOGY I. General principles of pharmacodynamics; drugs affecting central nervous system. Prerequisite: 361, 362, 373. (4).

564. INTRODUCTORY PHARMACOLOGY II. Continuation of 563. Autonomic, cardiovascular, and renal drugs; endocrinological and chemotherapeutic agents. Prerequisites: 361, 362, 373, 475, 563. (4).

569. DRUG ABUSE EDUCATION. Pharmacological, legal, and sociopsychological aspects of drug abuse. Prerequisite: fourth-year standing, graduate standing with nonpharmacy major, or consent of instructor. (2).

643. SEMINAR: CURRENT TOPICS IN PHARMACOLOGY AND TOXICOLOGY. (1). (Z grade).

651, 652. DIRECTED STUDIES IN PHARMACOLOGY AND TOXICOLOGY. Research tutorials requiring individual conferences, literature assignments, and laboratory experiences with departmental faculty members. (1, 1).

661. ADVANCED PHYSIOLOGY. Physiology of those systems, organs, and physiological mechanisms of special significance to pharmacology, including a comparative cross-species emphasis for selected organ systems. Prerequisites: PHCL 361-364 or equivalent, or consent of instructor. (Lecture and lab). (4).

668. EXTERNSHIP IN PHARMACOLOGY. Credit given for participation in pharmacological screening procedures carried out in the laboratories of a pharmaceutical manufacturer. (1-8).

669. PHYSIOLOGICAL CHEMISTRY. Carbohydrate, protein, and nucleic acid structure and function, enzyme catalysis, intermediary metabolism, biochemical endocrinology, membrane structure, mechanisms of solute transport, and molecular genetics. (4).

675. GENERAL PRINCIPLES OF PHARMACOLOGY AND TOXICOLOGY I. General principles of toxicology; biotransformation of toxicants; chemical carcinogenesis, mutagenesis, teratogenesis; systemic toxicology. Prerequisite: PHCL 669 or consent of instructor. (4).

676. GENERAL PRINCIPLES OF PHARMACOLOGY AND TOXICOLOGY II. Toxicity of organic and inorganic compounds; toxins of animal and plant origin; food additives and therapeutic agents; environmental toxicology; risk assessment. Prerequisite: PHCL 675 and 669, or consent of instructor. (Lecture). (4).

677. ADVANCED TOPICS. Lectures, readings, and discussions of special areas of experimental pharmacology and allied subjects. (May be repeated for credit). (2).

681. SELECTED TOPICS IN PHARMACOLOGY AND TOXICOLOGY. Topics may include pharmacokinetic, pharmacodynamic and receptor selectivity of biologically active agents, food additives, drug toxicity, toxicology of agricultural and industrial chemicals, clinical toxicology, toxicity of plastics; naturally occurring toxins. Prerequisite 675, 676. (May be repeated for credit). (2).

685. EXTERNSHIP IN TOXICOLOGY. Credit given for research performed in toxicology at other academic institutions or private industrial concerns. (1-8). (Z grade).

697. THESIS. (1-12).

797. DISSERTATION. (1-12).

ADMINISTRATION, FACULTY, AND STAFF

ADMINISTRATION

ROBERT C. KHAYAT, B.A.E., J.D., LL.M., chancellor
CAROLYN ELLIS STATON, B.A., M.A., J.D., provost and vice chancellor for academic affairs
MAURICE R. EFTINK, B.S., Ph.D., associate provost and dean of the Graduate School
DONALD R. COLE, B.S., M.A., Ph.D., assistant provost and assistant to the chancellor for multicultural affairs
CHRISTY M. WYANDT, B.A., Ph.D., associate dean of the Graduate School
TYRUS A. McCARTY, B.S., M.S., Ph.D., interim assistant dean of the Graduate School

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WILLIAM D. SCOTT III, D.A., associate professor of chemistry
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N. KEITH WOMER, Ph.D., professor of operations management
CHRISTY M. WYANDT, Ph.D., associate dean of the Graduate School, ex officio

THE GRADUATE SCHOOL STAFF

OLAMIDE ALABI, supervisor of graduate admissions
JOSLYN DAVIS, supervisor of graduate activities
REGINA L. PITTS, supervisor of graduate records

GRADUATE FACULTY, OXFORD CAMPUS

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DEBORAH ELLEN BARKER, B.A., M.A. (Oklahoma), M.A. (State University of New York), Ph.D. (Princeton); associate professor of English

ROBERT W. BARNARD, JR., B.A., M.A. (American University), Ph.D. (Memphis); assistant professor of philosophy and religion

RICHARD LEE BARNES, B.A., J.D. (Arizona), LL.M. (Northwestern); professor of law and holder of the Leonard B. Melvin Lectureship in Law

HENRY ELLIS BASS, B.S., Ph.D. (Oklahoma State); director, National Center for Physical Acoustics, and F.A.P. Bamard Distinguished Professor of Physics and Astronomy

THOMAS E. BATES, B.M., M.M., Ed.D. (Northeast Louisiana), certification officer and assistant dean, School of Education

KIM ROBIN BEASON, B.S. (School of the Ozarks), Ed.D. (Arkansas); associate professor of park and recreation management

DEBORAH HODGES BELL, B.A. (Mississippi College), J.D. (Mississippi); professor of law

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ANNE KILLINGSWORTH BOMBA, B.S., M.S., Ph.D. (Oklahoma State); associate professor of family and consumer sciences

LUCA BOMBELLI, Laure B.A. (Milan, Italy), M.S., Ph.D. (Syracuse); assistant professor of physics and astronomy

ALICIA S. BOULDIN, B.A., B.S., M.S., Ph.D. (Mississippi); research assistant professor for instructional assessment and advancement and research assistant professor of pharmacy administration

CAROL MINOR BOYD, B.A. (Delta State), M.S.W. (Southern Mississippi), Ed.D. (Delta State); chair and professor of social work

RICHARD BOYD, B.S.Ed. (Capital), M.A. (Ohio State), M.A. (Akron); assistant professor of leadership and counselor education

JOHN ROBIN BRADLEY, JR., B.A. (Mississippi College), J.D. (Mississippi); professor of law

RALPH BERNARD BRASETH, JR., B.A. (Western Washington State College), B.J. (Missouri-Columbia), M.A., Ed.D. (Mississippi); director of student media and assistant professor of journalism

MACK A. BREAZEALE, A.B. (Berea College), M.S. (Missouri), Ph.D. (Michigan State); distinguished research professor of physics

J. STEPHEN BREWER, B.A. (Hendrix College), M.S., Ph.D. (Louisiana State); associate professor of biology

CHARLES H. BROWER II, B.A. (Vermont), J.D. (Virginia); Croft assistant professor of international law

ROBERT D. BROWN, B.S., M.A. (Northern Illinois), Ph.D. (Indiana); associate professor of political science

STEVEN F. BROWN, B.M.E., M.M.E. (Arkansas State), Ph.D. (North Texas); chair and professor of music education

JOHN M. BRUCE, B.S. (Texas A&M), M.A., Ph.D. (Ohio State); associate professor of political science

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