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The University of Mississippi Spring 2008 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

The University of Mississippi offers a variety of master's, specialist, and doctoral degree programs. The Office of the Graduate School provides leadership, coordination, and administrative structure to support all graduate programs at the university.

Graduate School Office • Associate Dean Christy Wyandt manages the Graduate School office in the Graduate House. 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.

Graduate Council • The Graduate Council has broad responsibility for advising on all graduate academic policies and activities of the university on its Oxford campus and satellite campus locations (excluding the Medical Center). This includes the consideration of new degree programs, formulation and refinement of graduate regulations, consideration of all graduate and law courses for approval and decisions on petitions from students who are requesting waivers of campus-wide (as opposed to departmental or school) graduate degree requirements. The faculty representatives on this committee are tenured professorial faculty.

Graduate Faculty • The graduate faculty are those faculty members who are approved to teach graduate-level courses and direct or co-direct master's and doctoral students. The Graduate School office maintains a list of members.

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.

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 commission is to be contacted if evidence appears to support the university's significant noncompliance with a requirement or standard.

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.

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 Graduate 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 in 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 Education Learning Outcomes • The Graduate School of The University of Mississippi has master's, specialist, and doctoral degree programs. The general learning outcomes of these degrees are summarized as follows.

A student who completes a **master's degree** should

- demonstrate a mastery of a body of knowledge in the discipline; the level of the material and/or the extent of mastery must be above that for the baccalaureate degree;
- successfully use the basic methodologies of the discipline;
- retrieve, evaluate, and utilize information relevant to the discipline;
- communicate, both orally and in writing, in a manner and level of proficiency that is standard for the discipline;
- (for thesis master's) conduct research or produce creative work;
- (for nonthesis master's) function as a professional in the discipline.

A student who completes a **specialist degree** should be able to demonstrate the above competencies and should

- master a body of knowledge beyond that for a master's degree;
- function as a professional in the discipline.

A student who completes a **doctoral degree** should

- demonstrate broad and advanced knowledge within the discipline;
- successfully use a range of methodologies of the discipline;
- independently perform original research;
- communicate effectively;
- function as a professional in the discipline.

Research Organizations, Academic and Community Services

RESEARCH ACTIVITIES

Office of Research and Sponsored Programs • Frederick A.P. Barnard Distinguished Professor Alice M. Clark, vice chancellor for research and sponsored programs • 100 Barr Hall • (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 exist for graduate students 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. Most of the university's research centers, institutes, consortia, research programs and support facilities are listed below. For links to Web pages for these units, go to http://www.olemiss.edu/depts/research/research_centers.html.

Centers

- Center for Advanced Infrastructure Technology
- Center for Applied Electromagnetic Systems Research
- Center for Archaeological Research
- Center for Community Earthquake Preparedness
- Center for Educational Research and Evaluation
- Center for Excellence in Teaching and Learning
- Center for Health Behavior Research
- Center for Marine Resources and Environmental Technology
- Center for Mathematics and Science Education
- Center for Pharmaceutical Marketing and Management
- Center for Population Studies
- Center for Speech and Hearing Research
- Center for the Study of Southern Culture
- Center for Water and Wetland Resources
- Hearin Center for Enterprise Science
- Jamie Whitten National Center for Physical Acoustics
- National Center for Computational Hydroscience and Engineering
- National Center for Justice and the Rule of Law
- National Center for Natural Products Research
- National Center for Remote Sensing, Air and Space Law
- Public Policy Research Center

- Sarah Isom Center for Women's Studies
- Sino-U.S. Traditional Chinese Medicines Research Center
- The University of Mississippi Geoinformatics Center

Institutes

- Barksdale Reading Institute
- Croft Institute for International Studies
- Institute for Advanced Education in Geospatial Sciences
- Institute on Education and Workforce Development
- Institute for Humanitarian De-Mining
- Lott Leadership Institute
- McLean Institute for Community Development
- Mississippi Hills Institute for Heritage Resource Management
- Mississippi Law Research Institute
- Mississippi Mineral Resources Institute
- National Food Service Management Institute
- National Institute for Undersea Science and Technology
- Research Institute of Pharmaceutical Sciences
- William Winter Institute for Racial Reconciliation and Civic Renewal

Consortia and Enterprises

- Alliance for Graduate Education in Mississippi
- Enterprise for Innovative Geospatial Solutions
- Mississippi Consortium for Military Personnel Research
- Mississippi Space Grant Consortium
- North Mississippi Education Consortium

Research Programs and Initiatives

- Intelligent Transportation Systems
- Laboratory for Applied Drug Design and Synthesis
- Mississippi Space Commerce Initiative
- National Sea Grant Law Center

Research Support Facilities

- Access Grid Node
- Animal Care Facility
- Mississippi Center for Supercomputing Research
- Social Science Research Laboratory
- The University of Mississippi Field Station
- The University of Mississippi Research Park

ACADEMIC SERVICES

LIBRARIES

Julia Rholes, dean of University Libraries • 312 J.D. Williams Library • (662) 915-7092
• jrholes@olemiss.edu

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 million volumes, more than 2 million microforms, and more than 6,700 current periodical and serial subscriptions. Online electronic resources and services can be found at the Web site http://www.olemiss.edu/depts/general_library/.

The J.D. WILLIAMS LIBRARY has one branch: the SCIENCE LIBRARY in the Thad Cochran National Center for Natural Products Research building. The library contains 65,000 volumes.

The autonomous JAMES O. EASTLAND LAW LIBRARY complements the resources contained in the Williams library and its branches.

UNIVERSITY MUSEUM AND HISTORIC HOUSES

Mr. Albert F. Sperath, director of the University Museum and Historic Houses • University Museum • (662) 915-7073 • museums@olemiss.edu

The Museum 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 museum's 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 assemblage 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.

GALLERY 130

Located in Meek Hall, the gallery is used for art exhibitions and other activities of the Department of Art. Loan exhibitions of outstanding professional work in painting, sculpture, graphic arts, and photography are brought to the gallery at regular intervals. Exhibitions of successful student work are scheduled periodically.

UNIVERSITY LECTURES

In 1960, Mrs. Ann Waller Reins Longest established the Christopher Longest Lecture Fund in recognition of Professor 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 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. Annually, an internationally recognized leader in pharmacy is selected to deliver the lecture.

The *Arch & Adine Dalrymple Lecture in Mathematics*, established in 1988, brings distinguished mathematicians to the university to speak on mathematics and mathematics research.

In 1998, the Department of Pharmacy Administration established the Rachel and Winfield Cotton Lecture to recognize Mr. Cotton's contributions to pharmaceutical wholesaling. The lectures are delivered by scholars in the fields of development and distribution of pharmaceutical products.

Regular noon-time lectures are presented during the academic year by the Center for the Study of Southern Culture, the University Museums, and the Sarah Isom Center for Women. The College of Liberal Arts sponsors a monthly forum of speakers from its faculty. The Department of Philosophy sponsors a monthly lecture and discussion series. Many university departments hold regular seminars featuring distinguished outside or local speakers.

OFFICE OF STUDENT DISABILITY SERVICES

Stacey Reycraft, director • 234 Martindale • (662) 915-7128 • tty (662) 915-7907 • sds@olemiss.edu • www.olemiss.edu/depts/sds

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 calls for reasonable accommodations to 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.

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 schools of Business Administration, Education, and Pharmacy and at the UM Advanced Education Center in Tupelo, the DeSoto Center in Southaven, and UM Booneville.

Information Technology • Dr. Kathy Gates, assistant vice chancellor for information technology • 302 Powers Hall • (662) 915-7206 • it@olemiss.edu • <http://www.olemiss.edu/depts/it>

The Office of Information Technology (IT) offers students a wide array of services, from supercomputers to personal computing support to e-mail accounts and space for creating Web pages. Students may contact the IT Helpdesk (<http://www.olemiss.edu/helpdesk>) by phone (662-915-5222), e-mail helpdesk@olemiss.edu or walk in (Galtney Center in Weir Hall) for technological assistance.

IT maintains public computing labs (<http://www.olemiss.edu/itlabs>) in the Galtney Center in Weir Hall with approximately 70 desktop units distributed across PC/Windows and Macintosh platforms. Students may reserve a small high-end lab to produce multimedia presentations for class. Agreements with major software and hardware vendors provide students the opportunity for discounts on purchases (<http://www.olemiss.edu/computers>).

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. This document appears in the *UM Policy Directory* (<https://secure.olemiss.edu/umpolicyopen/index.jsp>) and is binding on all students.

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.

UNIVERSITY COMMUNICATIONS

Media and Public Relations • Barbara Lago, director • Johnson Commons West • (662) 915-7236 • blago@olemiss.edu

Media and Public Relations provides full communications services to faculty, staff, and students to promote scholarly activities and accomplishments through print, broadcast, electronic, and other media.

Printing and Graphic Services • Anthony Seaman, director • Sam Hall • (662) 915-7066 • aseaman@olemiss.edu

Printing and Graphic Services houses the Offset Printing Department, Full Color Digital Print Center, Quick Copy Center, and Bulk Mail Processing Center.

University Publications • C. Sabrina Brown, director • 203 Gerard Hall • (662) 915-7355 • cbrown@olemiss.edu

This unit provides editorial and graphic design services for marketing materials, including magazines, brochures, newsletters, ads, exhibits, and Web sites.

Imaging Services • Robert Jordan, assistant director • 221 Gerard Hall • (662) 915-7260 • rjordan@olemiss.edu

This unit provides studio and location photography; print and slide duplication; computer imaging and scanning; film-processing services; and poster printing.

COMMUNITY SERVICES

Willie Price University Nursery School • Jennifer Angle, director of youth programs • 107 Kinard • (662) 915-7444

Division of Outreach and Continuing Education • Timothy R. Angle, assistant provost for outreach and summer school • E.F. Yerby Conference Center • (662) 915-7282 • outreach@olemiss.edu

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

Mississippi Teacher Corps • Dr. Andrew P. Mullins, Jr., and Dr. Germain McConnell, co-directors • School of Education, Room 226, University, Mississippi 38677 • (662) 915-5224 • mtc@olemiss.edu

Psychological Services Center • Dr. David S. Hargrove, director • G-382 Kinard Hall • (662) 915-7385

Speech and Hearing Center • Instructor Alice Henton, interim director • George Hall • (662) 915-7271

University of Mississippi Writing Project • Ellen Shelton, director • (662) 915-7925 • fax: (662) 915-1535 • e-mail: eshelton@olemiss.edu

Fees and Expenses

It is the intent of the university to keep at a minimum the necessary expenses of its students. Increases are put into effect only when public funds are inadequate and no other recourse is available. Therefore, the university reserves the right to increase or modify fees, tuition, or scholarships without prior notice, upon approval by the Board of Trustees. A portion of student tuition and fee charges is used for operating costs, including scholarships and tuition waivers.

GRADUATE CREDIT COSTS PER SEMESTER

Tuition and required fees are assessed by credit hour, and are listed for all graduate students of The University of Mississippi on the Oxford campus for one semester of the academic year. Amounts are given for both residents and nonresidents of Mississippi; definitions of resident and nonresident students may be found in the Residence section of the “Entering the Graduate School” chapter. Please contact the Office of the Bursar at (800) 891-4596 for further information.

Credit Hours	Resident Total	Nonresident Total
1	274.00	635.50
2	548.00	1,271.00
3	822.00	1,906.50
4	1,096.00	2,542.00
5	1,370.00	3,177.50
6	1,644.00	3,813.00
7	1,918.00	4,448.50
8	2,192.00	5,084.00
9–13	2,466.00	5,719.50
14	2,740.00	5,993.50
15	3,014.00	6,267.50

SUMMER SESSION TUITION (per Semester Hour)

Graduate Credit-Hour Costs

Tuition (including required fees, per semester hour)	274.00
Nonresident fees (per semester hour)	164.50

Pharmacy Professional (P5 & P6) Costs

Tuition (including required fees, per semester hour)	433.25
Nonresident fees (per semester hour)	260.00

SPECIAL FEES AND EXPENSES*

GRADUATION

Thesis binding fee	7.00
Dissertation binding and digital archiving fee.....	85.00
Copyright fee (optional).....	65.00

ON-CAMPUS HOUSING

Application fee.....\$75.00

RESIDENCE HALL RATES

Double room (typical)..... 1,650.00

Single room (typical)..... 2,300.00

Deluxe room (typical)..... 2,050.00

NORTHGATE APARTMENTS

One-bedroom (one apartment mate)..... 2,075.00

Two-bedroom (two apartment mates)..... 1,940.00

Two-bedroom (three apartment mates)..... 1,830.00

Three-bedroom single (four apartment mates)..... 2,150.00

Three-bedroom double (four apartment mates)..... 1,830.00

THE VILLAGE APARTMENTS

Semester total

(4½ months)

Efficiency unfurnished..... 2,110.00

One-bedroom unfurnished..... 2,135.00

Two-bedroom unfurnished..... 2,600.00

Apartment reservation deposit (refundable)..... 25.00

Prepayment of rent (\$75 refundable)..... 75.00

APPLICATION FEE..... 25.00

COURSE CHANGE FEE

For each add and each drop made after the last day

to register..... 5.00

SPECIAL CLASS FEE charged on certain courses up to \$30.00

per hour or \$5.00 to \$100.00 per course.

REGISTRATION FEE

The university's registration process consists of three phases. You may register for courses during any of the phases; however, a nonrefundable registration fee of \$100.00 for Phase 3 registration will be assessed. As an incentive for students who register early, the university will waive the registration fee for students who register during Phase 1 and 2. The fee is also waived if you are a newly admitted student registering at Ole Miss for the first time. The dates for Phase 1, 2, and 3 registration periods are published in the Academic Calendar and the Schedule of Classes for each semester.

CANCELLATION FEE . . . the lesser of \$100 or 5 percent of total assessment. Assessed when a student cancels enrollment after classes officially begin. This fee is also applicable to students who withdraw during the 100 percent refund period. There is no fee if a student officially withdraws prior to the first day of classes.

INTERNATIONAL STUDENT SERVICE FEE

Fall or spring semester..... 100.00

Summer term..... 30.00 per term

INTERNATIONAL STUDENT INSURANCE FEE

Fall semester..... 441.00 (subject to change)

Spring semester (includes summer

terms)..... 609.00 (subject to change)

GRADUATION FEES

Thesis binding fee..... 7.00

Microfilming dissertation and binding fee..... 85.00

Copyright fee (optional)..... 65.00

AUDIT FEE (Same as credit hour fee)

RETURNED CHECK FEE..... 20.00

ID CARD REPLACEMENT FEE..... 30.00

PARKING DECAL FEE..... 60.00

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

PAYMENT OF FEES

The billing and due dates for tuition and fees (housing, meal plan, special course fees, international student fees/insurance, and registration fees) occur on the following dates (or the last working day of the month if the billing date falls on a weekend or the previous working day if the due date falls on a weekend or holiday):

Enrollment Period	Billing Date	Due Date
Fall Semester	July 31	August 15
Wintersession, Spring Semester	November 30	December 15
Intersession, Full Summer, & 1st Summer	April 30	May 15
2nd Summer	May 31	June 15
August Intersession	May 31	July 15

If payment is not received by the due date, a monthly 1.5 percent service fee will be assessed on the unpaid balance of tuition and fees. Payments may be made during the enrollment period; however, to avoid holds on future registration periods, tuition and fees must be paid in full, and other charges must be paid by the due date.

The begin date for the calculation of the 1.5 percent service fee is the due date regardless of the date that a student obtains a schedule. For example, if a student registers for the fall semester on August 25, and payment is not made by August 15, the student account is subject to a 1.5 percent service fee on the unpaid tuition and fees.

DELINQUENT ACCOUNTS

Regular student account balances and student loan balances are collected by the Office of the Bursar, and, if not paid, constitute a delinquent account. The university reserves the right to withhold re-admission to a student until all delinquent amounts owed to the university have been paid. Diplomas and course transcripts are not issued for students whose accounts are delinquent. Delinquent accounts may be referred to a collection agency, in which case the account will be assessed all costs of collection, including reasonable attorney fees, whether or not a lawsuit is commenced as part of the collection process.

REFUND POLICIES

Refund policies can be found in either the Undergraduate Catalog or the Policies Directory (Policy ADM.BF.300.001).

HOUSING

Single graduate students may live in any of the residence halls or the Northgate 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.

STUDENT HEALTH SERVICE

The Student Health Service is a general practice medical clinic providing care to enrolled students of The University of Mississippi. The Student Health Service is open from 8 a.m. to 5 p.m. Monday through Friday. No clinical services are available during holiday periods. Tuition covers the cost of the services of the health-care providers. Drugs, laboratory tests, X-ray procedures, and supplies are provided to the student on a cost basis. If any charges are made to the student that are covered by insurance, the Student Health Service upon request will file the necessary claim forms to the appropriate insurance company. Drug prescriptions are filled at the Student Health Pharmacy or at local pharmacies at the student's own expense. Since the Student Health Service is a general practice medical clinic, some patients must be referred to medical specialists. Illness or injuries requiring hospitalization also are referred to the local hospital. The cost of this care must be borne by the student unless it is an illness or injury that is covered by medical insurance. Three optional medical and hospital insurance plans are available to students and students' families and may be purchased throughout the year.

Physical Therapy • The Student Health Service, in conjunction with the Athletic Department, operates a physical therapy program. Students must have a referral from a physician or nurse practitioner for services.

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 immunization or establishing an exemption to the requirement are available from the Student Health Service, University of Mississippi, P.O. Box 1848, University, MS 38677.

ASSISTANTSHIPS, AWARDS, AND FELLOWSHIPS

The Graduate School administers Honors Fellowships, Dissertation Fellowships, Underrepresented Minority Fellowships, and the Summer Graduate Research Assistantships, which are described below. Information about other fellowships is available on the Graduate School Web site http://www.olemiss.edu/depts/graduate_school/. Students may obtain information about discipline-specific assistantships and fellowships by consulting the appropriate academic department chair.

Graduate Assistants' Health Insurance Program • Graduate students who receive 1/4 time or above graduate assistantships are required to have health insurance that meets minimum specifications established by the Graduate School. Unless students who have graduate assistantships opt to waive participation, they are automatically entered into a university negotiated health insurance plan. The university partially subsidizes the premium for this health insurance plan. For more information, see the Graduate School's Web site.

Tuition Scholarships and Nonresident Fee Scholarships • Graduate students who receive a minimum of \$1,800 per semester as either an assistantship or fellowship are eligible for a partial tuition scholarship (75 percent of tuition for the minimum, 1/4 time stipend, increasing to a 100 percent tuition scholarship for a 1/2 time stipend). The academic requirements for holding these scholarships are given in the Academic Regulations chapter.

Dissertation Fellowship Program • This nonservice award is designed to assist doctoral students who are in the final stages of the dissertation process. The intent is to provide financial assistance to relieve candidates of current service-type responsibilities (teaching, research, and/or other related obligations to the university), thereby enabling them to focus on their research analysis and writing. The amount of the award is \$4,000 plus a tuition scholarship. The time period is one semester. Full-time enrollment is required. Any student nominated must be in candidacy and must have a copy of his or her prospectus on file at the Graduate School. To be considered for this fellowship, a student must be nominated by his or her department.

Honors Fellowship Program • The Graduate School awards nonservice fellowships to incoming students of exceptional academic accomplishment. Recipients of a graduate fellowship are also eligible to receive departmental assistantships and/or other fellowships. To be considered for this fellowship, a student must be nominated by his or her department.

Summer Graduate Research Assistantship Program • The Summer Graduate Research Assistantship Program provides \$2,600 for doctoral students and \$2,000 for master's students during the summer (minimum of 10 weeks of research). The goal is to provide funds to enable promising graduate students to remain on task and on campus in their pursuit of a degree. To be considered for this program, a student must be nominated by his or her department.

Underrepresented Minority Fellowship Program • The Graduate School administers a fellowship program available to persons who are members of minority groups that have historically been underrepresented in various graduate education programs. The stipend associated with this fellowship is \$1,000 for master's students and \$1,500 for doctoral students per semester (fall and spring) and includes a 75 percent tuition scholarship and a 44 percent nonresident scholarship. To be considered for the fellowship, a student must be admitted into a degree program, must be enrolled on the Oxford campus for at least nine hours of graduate work each semester, must be nominated by his or her academic department, and must not be a full-time employee. A partial tuition scholarship and partial nonresident scholarship are also available to graduate students who are part-time and who are enrolled at one of our off-campus centers.

Graduate Programs

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

MASTER OF ARTS

Anthropology
Curriculum and
Instruction
(Teacher Corps)
Economics
English
Higher Education-
Student Personnel
History

Journalism
Mathematics
Modern Languages
French
German
Spanish
TESOL
Parks and Recreation
Management

Philosophy
Physics
Political Science
Psychology
Clinical
Experimental
Sociology
Southern Studies

MASTER OF SCIENCE

Biological Science
Chemistry
Communication Science
and 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
Environmental Toxicology
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 MASTER'S DEGREE PROGRAMS

Accountancy
Business Administration
Criminal Justice
Fine Arts-Art
Fine Arts-Creative Writing

Music
Choral Conducting
Music Education
Music Performance

Social Work
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

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

English

Exercise Science

Higher Education

History

Mathematics

Music

Music Education

Engineering Science

Aeroacoustics

Chemical Engineering

Civil Engineering

Computational

Hydroscience

Computer Science

Electrical Engineering

Electromagnetics

Geological Engineering

Geology

Hydrology

Materials Science

Mechanical Engineering

Telecommunications

Pharmaceutical Science

Environmental Toxicology

Medicinal Chemistry

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 Spring 2008 Graduate School Catalog take effect with the registration procedures for the spring 2008 session. Graduate students whose notices of admission have been issued prior to the spring session registration of 2007 must conform to any changes in regulations made prior to the beginning of spring 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.

Admissions Policies and Procedures

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.). Graduate programs may establish different 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 paper or online 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 immunization requirements in this catalog).

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. The Graduate School may request additional information from an applicant to confirm his or her citizenship, state residency, and whether the applicant's native language is English.

Departments may require additional application materials. Applicants are advised to contact the appropriate department about additional requirements.

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 noncourse 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 APPLICATIONS

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 four years of instruction at the secondary or college level where the language of instruction is English.

- TOEFL results of 550 paper-based/79 Internet based/213 computer-based or above must be attained prior to achieving full standing (some departments may require higher scores).^{*} Alternatively, students may submit a score on the International English Language Testing System (IELTS); a minimum of 6.5 on the IELTS is required for full-standing admission.
- All students with scores at or above 550/79/213 but lower than 600/100/250 will be re-tested with the Michigan Test of English Proficiency and Listening Comprehension Test prior to registration. Students with scores of 600/100/250 or above are exempt from taking the Michigan English Proficiency Tests.
- Students with scores between 523/69/193 and 550/79/213 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.

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.

^{*}All applicants must present a minimum TOEFL score of 523 paper-based/69 Internet-based/193 computer-based to be considered for admission. Applicants with TOEFL scores of 523-547 paper-based/69-79 Internet-based/193-213 computer-based may be considered for conditional admission. Applicants with scores below 523/69/193 may apply for admission to The University of Mississippi Intensive English Program.

General Academic 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.

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. An I 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 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. Unless specifically approved to be otherwise, 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.

Good Standing and Probation • To be in good standing, graduate students are expected to maintain a B average. Students must have a 3.0 GPA on course work that is presented to satisfy requirements for a degree. Students whose grade-point average falls below 3.0 in any regular 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. (That is, the forgiveness policy does not apply to graduate students.) 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.

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/Maximum Enrollment and Definition of Full-Time • A minimum enrollment 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. The maximum enrollment for a graduate student during a regular session is 15 semester hours, including thesis and 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.

A graduate student registered for 9 or more graduate-level 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.

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 hours/week)	9 hours*	9 hours
1/2 time (20 hours/week)	9 hours	12 hours**
1/4 time (10 hours/week)	6 hours	12 hours
Less than 1/4 time	3 hours	15 hours

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

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. Whereas the general rule is that a maximum of 6 semester hours can be earned by an undergraduate for graduate credit, this maximum can be extended for specifically approved programs that are designed to accelerate a student's entry into a University of Mississippi master's program. 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.

GENERAL REQUIREMENTS FOR ALL ADVANCED 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 and see the School of Law and School of Pharmacy catalog entries for information about the J.D. and Pharm.D. degrees.)

Master's Degrees

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 all master's degrees (with the exception of Master of Fine Arts degrees, as mentioned below). Specific degree programs may require more than these minima. 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.

The Master of Fine Arts degree, which is offered in art and creative writing, requires a minimum of 54 semester hours in the subject area, two years of academic residency, and 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. The last 30 hours of this degree must meet the time limit requirement for completion of master's degrees.

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 or the program coordinator of the program to which the student was admitted. The committee must be composed of three members of the graduate faculty (associate or full) in the student's department or graduate program, with one member designated as chair. 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.

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.

Thesis • Except for the nonthesis option programs in art, classics, communication science and 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. A copy of the abstract and the thesis binding fee receipt must accompany the copies of the thesis.

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

Requirements for All Doctoral Programs • In addition to the above “General Requirements for All Advanced Degrees” and those requirements listed below, additional program requirements may be found in the description of individual graduate degree programs in the Academic Structure.

Course and Degree Credit 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.

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 • All required formal course work and the comprehensive exam should be completed within four calendar years of initial enrollment into degree seeking (conditional or full-standing) status, whether a student begins the doctoral program following completion of a bachelor’s or a master’s degree. After passing the comprehensive exam, a student becomes a candidate for the doctoral degree and must complete all remaining requirements, including the written dissertation and its defense, within five calendar years. If a candidate does not complete all requirements within this time, then the Graduate School will change the student’s status to nondegree seeking.

The Graduate School may grant a one-year extension to this time limit for serious, nonacademic hardships (e.g., military duty, pregnancy, illness, or problems within the student's immediate family).

Additionally, a student may petition his or her academic program for a limited extension for a reason unrelated to personal hardship. If an academic program grants an extension, it may also impose additional requirements, which may include passing another comprehensive examination, more course work, and/or other appropriate remedies. Any extension plan accepted by the candidate and the academic program must be approved by the Graduate School.

Comprehensive Examinations and Admission to Candidacy • All doctoral students must successfully complete a comprehensive examination. Upon completion of this examination, the student is admitted to candidacy.

The purpose of this examination is to establish that the student has satisfactorily mastered the body of academic material appropriate to the degree. Though academic programs have broad latitude in the design of comprehensive examinations, the following guidelines should be followed. The examination may be either a single test or a set of tests. The examination must be written; however, departments may require that part of the examination be oral. The examination may be constructed and evaluated by the student's dissertation advisory committee or by a separate committee. To sit for the examination, a student must be in full-standing status, must have satisfied any foreign language requirement, must have a graduate grade-point average of 3.0 or above, and must not have an outstanding I grade. If a graduate program has an extra departmental concentration area of more than 12 hours, a component of the comprehensive examination must include testing over this concentration area, and this testing must be done by faculty in the second department. Upon completion of all components of a comprehensive examination and notification to the Graduate School, the student is considered to be a candidate for the degree. In general, this status signifies that the individual has completed all or nearly all of the program course work and has entered the formal dissertation (or doctoral essay) stage of the program. Ordinarily, the comprehensive examination should be completed before the dissertation prospectus is defended.

In any situation in which a student wishes to appeal the results of his or her comprehensive examination, he or she may appeal, following procedures in the Graduate Student Appeal Process.

Continuous Enrollment • Upon admission to candidacy, a doctoral student is expected to maintain continuous enrollment. Minimum enrollment to fulfill this requirement is 3 hours of graduate-level course work for fall, spring, or summer terms, with enrollment for at least two of these three periods being required for any 12-month period. (Note that the minimum enrollment during the summer would be 1 hour if the enrollment is not to satisfy the continuous enrollment policy.)

Penalty Clause • The penalty for failure to maintain continuous enrollment, following admission to candidacy, is a fee equal to the tuition charge that would be necessary to have maintained continuous enrollment for the most recent 12-month period.

Binding and Digital Archiving • A fee of \$88 for binding and digital storage of doctoral dissertations must be paid at the Office of the Bursar and the receipt presented to the Graduate School office. This fee covers the cost of publishing and digital archiving of the dissertation by UMI Dissertation Publishing, inclusion of the abstract in ProQuest

Dissertations and Theses, and transportation charges. It is recommended, but not required, that the candidate copyright the dissertation; copyright fee is \$65.

Doctor of Philosophy Degree

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. The dissertation prospectus oral defense and completion of the dissertation defense cannot occur during the same full term (fall, spring, full summer), and there must be a minimum of four calendar months between these events.

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.

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 Degree

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.

Doctoral Essay • 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 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.

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 Degree

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. The dissertation prospectus oral defense and completion of the dissertation defense cannot occur during the same full term (fall, spring, full summer), and there must be a minimum of four calendar months between these events.

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.

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

College of Liberal Arts

Glenn W. Hopkins, dean

Janice Murray, associate dean

Holly Reynolds, associate dean

Ronald F. Vernon, associate dean

Ventress Hall • (662) 915-7177

<http://www.olemiss.edu/libarts/>

ART

Professor Nancy L. Wicker, chair • 116 Meek Hall

<http://www.olemiss.edu/depts/art/>

Professors Murray, Temple, and Wicker • Associate Professors Crouther, Dewey, and Rieth • Assistant Professors Chavis, Haney, Jackson, Long, Thompson, and White • Visiting Assistant Professor Sparks • Instructor Herrington

Overview: The Department of Art offers a Bachelor of Arts (B.A.) and minor in art history and a Bachelor of Arts (B.A.), Bachelor of Fine Arts (B.F.A.), Master of Fine Arts (M.F.A.), and minor in art. For the B.F.A. in art, students complete an emphasis in ceramics, graphic/Web design, painting, printmaking, or sculpture. For the M.F.A. in art, students complete a specialization in ceramics, painting, printmaking, or sculpture.

Accreditation: All degree offerings of the Department of Art are fully accredited by the National Association of Schools of Art and Design.

M.F.A. in Art

Description: The M.F.A. is the terminal degree in studio art and is the professional degree preparing students to teach at the university level. Students choose a specialization in ceramics, painting, printmaking, or sculpture.

Preliminary Requirements: 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. The applicant must also present 20 works identified by media, size, and date of completion.

Course Requirements: The M.F.A. in art degree requires the successful completion of Art 692 (taken during the fall semester of the first year of residence); 6 hours of Art 697 (Thesis); 12 hours of art history, including AH 503 (Art Theory and Criticism); 18 hours of a specific studio specialization (ceramics, painting, printmaking, or sculpture); 15 semester hours from at least two studio areas other than the area of specialization; and 9 hours of electives. A minimum of 6 hours must be taken in drawing, either as part of the 15 hours of secondary specialization or as electives.

Other Academic Requirements: 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. During the last semester in residence, each student is required to register for Art 697 (Thesis) and to install a thesis exhibition with the advice of the student's thesis director. The candidate must successfully pass an oral examination, open to all faculty and graduate students, and a written analytical and critical exposition of the creative thesis is required. In addition to the illustrative matter accompanying the written thesis, a minimum of five images must be deposited with the Department of Art for purposes of documentation. The candidate's thesis committee may recommend the collection of a thesis work for the Department of Art's permanent collection of art.

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).

510. STUDIO ART ON LOCATION. Emphasis on studio art practice in a location other than the UM campus. Content varies. May be repeated once for credit. Prerequisite: consent of instructor. (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).

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).

560. VECTOR IMAGING. Instruction in Adobe Illustrator, the standard illustration program used by designers, on a Macintosh platform. Introduction to vector graphics with emphasis on both technical and artistic mastery for advanced art students. (3).

561. TYPOGRAPHY. Formal aspects of graphic design with emphasis on typography in graphic design process, a history of type design and applied problems composing publications with type, and use of the computer in completing projects for advanced art students. (3).

564. WEB DESIGN I. Theoretical and technical exploration of various uses for computer-based imagery, including basic multimedia and Internet development. HTML and Macromedia FLASH are introduced to advanced art students. (3).

565. WEB DESIGN II. Advanced conceptual and technical exploration of Web design with Macromedia Dreamweaver. Topics may include historical issues in computer graphics,

Internet development, multimedia, two- or three-dimensional animation, and static image manipulation. (May be repeated once for credit). Prerequisite: ART 364 or ART 564. (3).

571. PRINTMAKING. Special problems in printmaking. (9 lab hours). (May be repeated for credit for a maximum of 9 hours). (3-6).

573. BOOK ARTS. Exploration of hand-made books, including alternative bookbinding structures and successful integration of printed image and text. (May be repeated once for credit). (3).

581. BLACK-AND-WHITE PHOTOGRAPHY. Instruction for advanced art students in black-and-white photography with emphasis on the mechanics of 35mm camera skills, darkroom techniques, and developing a personal photographic style. Focus on a fine art approach to image making. (May be repeated twice). (3).

583. DIGITAL PHOTOGRAPHY. Acquisition of the technical language of the digital image by advanced art students and development of a personal photographic style. Emphasis is a fine art approach to digital image making. (May be repeated twice). (3).

584. DIGITAL VIDEO. Technical and conceptual foundation of time-based media for advanced art students. Includes single camera production, storyboard production, lighting, and post-production editing. (May be repeated twice). (3).

598. SPECIAL TOPICS IN STUDIO ART. Topics in studio art. Content varies. May be repeated once for credit. Prerequisite: consent of instructor. (3).

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 24 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).

660. VECTOR IMAGING. Instruction in Adobe Illustrator, the standard illustration program used by designers on a Macintosh platform. Introduction to vector graphics with emphasis on both technical and artistic mastery for advanced art students. (3).

661. ADVANCED TYPOGRAPHY. Formal aspects of graphic design with emphasis on typography and its uses in graphic design process, history of type design and applied problems composing publications with type, and use of the computer in completing projects. (3).

664. WEB DESIGN I. Theoretical and technical exploration of uses for computer-based imagery, including basic multimedia and Internet development. HTML and Macromedia FLASH art introduced. May be repeated once for credit. (3).

665. WEB DESIGN II. Advanced conceptual and technical exploration of Web design with Macromedia Dreamweaver. Topics may include historical issues in computer graphics, Internet development, multimedia, two- or three-dimensional animation, and static image manipulation. (3).

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).

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 — AH

- 503. 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).
- 505. TOPICS IN ART HISTORY.** Lecture and discussion on a selected area of art history or art criticism. May focus on a specific artist, style, period, cultural group, or technical or methodological problem. Content varies; may be repeated once for credit. Prerequisite: consent of instructor. (3).
- 508. SEMINAR IN ART HISTORY.** Specific problems in art emphasizing both individual research and contributions to the seminar group on advanced, in-depth topics. Content varies; may be repeated once for credit. Prerequisite: consent of instructor. (3).
- 520. TOPICS IN ANCIENT ART.** Content varies. (May be repeated once for credit). (3).
- 530. TOPICS IN MEDIEVAL ART.** Content varies. May be repeated once for credit. (3).
- 540. TOPICS IN EARLY MODERN ART.** Content varies. May be repeated once for credit. (3).
- 541. ITALIAN RENAISSANCE ART.** Major developments in the graphic arts, painting, sculpture, and architecture in Italy from the Dugento (13th century) through 16th-century "Mannerism." (3).
- 543. NORTHERN RENAISSANCE ART.** A study of graphic arts, painting, sculpture, and architecture in Germany, France, and the Netherlands from 14th through the 16th centuries including "Mannerism." (3).
- 545. BAROQUE AND ROCOCO ART AND ARCHITECTURE.** History and analysis of European art from the 17th century to the French Revolution. (3).
- 550. TOPICS IN MODERN ART IN EUROPE AND AMERICA.** Content varies. May be repeated once for credit. (3).
- 551. 19TH-CENTURY EUROPEAN ART.** An examination of the major European art styles from Neoclassicism through Post-Impressionism. (3).
- 555. 20TH-CENTURY ART.** A study of 20th-century American and European art. (3).
- 557. MODERN ARCHITECTURE AND INDUSTRIAL DESIGN.** The development of 19th- and 20th-century architectural and industrial design in Europe and America with emphasis on new materials and engineering. (3).
- 559. CONTEMPORARY ART AND ARCHITECTURE.** Contemporary art with special emphasis in American and European art. (3).
- 560. TOPICS IN AMERICAN ART.** Content varies. May be repeated once for credit. (3).
- 561. 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. (3).
- 565. 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).
- 566. 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 imported styles and attitudes. (3).
- 567. 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).
- 569. SURVEY OF BLACK AMERICAN ART.** History and appreciation of the art of black Americans with emphasis on painting, sculpture, architecture, and other plastic art forms. (3).
- 578. HISTORY OF PRINTMAKING.** Graphic art in Western Europe, the United States, and Asia from the 15th century to the present. (3).
- 586. 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).

594. MESOAMERICAN ARTS. Interdisciplinary approach to the history of the arts of Mesoamerica from 1500 B.C.E. to the Spanish conquest, covering Olmec, Maya, Mixtec, and Aztec civilizations. (3).

690. SELECTED READINGS IN ART HISTORY AND CRITICISM. Readings designed to meet the individual needs of the students. (1-3).

ASTRONOMY See **Physics and Astronomy.**

AUDIOLOGY See **Communication Sciences and Disorders.**

BIOLOGY — BISC

Professor Paul K. Lago, interim chair • 214 Shoemaker Hall
<http://www.olemiss.edu/depts/biology/>

Professors Gaston, Holland, Keiser, Lago, Nabors, Parsons, and Threlkeld • Associate Professors Brewer, Buchholz, D'Surney, and Ochs • Assistant Professors Day, T. Goulet, Hoeksema, C. Jackson, Jekabsons, Jones, and Reed • Instructors Garrison, D. Goulet, E. Jackson, McCook, and Stratton

Overview: The Department of Biology offers the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.) degrees in biological science.

Preliminary Requirements: A candidate for admission to the M.S. and Ph.D. programs in the Department of Biology must submit an application package consisting of a Graduate School application; departmental application; official scores for the GRE general test; official transcripts of all undergraduate and graduate course work; and three letters of recommendation. International students must submit a TOEFL score that satisfies the Graduate School's minimum for admission. Acceptable results on the TSE or SPEAK tests of spoken English are required for international students to be eligible for a teaching assistantship. Candidates must (a) satisfy the Graduate School admission requirements, (b) have an undergraduate degree (B.A. or B.S.), (c) have a strong record of achievement in biology, chemistry, and mathematics. Admission is also contingent upon a faculty member agreeing to serve as thesis or dissertation adviser.

Students who do not meet all requirements may be admitted for a probationary period of 12 months, during which time the deficiencies, as well as the course requirements, must be completed with a minimum 3.0 grade-point average on a 4.0 scale. Remedial courses may not be counted toward degree requirements. New graduate applications will normally be reviewed once per year during March/April. The committee reserves the right to consider applicants outside the review period if a compelling reason is provided by the adviser.

M.S. in Biology

Description: The M.S. in biological sciences prepares a student for various academic, industrial, or governmental professional positions that involve freshwater biology, medicine, education, molecular genetics, ecology, and conservation biology.

Course Requirements: A minimum of 30 semester hours of graduate credit acceptable to the advisory committee are required, which must include 6 thesis hours and at least 18 hours of formalized course work, that is, courses that require regular attendance,

study assignments, final exams, and letter grades. All students must take Bisc 691 during the semester in which they present a seminar. A cumulative average of not less than B (3.0) must be achieved in all graduate work taken.

All students pursuing a M.S. degree must satisfactorily complete a research prospectus, a thesis based on potentially publishable research, and one seminar on their research (which is part of the defense). Additional requirements may be stipulated by the advisory committee.

Other Academic Requirements

Thesis Advisory Committee—During the first two semesters, a master's student should become familiar with the research programs in the department and establish an advisory committee. The thesis advisory committee's initial role is to recommend courses and to approve a research topic. The committee is then responsible for evaluating the student's course work, research productivity, knowledge of the research topic, and for approving the thesis.

Ph.D. in Biology

Description: The Ph.D. in biological sciences is a research degree. It prepares graduates for various academic, industrial, or governmental professional positions that involve freshwater biology, medicine, education, molecular genetics, ecology, and conservation biology.

Course Requirements: All students pursuing a Ph.D. degree must satisfactorily complete a research prospectus, a dissertation based on potentially publishable research, two seminars on their research (one of which is part of the defense), and an oral examination. Additional requirements may be stipulated by the advisory committee.

A minimum of 54 semester hours of graduate credit acceptable to the advisory committee are required, which must include 18 dissertation hours and at least 24 hours of formalized course work. All students must take Bisc 691 during the semesters in which they present seminars. The M.S. degree is not a prerequisite for the Ph.D. degree.

Once course work and presentation of the research prospectus have been completed, a written and oral comprehensive examination will be administered by the committee. Upon satisfactory completion of the comprehensive examination, satisfactory progress toward publication of research results, and before the student begins the final 12 months, the advisory committee shall request the department chair to recommend admission to candidacy. Students must complete all requirements for the degree within five years from the date of the comprehensive examination.

Other Academic Requirements

Dissertation Advisory Committee—During the first two semesters, a Ph.D. student should become familiar with the research programs in the department and establish an advisory committee. The committee's initial role is to recommend courses and approve a research topic. The committee is then responsible for evaluating the student's course work, research productivity, and knowledge of the research topic, and for approving the dissertation.

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 mainframe and microcomputer and analytical packages. Prerequisites: 15 hours of biology courses and MATH 121 with a grade of C or better in each course. (3).

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

509. MICROBIAL GENETICS. Genetics and molecular biology of bacteria and viruses. Prerequisite: BISC 333 with a grade of C or better. (4).

510. THEORETICAL ECOLOGY. Advanced course in ecology emphasizing modern conceptual and mathematical models of ecological phenomena. Students will use the computers in the simulation of the above processes. Prerequisites: BISC 322 and Math 121 (calculus preferred) with a grade of C or better in each course. (3).

511. APPLIED MICROBIOLOGY. Application of microorganisms in industry, agriculture, food and beverage production, wastewater treatment, biohydrometallurgy, and bioremediation of environmental pollutants. Prerequisite: BISC 333 with a grade of C or better. (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 with a grade of C or better. (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 with a grade of C or better in each course. (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 the application of theory to predicting population viability and preventing extinction. Prerequisites: BISC 322, BISC 336, and MATH 121 with a grade of C or better in each course. (3).

516. PLANT PHYSIOLOGY. Growth and development in plants; emphasis on assimilation, chemical control of growth, and environmental physiology. Prerequisites: CHEM 105 and CHEM 106 with a grade of C or better in each course. (3 lecture, 2 lab hours). (4).

517. PRINCIPLES OF DEVELOPMENTAL BIOLOGY. Study of the development of animals and plants, with emphasis on the molecular genetic basis of developmental events. Fundamental questions, concepts and methodologies of inquiry into genetic and cellular mechanisms of development will be explored. Prerequisite: BISC 440. (4).

518. MICROTECHNIQUE. Techniques of fixing, embedding, sectioning, and staining tissue. Prerequisite: BISC 415 with a grade of C or better. (4).

519. PHYSIOLOGY OF AQUATIC ANIMALS. The physiology and physiological adaptations of aquatic animals, with emphasis on freshwater animals. Prerequisite: BISC 330 with a grade of C or better. (4).

520. MEDICAL MICROBIOLOGY. The nature of infectious microorganisms with emphasis on mechanisms of pathogenicity and epidemiology. Prerequisite: BISC 333 with a grade of C or better. (4).

521. CELL PHYSIOLOGY. Basic principles and practices of molecular and cellular physiology. Prerequisites: BISC 330, CHEM 221, and CHEM 222 with a grade of C or better in each course. (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 with a grade of C or better. (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. Prerequisites: BISC 330, CHEM 221, and CHEM 222 with a grade of C or better in each course. (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 with a grade of C or better and permission of instructor. (4)
- 531. PLANT MORPHOLOGY.** Development and life histories of major plant groups; emphasis on vascular plants. Prerequisite: any 300-level or above biology course with a grade of C or better. (4).
- 532. PLANT TAXONOMY.** Survey of the diversity of vascular plants of the world, including their historical and modern classification, nomenclature, and identification. Prerequisite: BISC 318 with a grade of C or better. (4).
- 534. FRESHWATER INSECTS.** Identification and biology of insects associated with fresh water. Prerequisite: BISC 337 with a grade of C or better. (2 lecture, 4 lab hours). (4).
- 542. MICROBIAL DIVERSITY.** Ecology, physiology, and taxonomy of microorganisms isolated from natural habitats. Prerequisite: BISC 333 with a grade of C or better. (4).
- 543. FUNCTIONAL NEUROANATOMY.** An in-depth examination of the structure and function of the vertebrate central nervous system. Prerequisites: BISC 327, 330, or 331; or a minimum grade of B in PSY 319; or graduate standing. (3).
- 545. MICROBIAL PHYSIOLOGY.** Biochemical processes of microbial cells. Prerequisite: BISC 333 with a grade of C or better. (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 tissues and organs. Prerequisite: BISC 415 with a grade of C or better. (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. Prerequisite: 16 hours of upper-division biology courses with a grade of C or better in each course. (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. Emphasis on adaptive strategies expressed in physiological systems. Prerequisite: BISC 330 with a grade of C or better. (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 courses with a grade of C or better in each course. (3).

567. EVOLUTIONARY BIOLOGY LABORATORY. Laboratory to accompany BISC 566. Corequisite: BISC 566. Prerequisite: 15 hours of biology courses with a grade of C or better in each course. (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
<http://www.olemiss.edu/depts/chemistry/>

Professors Davis, Eftink, Hussey, Mattern, and Parcher • Associate Professors Cleland, Mossing, O'Neal, Pedigo, Ritchie, and W. Scott • Assistant Professors Godfrey, Hammer, Hollis, Tomioka, Tschumper, and Wadkins • Instructors K. Scott and Wiginton

Overview: The Department of Chemistry and Biochemistry offers the Master of Science (M.S.), Doctor of Arts (D.A.), and Doctor of Philosophy (Ph.D.) degrees in chemistry. Students may specialize in analytical, inorganic, organic, physical chemistry, or biochemistry.

M.S. in Chemistry

Description: The M.S. degree in chemistry is designed for students who intend to seek employment as a professional chemist or who plan to pursue the D.A. degree in chemistry at UM. This program requires the submission of a thesis based on original laboratory or theoretical research. The M.S. degree is not a prerequisite for the Ph.D. degree.

Preliminary Requirements: For admission to full standing in the M.S. program, applicants must have completed a baccalaureate degree in chemistry or a closely related subject. All applicants should have completed the following undergraduate core requirements:

- Analytical chemistry: quantitative analytical chemistry and instrumental analysis
- Biochemistry: one semester
- Inorganic chemistry: one-semester course plus lab
- Organic chemistry: two semesters with lab
- Calculus-based physical chemistry: two-semester, junior-level course

Chemistry is a multidisciplinary science, and some applicants with undergraduate degrees in closely related areas may wish to pursue an advanced degree in chemistry. Applicants who have not completed the above core requirements may still be admitted on a case-by case basis and will be required to remedy all deficiencies. If an applicant has not completed two semesters of organic chemistry, two semesters of physics, and two semesters of calculus, they will be asked to complete these courses and then reapply.

GRE and TOEFL Scores: Applicants must submit a satisfactory GRE score on the general exam. The chemistry subject exam is not required, but it can enhance an applicant's chances for admission. In addition, students whose native language is not English must report a satisfactory TOEFL score to be admitted.

Preliminary Examinations: All entering graduate students are required to take four orientation examinations in the discipline areas of analytical, inorganic, organic, and physical chemistry and biochemistry. These exams are ACS standardized exams or equivalent and test the student's mastery of these subject areas at the undergraduate level. The results of these examinations are used to place students in the appropriate courses for their first semester of enrollment. Students who score low on a particular exam will be judged to be deficient in that area and will be required to take the appropriate remedial or intermediate courses before taking any additional course work from that area.

Course Requirements: For the M.S. degree, a minimum of 30 hours of graduate credit are required, which must include 18 hours of formal nonremedial lecture courses, 2 hours of seminar (Chem 650), and 6 hours of thesis (Chem 697). Credit for previous graduate-level course work may be applied towards these requirements at the discretion of the student's advisory committee and with approval by the department chairman.

All M.S. and Ph.D. students must take one CORE COURSE from each of four of the five specialty areas. Core courses for each area are:

Analytical Chemistry (Chem 512, 515),
Biochemistry (Chem 534, 671),
Inorganic Chemistry (Chem 601, 602),
Organic Chemistry (Chem 527, 528),
Physical Chemistry (Chem 531, 532, 536).

A cumulative average of not less than B is required in the core courses. A minimum grade of B is also required in each course in the student's area of specialization. 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 student's adviser and advisory committee.

Other Academic Requirements

Thesis: A thesis, which must be a formal written account of the student's research results, is required of all M.S. degree candidates. The thesis is defended by the student in a final oral examination, which typically follows the student's final seminar. The student's advisory committee conducts the examination, which is not restricted to the content of the thesis.

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

Seminar Presentations: Each student must make an initial oral presentation, which may be either a research seminar or a literature seminar to the assembled faculty and students of the department. The seminar will be evaluated by the faculty in attendance. Each student must also present a final seminar based on the contents of his or her dissertation or thesis to the same audience.

D.A. in Chemistry

Description: The department offers the D.A. degree in chemistry to persons whose goal is a career of teaching at 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. This chemistry degree is an alternative to doctoral degrees in science education.

Preliminary Requirements: Applicants for the D.A. program are expected to have received a master's degree (M.S.) in chemistry. However, students with only an undergraduate degree in chemistry may enroll in the program provided they remedy any course deficiencies and complete two semesters (6 hours) of laboratory or theoretical 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.

Course 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 601, 512, 527, 531, and 671; 6 additional hours of fundamental courses chosen from Chem 519, 532, 544, and 563; 3 hours of Chem 600; 3 hours of Chem 545; 3 hours of seminar; 6 hours of related science (from two sciences); 6 hours of education courses emphasizing curriculum and course development; 4 hours of instructional internship (Chem 717); and 6 hours of doctoral thesis (Chem 796). Transfer credit will be accepted where appropriate. Specific requirements in excess of the minimum requirements stated above may be imposed by the student's adviser and/or advisory committee.

Other Academic Requirements

Comprehensive Examination: The student must successfully complete a comprehensive examination in general chemistry, containing both oral and written parts, before admission to candidacy.

Doctoral Thesis: The doctoral 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.

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 doctoral thesis.

Ph.D. in Chemistry

Description: The Ph.D. degree is the terminal degree in chemistry and designed for those who intend to seek employment as a professional chemist in academia, industrial, or government research laboratories, or in other vocations where specialized knowledge in chemistry is desired or required.

Preliminary Requirements

Applicant Educational Background: For admission to full standing in the Ph.D. program, the requirements are the same as for admission to the M.S. program.

Course Requirements: For the Ph.D. degree, 54 semester hours of graduate credit are required, which must include Chem 600, 18 hours of formal nonremedial lecture courses, 3 hours of seminar (Chem 650 and Chem 659), and 18 hours of dissertation (Chem 796). Credit for previous graduate-level course work may be applied toward these requirements at the discretion of the student's advisory committee and with approval by the department chair. A minimum grade of B is required in each course in the student's area of specialization.

All M.S. and Ph.D. students must take one CORE COURSE from each of four of the five specialty areas. Core courses for each area are:

Analytical Chemistry (Chem 512, 515),
Biochemistry (Chem 534, 671),
Inorganic Chemistry (Chem 601, 602),
Organic Chemistry (Chem 527, 528),
Physical Chemistry (Chem 531, 532, 536).

A cumulative average of not less than B is required in the core courses. A minimum grade of B is also required in each course in the student's area of specialization. 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.

Other Academic Requirements

Seminar Presentations: Each Ph.D. student must make three seminar presentations: an initial oral presentation, which may be either a research seminar or a literature seminar, to the assembled faculty and students of the department; an oral or poster presentation describing the student's research; and a final seminar based on the student's dissertation to the assembled faculty and students of the department. Seminars given at UM will be evaluated by the faculty in attendance. A poster given at a local event must be evaluated by at least three faculty in attendance, whereas a poster or talk given at a national or regional scientific meeting will be evaluated by the student's adviser.

Comprehensive Examination Requirement: A series of cumulative examinations and a research proposal/dissertation prospectus constitutes the student's comprehensive examination requirements for the Ph.D. degree. A Ph.D. student must pass the comprehensive exam requirement no later than the end of the third full year in the program.

Cumulative Examinations: A Ph.D. student must pass a minimum of four cumulative examinations. Some divisions may impose a higher number than four. Each division will offer at least one examination per semester, and the topic and method of the examination will be announced at least two weeks before the examination. The distribution of examinations among the various divisions will be decided by the student's advisory committee. A student may receive credit for no more than two exams from any one professor.

Research Proposal/Dissertation Prospectus: An original research proposal of 10-15 pages is prepared in a professional format on the subject of the student's dissertation

research. The proposal should provide background information, preliminary results, work proposed to complete the dissertation, and original proposals for future directions beyond the dissertation project. It must reflect proper usage of the English language, especially grammar and spelling, and contain all relevant literature citations. The proposal is defended in an oral examination administered by the student's advisory committee. A three-page overview of the research proposal, outlining the work to be completed for the dissertation, will be submitted to the Graduate School as the dissertation prospectus, following approval by the student's advisory committee.

A dissertation, which must be a formal written account of the student's research, is required of all Ph.D. degree candidates. The dissertation is defended by the student in a final oral examination, which typically follows the student's final seminar. The student's advisory committee conducts the examination, which is not restricted to the content of the dissertation.

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.

512. ADVANCED INSTRUMENTAL ANALYSIS. Theoretical and experimental treatment of gas and liquid chromatography, Fourier-transform NMR spectroscopy, and mass spectrometry. Prerequisite: CHEM 469 or graduate standing. (2 lecture, 3 lab hours). (3).

513. PRINCIPLES OF ANALYTICAL CHEMISTRY. A survey of the basic principles of analytical techniques and instrumentation. Prerequisite: departmental approval. (3).

514. FUNDAMENTALS OF ELECTROCHEMISTRY. Introduction to the theory and principles of electrochemistry, including modern electroanalytical techniques and microelectrodes. Prerequisites: CHEM 469 or graduate standing. (3).

519.* CHEMICAL SEPARATIONS. Theoretical and mathematical treatment of chromatography and other separation techniques. Prerequisite: CHEM 469 or graduate standing. (3).

524. PRINCIPLES OF ORGANIC CHEMISTRY. A survey of the basic principles of organic chemistry with physical chemical principles. Prerequisite: departmental approval. (3).

527.* ADVANCED ORGANIC CHEMISTRY, STRUCTURE AND MECHANISM. Resonance and molecular orbital theory, linear free energy relations, and reaction mechanisms. Prerequisites: CHEM 331 or graduate standing. (3).

528.* ADVANCED ORGANIC CHEMISTRY, MECHANISM, AND SYNTHESIS. Conformational analysis, carbanion chemistry, synthetic reactions. Prerequisites: CHEM 331 or graduate standing. (3).

529.* STEREOCHEMISTRY. Configurational and conformational analysis of molecules; the steric course of organic chemical reactions. Prerequisites: CHEM 331 or graduate standing. (3).

530.* ADVANCED ORGANIC SYNTHESIS. A study of the literature, reactions, and planning methods that are used in modern organic synthesis. Prerequisite: CHEM 331 or graduate standing. (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 graduate standing. (3).

- 532.* ADVANCED PHYSICAL CHEMISTRY, CHEMICAL THERMODYNAMICS.** Discussion of irreversible and equilibrium thermodynamics and application to various chemical problems. Prerequisite: CHEM 332 or graduate standing. (3).
- 534.* PHYSICAL BIOCHEMISTRY.** Macromolecules: structure and function; thermodynamics and kinetics of conformational transitions and macromolecule-ligand interactions. Prerequisites: CHEM 471 and either 331 or 334, or graduate standing. (3).
- 535. PRINCIPLES OF PHYSICAL CHEMISTRY I.** A survey of the principles of physical chemistry. Thermodynamics, kinetics, quantum mechanics, spectroscopy, statistical mechanics. Prerequisite: departmental approval. (3).
- 536. ADVANCED PHYSICAL CHEMISTRY, REACTION DYNAMICS.** Kinetic theory; molecular reaction dynamics; transition state theory. Prerequisite: CHEM 332 or graduate standing. (3).
- 538. PRINCIPLES OF PHYSICAL CHEMISTRY II.** Continuation of a survey of the principles of physical chemistry. Thermodynamics, kinetics, quantum mechanics, spectroscopy, and statistical mechanics. Prerequisite: minimum grade of B in CHEM 535 and departmental approval. (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, LF) and spectral properties (magnetic, vibrational, and electronic). Prerequisites: CHEM 401 or graduate standing. (3).
- 545.* CHEMICAL LITERATURE.** Introduction to and practice in the use of chemical abstracts, journals, and other library reference materials. Prerequisite: departmental approval. (3). (Z grade).
- 546. CHEMISTRY FOR HIGH SCHOOL SCIENCE TEACHERS I.** 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. May not be counted toward a degree in the sciences. May be repeated once for credit. Prerequisite: departmental approval. (3).
- 547. CHEMISTRY FOR HIGH SCHOOL SCIENCE TEACHERS II.** 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. May not be counted toward a degree in the sciences. May be repeated once for credit. Prerequisite: departmental approval. (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 a degree in the sciences. Prerequisite: departmental approval. (1-2).
- 550. SAFETY IN THE CHEMICAL LABORATORY.** Assigned readings and demonstrations on the use and handling of hazardous chemicals and chemical apparatus. Prerequisite: departmental approval. (3). (Z grade).
- 563.* APPLIED SPECTROSCOPY.** Application of theoretical principles to the interpretation of the various types of spectroscopy. Prerequisites: CHEM 332 and 469, or graduate standing. (2 lecture, 3 lab hours). (3).
- 580.* MOLECULAR BIOCHEMISTRY I.** Examination of the organization and functional mechanisms of gene expression at the molecular level. Prerequisites: CHEM 222 and 226, or graduate standing. (3).
- 581.* MOLECULAR BIOCHEMISTRY II.** Continuation of CHEM 580. Prerequisites: CHEM 222 and 226, or graduate standing. (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).
- 601. ADVANCED INORGANIC CHEMISTRY I.** Atomic and molecular structure, symmetry, acid-base chemistry, the crystalline solid state, coordination chemistry; including structure, bonding, electronic spectra and reactions; main group chemistry; organometallic chemistry; and bioinorganic chemistry. (3).
- 602. ADVANCED INORGANIC CHEMISTRY II.** Continuation of CHEM 601. (3).

603. 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).

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).

615. SELECTED TOPICS IN ANALYTICAL CHEMISTRY. May be repeated once for credit if topics are different. Prerequisite: departmental approval. (3).

617. RESEARCH METHODOLOGY IN ANALYTICAL CHEMISTRY I. Modern techniques and methods of research in analytical chemistry. (6 lab hours). (3).

618. RESEARCH METHODOLOGY IN ANALYTICAL CHEMISTRY II. Continuation of CHEM 617. (6 lab hours). (3).

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

625. SELECTED TOPICS IN ORGANIC CHEMISTRY.** May be repeated once for credit if topics are different. Prerequisite: departmental approval. (3).

633. SELECTED TOPICS IN PHYSICAL CHEMISTRY. May be repeated once for credit if topics are different. Prerequisite: departmental approval. (3).

641. SELECTED TOPICS IN INORGANIC CHEMISTRY. May be repeated once for credit if topics are different. Prerequisite: departmental approval. (3).

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).

671. BIOCHEMISTRY I. Chemistry of biological macromolecules, including proteins, carbohydrates, lipids, and nucleic acids. Special topics in ligand binding, kinetics and noncovalent forces. An independent study project is required. (3).

672. BIOCHEMICAL TECHNIQUES. Specialized laboratory methodology currently used in biochemistry. (6 lab hours). (4).

673. BIOCHEMISTRY II. Intermediary metabolism, including catabolic and anabolic processes involving carbohydrates, lipids, proteins, and nucleic acids. An independent study project is required. Prerequisite: CHEM 671. (3).

674. SELECTED TOPICS IN BIOCHEMISTRY.** May be repeated once for credit if topics are different. Prerequisite: departmental approval. (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; overview of experimental and computational methods used to determine protein structure and homologies. (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).

ECONOMICS — ECON

Associate Professor Mark V. Van Boening, interim chair • 374 Holman Hall
<http://www.olemiss.edu/depts/economics/>

Professors Belongia, Shughart, and Smith • Associate Professors Chappell, Conlon, Mayer, Moen, and Van Boening • Assistant Professors Archibald, Gungoraydinoglu, Tick, Wang, and Young

Overview: The Department of Economics offers the Master of Arts (M.A.) and the Doctor of Philosophy (Ph.D.) degrees in economics.

Preliminary Requirements: 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 to full standing. A student who does not meet these requirements may be admitted to conditional status.

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

M.A. in Economics

Description: The M.A. in economics degree prepares 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.

Course Requirements: The M.A. in economics requires 30 hours of graduate credit, including Econ 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.

Ph.D. in Economics

Description: The Ph.D. 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.

Course Requirements: The requirements for the Ph.D. in economics are 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 Econ 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.

Other Academic Requirements: 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.

After the student has passed the 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.

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 are emphasized. Prerequisites: ECON 307 or ECON 403; a C minimum in MATH 261 or 267. (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).

643. MICROECONOMICS RESEARCH SEMINAR.

645. MACROECONOMICS RESEARCH SEMINAR.

647. ECONOMETRICS RESEARCH SEMINAR.

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 Patrick Quinn, chair • 128 Bondurant
<http://www.olemiss.edu/depts/english/>

Professors Barbera, Fisher, Fisher-Wirth, Galef, Hall, Kamps, Kartiganer, Kullman, McClelland, Quinn, Robinson, Schirmer, N. Schroeder, R. Schroeder, and Watson • Associate Professors Alabi, Barker, Fennelly, Gussow, McKee, Raber, Trefzer, and Young-Minor • Assistant Professors Bundrick, Harker, Hayes, Heyworth, Reed, and Scott • Instructors Burkette, A. Gowdy, R. Gowdy, Hall, Monroe, and Wirth • Writers-in-Residence Franklin and Hannah, and the John and Renée Grisham Emerging Southern Writer • Director of University Writing and Speech McCready • Visiting Professor Jones

Overview: The Department of English offers the Master of Arts (M.A.) in English, a Doctor of Philosophy (Ph.D.) in English, and a Master of Fine Arts (M.F.A.) in creative writing.

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

M.A. in English

Description: The M.A. in English is a specialist degree preparing students for further study at the Ph.D. level or for teaching in postsecondary education as well as for literary interpretation and scholarly pursuits. Upon completion of the degree, graduates should be aware of the richness inherent in literature written in English and to have honed to a high level both interpretive thinking and oral and written competencies.

Students may elect to specialize in Renaissance and Early Modern studies.

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).

Program in Renaissance and Early Modern Studies: Students may receive an M.A. with specialization in Renaissance and Early Modern studies by completing 6 hours of graduate course work in Renaissance and 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.

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

Other Academic Requirements: 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.

M.F.A. in Creative Writing

Description: A M.F.A. in creative writing prepares students who have decided to develop their particular literary skills to a higher level. By working closely with the well-published poets and writers in the Department of English, as well as with their fellow graduate students, the developing creative writers actively participate in a scholarly community that focuses on successfully learning the craft of writing. Upon completion of the degree, the successful student will have a completed manuscript ready for publication.

Course Requirements: Students with a B.A. must complete 36 hours of course work 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. Teaching assistants are required to take English 617: Teaching College English. Students with a M.A. or other graduate degree may be released from some course work.

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.

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.

An oral defense before the committee, lasting approximately one hour, is the final stage before the student is recommended for the degree.

Other Academic Requirements: 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.

Ph.D. in English

Preliminary 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.

Description: The Ph.D. in English literature is a specialist degree that prepares students for teaching in postsecondary education as well as for literary interpretation and scholarly pursuits. Upon completion of the degree, graduates should be aware of the richness inherent in literature written in English and to have honed to a high level both interpretive thinking and oral and written competencies.

Course Requirements: The requirements for the Ph.D. in English include 24 hours of course work beyond the master's degree (additional courses may be required by the Graduate Admission Committee on an individual basis); 18 hours of dissertation; successful completion of an Advanced Candidacy Examination (comprehensive); an approved dissertation prospectus; and successful oral defense of a dissertation. The course work must include Engl 600 during a student's first fall semester and Engl 601 during the first fall semester after defense of the prospectus. Course work must also include 6 hours in English or American literature before 1800; 6 hours in English or American literature after 1800; 3 hours of literary, critical, cultural, rhetorical, or composition theory; and up to 6 hours of graduate course work in related disciplines and/or independent study. All course work must be completed before a student may submit any section of the Advanced Candidacy Examination. Graduate instructors teaching in the composition program are required to complete Engl 617 (Teaching College English).

Students may receive a Ph.D. with specialization in Renaissance and Early Modern studies by completing 21 hours of graduate course work in Renaissance and Early Modern studies, including a minimum of 9 hours in the Department of English and a minimum of 9 hours outside the 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 pursuing this specialization must also satisfy all other general requirements for the Ph.D. in English.

Advanced Candidacy: Admission to advanced candidacy follows the successful completion of the Advanced Candidacy Examination, which is both a written and oral examination. See the Department of English Web site for further detail.
<http://www.olemiss.edu/depts/english/index.html>

Dissertation Prospectus: Soon after admission to advanced candidacy, the candidate is expected to submit a dissertation prospectus to the Ph.D. committee and an outside (extradepartmental) examiner.

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. Candidates must successfully defend their dissertation before the Ph.D. committee and the outside examiner.

Other Academic Requirements: Each student is expected to demonstrate evidence of proficiency in one foreign language, usually Greek, Latin, Spanish, French, German, or Italian, before the dissertation defense. See the Department of English Web site for further detail: <http://www.olemiss.edu/depts/english/index.html>

Ph.D. Committee: Each student, working in collaboration with the director of graduate studies, puts together a Ph.D. committee, composed of three members of the Department of English graduate faculty. The student and his or her Ph.D. committee design an individual program of study. The responsibilities of the Ph.D. committee include supervising foreign language study; setting, administering, and evaluating the Advanced Candidacy Examination process; 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.

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 WORKSHOP. Advanced workshop intended for graduate students. Prerequisite: consent of instructor. (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.** Introduction to theory and methods for graduate study, with emphasis on the impact of theoretical schools of thought on the evolution of the profession. (3).
- 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 once for credit. (3).
- 680. GRADUATE FICTION SEMINAR I.** Intensive fiction seminar. Content varies and may be repeated three times for credit. (3).
- 681. GRADUATE FICTION SEMINAR II.** Intensive fiction seminar. Content varies and may be repeated three times for credit. (3).
- 682. GRADUATE POETRY SEMINAR.** 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. Content varies and may be repeated three times for credit. (3).
- 683. FORM, CRAFT, AND INFLUENCE.** A graduate literature course for writers, emphasizing style and technique. Content varies; may be repeated one time for credit. Prerequisite: permission of instructor. (3).
- 685. DIRECTED READINGS IN CREATIVE WRITING.** (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 Joseph P. Ward, chair • 310 Bishop Hall
<http://www.olemiss.edu/depts/history/>

Professors Eagles, Field, Gispén, Metcalf, Namorato, Ownby, E. Payne, Skemp, Watt, and C. Wilson • Associate Professors Bercaw, Esposito, Grayzel, Haws, Howard, Neff, Ross, Sullivan-Gonzalez, and Ward • Assistant Professors Chapman, Dinius, Fleegler, Grant, Hornsby, Lerner, Levitt, Salau, and N. Wilson • Visiting Assistant Professors Bates and Miller

Overview: The Department of History offers a minor, Bachelor of Arts (B.A.), Master of Arts (M.A.), and Doctor of Philosophy (Ph.D.) in history.

M.A. in History

Description: The M.A. in history is offered as either a thesis or nonthesis option. Students in the M.A. program may study a variety of topics and chronological sweeps of American and European history, as well as much of the histories of Africa, Latin America, and East Asia.

Preliminary 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.

Course Requirements: The thesis option requires 24 hours of graduate-level course work in history and 6 hours of thesis work. The nonthesis option requires 36 hours of 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 (His 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 Department of History.

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 convened 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.

Other Academic Requirements: 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.

Ph.D. in History

Description: Students in the doctoral program may focus primarily on the histories of America, Europe, and modern Latin America, with secondary areas in any of these areas as well as aspects of the histories of Africa and East Asia.

Preliminary Requirements: In addition to the Graduate School requirements for the Ph.D., 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 for admission to the M.A. program in history for The University of Mississippi.

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

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 that 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.

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 His 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 two faculty members in each case. The examination committees are appointed by the Graduate Advisory Committee in consultation with the student, the dissertation director, and the department chair. 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 Department of History. 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 should 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 within the department and one faculty member from another department 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.

Other Academic Requirements

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.

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, chair • Farley Hall
<http://www.olemiss.edu/depts/journalism/>

Professors Husni and J.B. Atkins • Associate Professors I.E. Atkins, Manning-Miller, Wickham, and Wilkie • Assistant Professors Boutwell, Braseth, Dolan, Dupont, Schultz, and Stone • Instructors Davis, Meacham, McNeece, Russell, and Street

Overview: The Department of Journalism offers a Bachelor of Arts (B.A.) and Master of Arts (M.A.) in journalism.

Accreditation: The undergraduate program is accredited by the Accrediting Council on Education in Journalism and Mass Communications.

M.A. in Journalism

Description: The M.A. 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.

Preliminary Requirements: In addition to meeting Graduate School admission requirements, applicants must submit a letter detailing their reasons for wishing to pursue a M.A. in journalism. Please send this letter directly to the Department of Journalism. Applicants also should provide three letters of recommendation, including one addressing the applicant’s mass media experience, if applicable.

Applicants who do not have the equivalent of an undergraduate major in journalism will be required to take 12 hours of approved undergraduate journalism (Jour) courses (reduced by any acceptable undergraduate journalism hours that have been completed). 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.

Course Requirements: 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.

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).

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
<http://www.olemiss.edu/depts/mathematics/>

Professors Buskes, Hopkins, Labuda, Reid, and Staton • Associate Professors Cole, Denley, Kranz, Peng, Wei, and Wu • Assistant Professors Dang, Mathur, Sepehrifar, and Sheppardson

Overview: The Department of Mathematics offers a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), and minor in mathematics. At the graduate level, the department offers the Master of Arts (M.A.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) in mathematics.

Preliminary Requirements: The full four-semester sequence of calculus is prerequisite to all graduate courses. Prerequisite to a graduate program in mathematics 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 at a higher level that are to include the advanced calculus sequence.

Additional Information: Students are generally required to participate in the teaching of mathematics lectures as part of their graduate training. The department offers fellowships, assistantships, and other financial awards to assist graduate students in their studies.

M.A. in Mathematics

Description: The M.A. in mathematics is designed (1) to prepare students for the teaching of mathematics, particularly in high schools and community colleges, (2) to prepare students for nonteaching professions or vocations, such as civil service, actuarial work, or statistical work, in which mathematics plays a principal part, or (3) for students who wish to supplement study in other fields with suitable courses in mathematics.

Course Requirements: A candidate for the M.A. 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.

M.S. in Mathematics

Description: The M.S. in mathematics is designed primarily for students who are attracted to mathematics as a major scholarly pursuit, including students who plan eventually to work toward the doctorate in this field. The M.S. degree also prepares students who are looking for professional careers in mathematics, either as teachers or as research mathematicians.

Course Requirements: A candidate for the M.S. 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.

Ph.D. in Mathematics

Description: The Ph.D. in mathematics requires mastery of a broad area of mathematics and completion of a dissertation that is an original and substantial contribution. This terminal degree prepares a student for a professional career in mathematics, as a teacher or a research mathematician.

Course Requirements: A student must complete a minimum of 48 course hours of graduate work, exclusive of the dissertation (18 hours). 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 6 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.

Other Academic 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. 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.

501. GENERAL TOPOLOGY I. Metric spaces, continuity, separation axioms, connectedness, compactness, and other related topics. Prerequisite: MATH 555. (3).

502. GENERAL TOPOLOGY II. Introduction to algebraic topology. Prerequisite: MATH 501. (3).

513. THEORY OF NUMBERS I. Congruences; divisibility; properties of prime numbers; arithmetical functions; quadratic forms; quadratic residues. Prerequisite: MATH 305. (3).

514. THEORY OF NUMBERS II. Diophantine equations, distribution of prime numbers, and an introduction to algebraic number theory. Prerequisite: MATH 513. (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. MODERN ALGEBRA I. General properties of groups. (3).

526. MODERN ALGEBRA II. General properties of rings and fields. Prerequisite: MATH 525. (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; circle area. Prerequisite: MATH 305 or graduate standing. (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 geometrics. (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).
- 679. STATISTICAL BIOINFORMATICS.** (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 Donald Dyer, chair • 115C Bondurant Hall
http://www.olemiss.edu/depts/modern_languages/

Professors Arrington, Danahy, Dyer, Gaycken, Gutierrez, and Payne • Associate Professors Coles, Marting, Quinney, and Yang • Assistant Professors Buchanan, Klodt, Metcalf, O'Sullivan, Sapp, Tumini, and Warhol • Instructors Boyd, Bussade, Chevalier, Cotel, Gaycken, Iepuri, Karahan, Kaufmann, Landa Vera, Lin, Nailen, Ochiai, Palmitesta, Raines, Rieben, Semmes, Sisson, Sullivan-Gonzalez, Whitehead, and Yao

Overview: The Department of Modern Languages offers minors and Bachelor of Arts (B.A.) majors in Chinese, French, German, and Spanish, along with minors in Chinese, French, German, Italian, Japanese, linguistics, Portuguese, Russian, and Spanish. At the graduate level, the department offers the Master of Arts (M.A.) in Modern Languages with emphases in French, German, Spanish, and Teaching English as a Second Language (TESL).

Preliminary Requirements: The M.A. in Modern Languages degree with a specialization in a modern language requires, as a prerequisite, 30 hours of course work in the language in which the student intends to specialize (French, German, or Spanish) or a total of 30 hours in two or three languages, ancient and/or modern, provided that at least 18 hours are in the major language. In extraordinary cases, this prerequisite may be modified.

The M.A. in Modern Languages degree with a specialization in Teaching English as a Second Language (TESL) program requires, as a prerequisite, 30 hours in English, linguistics or a foreign language, or a total of 30 hours in any combination of the above, provided that a minimum of at least 18 hours are in one of the fields. In extraordinary cases, this prerequisite may be modified.

M.A. in Modern Languages

Description: The Department of Modern Languages offers the M.A. in Modern Languages with emphases in French, German, Spanish, and Teaching English as a Second Language (TESL).

Course Requirements: Students must satisfy the requirements for either the emphasis in French, German, Spanish, or TESL.

Specialization in French

Description: An M.A. in Modern Languages with a specialization in French gives graduates a high proficiency in communicative skills and a deep awareness of cultures in the French-speaking world. The degree prepares students for a teaching career at a variety of levels as well as doctoral work in the discipline.

Course Requirements: Two options are available. One option requires 24 hours of graduate-level course work with a minimum of 15 hours in the major field (French) plus a thesis in the major field, and a maximum of 9 hours in the minor field, subject to 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 department approval.

Other Academic Requirements: Students must maintain a B average in their course work or be subjected to probation and/or expulsion from the program.

Specialization in German

Description: An M.A. in Modern Languages with a specialization in German gives graduates a high proficiency in communicative skills and a deep awareness of cultures in the German-speaking world. The degree prepares students for a teaching career at a variety of levels as well as doctoral work in the discipline.

Course Requirements: Two options are available. One option requires 24 hours of graduate-level course work with a minimum of 15 hours in the major field (German) plus thesis in the major field, and a maximum of 9 hours in the minor field, subject to 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 department approval.

Other Academic Requirements: Students must maintain a B average in their course work or be subjected to probation and/or expulsion from the program.

Specialization in Spanish

Description: An M.A. in Modern Languages with a specialization in Spanish gives graduates a high proficiency in communicative skills and a deep awareness of cultures in the Spanish-speaking world. The degree prepares students for a teaching career at a variety of levels as well as doctoral work in the discipline.

Course Requirements: Two options are available. One option requires 24 hours of graduate-level course work with a minimum of 15 hours in the major field (Spanish) plus thesis in the major field, and a maximum of 9 hours in the minor field, subject to 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 department approval.

Other Academic Requirements: Students must maintain a B average in their course work or be subjected to probation and/or expulsion from the program.

Specialization in TESL

Description: Students who specialize in TESL learn best practices in the teaching of English as a second language, training, most importantly, for careers as English-language teachers. With its heavy focus on applied and theoretical linguistics, the TESL specialization within the modern languages master's program also prepares its graduates for doctoral work in the discipline.

Course Requirements: Three options for completing the degree are available, all of which require 36 hours. The three options are as follows: (1) 36 hours of course work in TESL, Ling, MIII, and Engl; (2) 24 hours of course work in the above areas and 12 hours of course work in a minor field approved by the department; or (3) 24 hours of course work in the above areas and 12 hours of thesis work. The course work consists of 36 hours of 500- and 600-level courses from TESL, Ling, MIII, and Engl. Twelve of the 36 hours must consist of the core requirements, which are TESL 542, 647, 672, and 695, as well as an additional three hours coming from Engl 501 or 592.

Other Academic Requirements: Students must maintain a B average in their course work or be subjected to probation and/or expulsion from the program.

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. The goal of this course is to give an overview of second language acquisition, the theoretical underpinnings of teaching and learning, and the practical considerations of classroom work. (Same as GERM 672, SPAN 672, and TESL 672). (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).

587. GERMAN FAIRY TALES. Readings of classic 19th-century German fairy tales such as from the collection of the Brothers Grimm and discussion of how these tales have captured the popular imagination of many cultures over the years. (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. The goal of this course is to give an overview of second language acquisition, the theoretical underpinnings of teaching and learning, and the practical considerations of classroom work. (Same as FR 672, SPAN 672, and TESL 672). (3).

673. SEMINAR. May be repeated once for credit. (3).

697. THESIS. (1-12).

Linguistics — LING

617. SEMINAR IN COMPARATIVE LINGUISTICS. Discussion of linguistic concepts and methodologies used for describing the historical development and resulting structural similarities and differences among major Western languages such as, but not limited to, French, Spanish, German, English, and Italian. (3).

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).

Spanish — SPAN

561. ADVANCED TOPICS IN CINEMA OF THE SPANISH-SPEAKING WORLD. Advanced study of topics related to films made in Spanish from Spain or Spanish America. The topics may be in culture, aesthetics, language use, the history of film, cinema production, or other areas. In Spanish. (3).

- 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.** The goal of this course is to give an overview of second language acquisition, the theoretical underpinnings of teaching and learning, and the practical considerations of classroom work. (Same as FR 672, GERM 672, and TESL 672). (3).
- 673. SEMINAR.** May be repeated once for credit. (3).
- 697. THESIS.** (1-12).

Teaching English as a Second Language — TESL

672. RESEARCH AND PRACTICE IN CLASSROOM SECOND LANGUAGE ACQUISITION.

The goal of this course is to give an overview of second language acquisition, the theoretical underpinnings of teaching and learning, and the practical considerations of classroom work. (Same as GERM 672, FR 672, and SPAN 672). (3).

MUSIC — MUS

Professor Charles Gates, chair • 164 Scruggs Hall
<http://www.olemiss.edu/depts/music/>

Professors Gates, Irvin, Linton, Rodgers, A. Spurgeon, Vernon, and Willson • Associate Professors J. Aubrey, Burkhead, Dor, Foulkes-Levy, Hominick, Riggs, B. Robinson, Schuesselin, D. Spurgeon, Steel, Trott, and Worthy • Assistant Professors Balach, Dejournett, and Latartara • Instructional Assistant Professor R. Aubrey • Instructors Carlisle, Gaston, Gilbert, Levy, Luscombe, Osborne, J. Robinson, Rowlett, and Wang

Overview: The Department of Music offers a Master of Music (M.M.) with emphases in choral conducting, music education, and performance, and the Doctor of Philosophy (Ph.D.) in music—music education emphasis.

Accreditation: The Department of Music is accredited by the National Association of Schools of Music.

Preliminary Requirements: A Bachelor of Music, or equivalent degree, from a recognized institution is required. An applicant's undergraduate record, letters of recommendation, and other credentials, including evidence of a senior recital or its equivalent (for music performance) must show the applicant to be qualified for graduate work.

Examinations: All students must take the general test of the Graduate Record Examination and a set of departmentally administered examinations in performance, aural skills, music theory, and music history. Information about the latter examinations can be obtained from the departmental graduate program coordinator.

Summary of Application Requirements:

- GRE verbal and quantitative scores
- Official transcripts showing a bachelor's degree in music or its equivalent
- An undergraduate GPA of 3.0 (out of 4.0; a 2.7 GPA may result in provisional admission)
- Departmentally administered entrance exams
- Completed application to the Graduate School
- For applied music applicants, evidence of a senior recital or its equivalent

Students who are not admitted in full standing (e.g., admitted as conditional, qualifying, or nondegree status) must adhere to Graduate School policies regarding course work.

Master of Music (M.M.)

Description: The Master of Music is an advanced professional degree designed to develop a particular area in music to a high level of specialization. The university offers the M.M. with the following emphases: 1) performance in woodwind, brass, string, or percussion instruments, piano, and voice; 2) music education; and 3) choral conducting.

Other Academic Requirements: In addition to course work, students must complete a thesis or recital and must pass a final oral or written examination.

- I. Thesis or Recital
 - A. A student must be in full standing to enroll in Mus 697 (Thesis) or Mus 695 (Recital).
 - B. For information concerning format, procedures, and specifications of thesis, consult the Graduate Student's Handbook and A Manual of Theses, Doctoral Essays and Dissertations (available at the Graduate School).
 - C. Students must be enrolled for at least 3 hours during the semester in which they intend to graduate.
 - D. If a thesis is written, a thesis committee is formed by the major professor in consultation with the student and appointed by the department chair. The committee shall consist of the major professor, another representative of the student's emphasis, and any other member of the graduate music faculty.
- II. Oral or Written Examination
 - A. Early in the semester in which the student intends to graduate, the major professor, in consultation with the student, shall formulate a committee of graduate music faculty members to administer the oral exam (normally this is the thesis committee) or the written exam in the music education program.
 - B. The Graduate Program coordinator should be contacted to set a date for the oral or written exam. Time should be allotted after the oral exam to allow for thesis corrections or further study required by the committee.
 - C. If the student's emphasis is applied music, the committee must be formulated prior to the recital so that the members may attend.
 - D. The thesis must be presented to all members of the committee in its completed form at least two weeks prior to the oral exam. The oral or written exam will primarily concern the thesis and the courses taken toward the degree.
 - E. After successful completion of the oral exam, two copies of the thesis must be presented to the Graduate School before the regular examination period for the semester in which the student intends to graduate.
 - F. If the student's emphasis is music education, a written exam will be administered. The student should consult the major professor early in the semester in which they intend to graduate in order to formulate the exam committee. The student may consult each member of the exam committee to solicit questions or areas of suggested study prior to the exam. The committee members may choose not to provide questions or areas of study.

Emphasis in Choral Conducting

Description: The M.M. degree with an emphasis in choral conducting is designed to give the student advanced training in choral conducting and score study and/or prepares him/her for study at the doctoral level.

Course Requirements: Requirements for the M.M. degree with emphasis in choral conducting are as follows:

Mus 520-Introduction to Music Research	2
Mus 562-Advanced Choral Literature	3
Music history/literature	3
Music theory/composition	3
Music theory/comp. or music history/lit.	3
Mus 524-Advanced Choral Directing	3
Mus 529 or 605-Vocal Pedagogy	2
Mus 521-Diction	1
Voic 521-Applied Voice	2
Choral ensemble	2
Mus 613-Directed Individual Study in Choral Music	3
Mus 695-Public Recital	2
Music elective	2

Emphasis in Music Education

Description: The M.M. degree with an emphasis in music education is designed to give the student advanced training in music and K-12 music education and/or prepares him/her for study at the doctoral level.

Course Requirements: Requirements for the M.M. degree with emphasis in music education are as follows:

Mus 520-Introduction to Music Research	2
Music history/literature	3
Music theory/composition	3
Music theory/comp. or music history/lit.	3
Mus 620-Music Education Research	3
Select 3 hours of music education from	3
Mus 619-Foundations of Music Education	
Mus 622-Seminar in Music Education	
Mus 625-Assessment and Supervision of Music Education	
Music education electives	3
Music electives	5
Mus 697-Thesis/or 6 hours of music education courses for students who elect the nonthesis option	6

Emphasis in Music Performance

Description: The M.M. degree with an emphasis in performance is designed to prepare a student to become a professional musician (performing as a pianist, woodwind, brass, string, or percussion instrumentalist, or vocalist) and/or prepares him/her for further graduate study or professional training. The performance emphasis can be completed with a concentration (option) in either piano, vocal, or instrumental.

Course Requirements: Students pursuing the M.M. with emphasis in performance must satisfy a concentration (option) in either piano, vocal, or instrumental; requirements are as follows:

Concentration in Piano Performance

The requirements for the M.M. with emphasis in music performance and concentration (option) in piano are as follows:

Mus 520-Introduction to Music Research	2
Music history/literature	3
Music theory/composition	3
Music theory/comp. or music history/lit.	3
Pian 541 or higher-Piano Performance	10
Mus 695-Public Recital	2
Mus 608-Advanced Keyboard Lit.	4
Mus 605-Pedagogy of Music Performance	2
Music elective	2

Concentration in Vocal Performance

The requirements for the M.M. with emphasis in music performance and concentration (option) in vocal are as follows:

Mus 520-Introduction to Music Research	2
Mus 521-Survey of Diction	1
Music history/literature	3
Music theory/composition	3
Music theory/comp. or music history/lit.	3
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-Pedagogy of Music Performance	2
Music elective	1

Concentration in Instrumental Performance

The requirements for the M.M. with emphasis in music performance and concentration (option) in instrumental performance are as follows:

Mus 520-Introduction to Music Research	2
Music history/literature	3
Music theory/composition	3
Music theory/comp. or music history/lit.	3
___ 541 or higher-Music Performance	10
Mus 695-Public Recital	2
Mus 565-Instrumental Solo Lit.	2
Mus 561-Symphonic Lit. or Mus 563-Chamber Lit.	(3)
or Mus 607-Advanced Wind Band Lit.	(3)
Mus 605-Pedagogy of Music Performance	2
Music elective	2

Ph.D. in Music with an Emphasis in Music Education

Description: The program leading to the Ph.D. in music with the emphasis in music education is designed for students who wish to pursue advanced study in preparation for university teaching, research, and other leadership roles in music education. The program is individualized to fit each student's interest and background.

Preliminary Requirements

Area of Concentration: The Ph.D. degree in music is offered with an emphasis in music education only.

Prerequisite: A master's degree in music or music education from a recognized institution is required. In addition to the requirements of the Graduate School, those wishing to pursue the Ph.D. in music—music education emphasis must show evidence of three years of full-time employment in teaching or a related position. Additional requirements include submission of a writing sample and a video of teaching.

Examinations: All students must take the general test of the Graduate Record Examination and a set of departmentally administered examinations in performance, aural skills, music theory, and music history. Information about the latter examinations can be obtained from the departmental graduate program coordinator.

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.

Goals/Mission Statement: The Ph.D. in music with an emphasis in music education is designed to give the student advanced training in research and methodology appropriate for teaching at the university level.

Course Requirements

Research-12 credits

Must include courses in experimental research, historical research, observation research and statistics

Music Education Methods-6 credits

Two courses selected from Mus 551, Orff Level I; Mus 536, Kodaly in American Music Education; Mus 524, Advanced Choral Directing; Mus 523, Advanced Band Directing.

Music Education Foundations-6 credits

Mus 548-Psychology of Music
Mus 619-Foundations of Music Education

Music History-3 credits

Music Theory-3 credits

Elective Area-9 credits

May include choral music, applied pedagogy, music theory, music history/literature, or music education

Dissertation-18 credits

Other Academic Requirements: At least 57 hours beyond the master's degree are considered a minimum program. Mus 575, World Music, and Mus 620, Introduction to Research in Music Education, or their equivalent, are required at the master's level and, if the student has not had these or similar courses, they must enroll in them before completion of the Ph.D.

Dissertation Requirements: A minimum registration of 18 semester hours are required for the dissertation. After passing the comprehensive examinations, the student must submit a project topic suitable for a doctoral dissertation in the form known as the prospectus. The prospectus must be approved by the advisory committee.

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).

516. HISTORY AND LITERATURE OF HYMNODY IN AMERICA. Discussion and materials related to the development, history, and hymnody of Christian sacred music in the United States between 1600 and the present. Prerequisite: graduate standing. (3).

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).
- 548. PSYCHOLOGY OF MUSIC.** Study of cognitive, emotional, and social aspects of music; acoustics of music and relationship to hearing; and processing of music by the brain. Prerequisite: graduate standing. (3).
- 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)
- 600. TOPICS IN MUSIC ABROAD.**
- 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).
- 545, 546. UNIVERSITY CHORUS.** Rehearsal and performance of works for men's, women's, and mixed chorus. (2, 2).

549, 550. MADRIGAL SINGERS. Rehearsal and performance of literature for small choral ensembles. (1, 1).

567. WIND ENSEMBLE. A lab ensemble for exploration and performance of wind band literature of a variety of periods and genres. (1).

593. SUMMER OPERA. Development of performance techniques specific to music theatre form; movement and gesture, improvisation, musical style and structure, vocal technique, development of listening and ensemble skills. (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 William Lawhead, chair • Bryant Hall
<http://www.olemiss.edu/depts/philosophy/>

Professor Lawhead • Associate Professors Barnard, Cozad, and Westmoreland • Assistant Professors Johnson, Manson, Skultety, and Thurlkill

Overview: The Department of Philosophy and Religion offers a minor, a Bachelor of Arts (B.A.), and a Master of Arts (M.A.) in philosophy.

M.A. in Philosophy

Description: The M.A. in philosophy prepares a student to go on to a Ph.D. program, a professional school, theology graduate work, or simply to provide further education in philosophy before pursuing a career.

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.

Course Requirements: The M.A. in philosophy can be completed as either a thesis or nonthesis option. The thesis option requires 24 semester hours of graduate-level course work and 6 semester hours of thesis work. The nonthesis option requires 36 semester hours of course work.

Other Academic Requirements

Thesis Option: Students 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 M.A. comprehensive examination and the exit questionnaire.

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 student will notify the director of graduate studies of his or her 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 M.A. 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. (Same as LING 519). (3).

520. PROBLEMS IN ENVIRONMENTAL ETHICS. Selected problems, such as population dynamics, ecosystem disruption, and environmental rights. (3).

600. KANT. A study of the major ideas and issues in Kant's writings. (3).

602. WITTGENSTEIN. A study of Wittgenstein's thoughts, writings, and influence. (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).

620. PROBLEMS IN AESTHETICS. Selected issues in aesthetics. (3).

621. PROBLEMS IN ETHICAL THEORY. Selected issues in ethical theory. (3).

628. PROBLEMS IN BIOMEDICAL ETHICS. Selected issues in contemporary biomedical ethics. (3).

631. PROBLEMS IN POLITICAL PHILOSOPHY. Selected issues in political philosophy. (3).

650. PROBLEMS IN PHILOSOPHY OF LAW. Selected issues in philosophy of law. (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
http://www.olemiss.edu/depts/physics_and_astronomy/

Frederick A.P. Barnard Distinguished Professor Henry E. Bass • Professors Cremaldi, Kroeger, Marshall, Raspet, Reidy, and Summers • Associate Professors Bombelli, and Ostrovskii • Assistant Professors Cavaglia, Gladden, Mobley, and Quinn • Research Professors Gilbert and Sabatier • Research Associate Professors Church, Ostrovskaya, and Waxler • Research Assistant Professors Hickey, Lu, Stolzenburg, and Torma • Visiting Assistant Professor Datta

Overview: The Department of Physics and Astronomy offers the minor, Bachelor of Arts (B.A.), and Bachelor of Science (B.S.) degrees. At the graduate level, the department offers the Master of Arts (M.A.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) in physics.

Preliminary Requirements: 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.

M.A. in Physics

Description: 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. The M.A. degree does not require a thesis; it is based on graduate class work and an oral examination.

Course Requirements: The M.A. 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.

Other Academic Requirements: Students are required to participate in the teaching of physics lectures or laboratories as part of their graduate training.

M.S. in Physics

Description: 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. The M.S. degree requires a thesis project based on original research.

Course Requirements: The M.S. in physics requires 24 hours of suitable graduate course work and 6 hours of thesis (Phys 697). At least 12 hours of the graduate course work must consist of courses in physics at the 600 level.

Other Academic Requirements: Students are required to participate in the teaching of physics lectures or laboratories as part of their graduate training.

Ph.D. in Physics

Description: 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.

Course Requirements: In addition to the general Graduate School requirements, candidates for the Ph.D. must complete a minimum of 54 credit hours of graduate course work exclusive of thesis credit (Phys 697), in a program approved by the student's advisory committee. Core courses consisting of Thermodynamics and Statistical Mechanics (Phys 627), Advanced Mechanics (Phys 609), Quantum Mechanics (Phys 611, 612), Atomic and Nuclear Physics (Phys 607), Solid State Physics (Phys 625), 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.

Other Academic Requirements: The preliminary examination shall cover the following fields: classical and quantum mechanics, thermodynamics, optics, electricity and magnetism, modern physics, and experimental physics.

The comprehensive examination has both written and oral components. The written part consists of three three-hour examinations as follows: 1) quantum mechanics; 2) classical mechanics, thermodynamics, and statistical mechanics; 3) electromagnetic theory. The oral part of the exam can be taken only after the written part has been passed.

Physics — PHYS

501. INTERMEDIATE ELECTROMAGNETIC THEORY I.

502. INTERMEDIATE ELECTROMAGNETIC THEORY II.

503. SELECTED TOPICS IN PHYSICS. Prerequisite: Consent of the instructor; may be repeated for credit up to 9 hours. (1-3).

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).

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).
- 607. ATOMIC AND NUCLEAR PHYSICS.** Prerequisite: PHYS 451. (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 609. (3).
- 612. QUANTUM MECHANICS II.** Continuation of Quantum Mechanics I. Prerequisite: PHYS 611. (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. Corequisite: PHYS 609. (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. Corequisite: PHYS 611. (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. Corequisite: PHYS 611. (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. (1-3).
- 630. SELECTED TOPICS IN PHYSICS II.** Topics of current interest, both experimental and theoretical. Prerequisite: consent of instructor. (1-3).
- 631. QUANTUM FIELD THEORY I.** Quantized relativistic fields. QED. Renormalization. Gauge fields. Spontaneous symmetry breaking. Electroweak interactions. QCD. (3).
- 632. QUANTUM FIELD THEORY II.** Continuation of Quantum Field Theory I. Prerequisite: PHYS 631. (3).
- 633. ELEMENTARY PARTICLE PHYSICS.** Phenomenology. Symmetries and conservation laws. Quarks, leptons, gauge bosons. Standard model. Experimental techniques of particle physics. Prerequisite: PHYS 612. (3).
- 697. THESIS RESEARCH IN PHYSICS.** (1-12).
- 797. DISSERTATION.** (1-18).

POLITICAL SCIENCE — POL

Professor Richard G. Forgette, chair • 116 Deupree Hall
http://www.olemiss.edu/depts/political_science/

Professors Albritton, Brown, Forgette, and Winkle • Associate Professors Bruce, Cooper, Nordstrom, and Smith • Assistant Professors Garner, Guo, Kathman, King, Shannon, Tenney, and Winburn

Overview: The Department of Political Science offers a minor and Bachelor of Arts (B.A.), Master of Arts (M.A.), and Doctor of Philosophy (Ph.D.) degrees in political science.

M.A. in Political Science

Description: The M.A. degree provides students with an intensive study of the different fields, theories, and research methods in contemporary political science. The degree prepares students for doctoral study in political science, and for careers in education, government, or policy analysis. Two options are offered: 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.

Preliminary Requirements: 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.

Course Requirements: The M.A. in political science can be completed as either a thesis or nonthesis program.

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.

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.

Ph.D. in Political Science

Description: The Ph.D. degree provides students with an intensive knowledge and research skills for practicing contemporary political science. The objective of the degree is to prepare students for careers as political scientists in university, community college, government, or research settings.

Preliminary Requirements: 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.

Course 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 examination 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. Analysis of the causes, duration, resolution, and outcomes of interstate wars. (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 • 205A Peabody Hall
<http://www.olemiss.edu/depts/psychology/>

Professors Allen, Gross, Hargrove, and Sufka • Associate Professors Christoff, Gohm, Lombardo, Mendolia, Sabol, and Wilson • Assistant Professors Boerger, Johnson, Prins, Reysen, and Schulenberg

Overview: The Department of Psychology offers a Bachelor of Arts (B.A.) program and minor at the undergraduate level. Graduate-level programs are the Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) in psychology. The Ph.D. in psychology has emphases in clinical and experimental psychology.

Accreditation: The American Psychological Association (APA) is the accrediting body for the doctoral program in clinical psychology, which is fully accredited. The APA does not accredit doctoral programs in experimental psychology.

Preliminary 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 other 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. Applicants for admission are considered only once each year. All application materials must be received by January 15 for consideration for admission the following August.

Additional Information: The Department of Psychology does not offer the M.A. degree as a terminal degree. All graduate students must be accepted into the Ph.D. program and may receive the M.A. as one step in the doctoral program.

M.A. in Psychology

Description: 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 M.A. as one step in the doctoral program.

Course Requirements: Completion of the M.A. degree is determined by a recommendation from the student's advisory committee.

Ph.D. in Psychology

Description: The Ph.D. in psychology is offered as either an emphasis in experimental psychology or clinical psychology. A Ph.D. in experimental psychology prepares an individual for an academic position in psychology, or as a research scientist in a nonacademic setting. Students specialize in behavioral neuroscience, cognitive psychology, developmental psychology, or social psychology. The Ph.D. in clinical psychology is designed to prepare an individual to become a professional psychologist capable of working in clinical or research settings.

Course Requirements: The Ph.D. degree must be completed by fulfilling the requirements for either the emphasis in experimental psychology or clinical psychology.

Emphasis in Experimental Psychology

Description: A Ph.D. in experimental psychology prepares an individual for an academic position in psychology, or as a research scientist in a nonacademic setting. Students specialize in behavioral neuroscience, cognitive psychology, developmental psychology, or social psychology.

Course Requirements: Students must complete the following courses: Psy 603, Psy 604, Psy 617, and Psy 648; Psy 655 every semester; four courses from the six core courses of Psy 505, 607, 612, 615, 618 or 651; two other departmental courses, excluding Psy 647, Psy 697, and Psy 797.

Emphasis in Clinical Psychology

Description: The Ph.D. in clinical psychology is designed to prepare an individual to become a professional psychologist capable of working in clinical or research settings.

Course Requirements: Students must complete the following courses: Psy 505, 603, 604, 610, 611, 621, 622, 629, 631, 641, 648; one course in each of the following areas: physiological psychology, developmental psychology, cognitive psychology, social psychology; and three elective classes. Additionally, students must complete two semesters each of Psy 624, 625, 626, and 628.

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).

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).

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).

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).

601. SEMINAR. New developments in psychology. Prerequisite: 12 hours of psychology or consent of instructor. (May be repeated for credit). (3).

603. QUANTITATIVE METHODS IN PSYCHOLOGY I. Topics treated are descriptive statistics, probability theory, hypothesis testing, t-tests, correlation coefficients, analysis of variance, experimental design, and computer applications. (3).

604. QUANTITATIVE METHODS IN PSYCHOLOGY II. Topics treated are multiple and logistic regression, multivariate analysis of variance, classification techniques such as discriminate analysis and cluster analysis, variable reduction techniques such as principal components analysis and factor analysis, and computer applications. Prerequisite: PSY 603. (3).

605. ADVANCED STATISTICS. Design and analysis of behavioral experimentation with emphasis on analysis of variance, multivariate methods, and related techniques. Prerequisite: PSY 604. (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. Prerequisite: PSY 604. (3).

607. COGNITIVE PSYCHOLOGY. A review of the field of cognitive psychology. Topics include perception, attention, memory, language, decision making, reasoning, and problem solving. (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).

612. SOCIAL PSYCHOLOGY. An intensive review of the field of social psychology. Prerequisite: 12 hours of psychology. (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).

615. PHYSIOLOGICAL PSYCHOLOGY. The neuroanatomical and neurochemical bases of behavior. Prerequisite: 12 hours of psychology. (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).

618. ADVANCED DEVELOPMENTAL PSYCHOLOGY. Graduate-level survey of clinically relevant aspects of psychological development from infancy through adulthood. Prerequisite: 12 hours of psychology. (3).

619. 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 603. (3).

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 610 and PSY 611. (May be repeated once for credit for a maximum of 6 hours). (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).
- 651. HISTORY AND SYSTEMS OF PSYCHOLOGY.** (3).
- 653. 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 615. (3).
- 655. PSYCHOLOGY COLLOQUIUM.** Presentation of current research by students, faculty, and visiting psychologists. Prerequisite: 12 hours of psychology. (1). (Z grade).
- 690. CLINICAL STAFFING.** Case presentation of clients seen in practicum. Prerequisite: admission to clinical program and 12 hours of psychology. (1). (Z grade).
- 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

Associate Professor Kirsten A. Dellinger, interim chair • 103 Leavell Hall
http://www.olemiss.edu/depts/soc_anth/

Professors Johnson, Long, and Swanson • Associate Professors Dellinger, Ethridge, Ford, Jackson, Kurtz, Lake, and Sisson • Assistant Professors Haenfler, Murray, Oh, Sonnett, Wrobel, and Yukleyen

Overview: The Department of Sociology and Anthropology offers the minor, Bachelor of Arts (B.A.), and Master of Arts (M.A.) degrees in sociology and anthropology.

Preliminary Requirements: Graduate Record Examination general test scores and undergraduate transcripts are required for admission to the degree program in full standing. In addition, letters of recommendation and a statement of purpose should be sent to the graduate coordinator in sociology.

M.A. in Sociology

Description: Sociology is the systematic study of human social life. The M.A. program includes seminars and training in research and professional development, and prepares students for future careers as professionals in the social sciences. Graduates have gone on to enter Ph.D. programs in sociology, to teach in community colleges and universities, and to work as researchers in both the private and public sectors.

Course Requirements: The M.A. in sociology can be completed with either a thesis or nonthesis option.

The thesis option requires 27 semester hours of graduate course work and a minimum of 6 hours of thesis credit (33 hours total). The 27 course hours must include Statistics (Soc 501), Research Methods (Soc 502), Studies in Social Theory (Soc 601), Teaching Sociology (Soc 635), Professional Development I and II (Soc 621 and Soc 622), and Collaborative Research Seminar (Soc 623).

The nonthesis option requires 36 hours of graduate courses. A minimum of 29 hours must be in sociology and must include Statistics (Soc 501), Research Methods (Soc 502), Studies in Social Theory (Soc 601), Teaching Sociology (Soc 635), and Professional Development I and II (Soc 621 and Soc 622). In addition, nonthesis students are required to complete an oral presentation in a department-approved professional setting. For both options, a minimum of 3 credits must be earned in a discipline other than sociology.

M.A. in Anthropology

Description: The M.A. in anthropology prepares a student to do original anthropological research. Graduates may seek research positions in anthropology or pursue doctoral studies.

Course Requirements: The M.A. in anthropology requires 24 semester hours of graduate course work and a minimum of 6 hours of thesis credit. At least half of the courses must be taken at the 600 level. The 24 course hours must include Quantitative Methods in Anthropology (Anth 572), Anthropological Theory and Methods (Anth 601), Seminar in Cultural Anthropology (Anth 606), Seminar in Biocultural Anthropology (Anth 607), and Seminar in Archaeology (Anth 608).

Other Academic Requirements: During the first two years, students participate in seminars, which review the entire field of anthropology and prepare them for a two-day comprehensive exam. After passing this exam, master's candidates select a thesis director and committee to work with them on designing a thesis project. Candidates must prepare and orally defend a thesis.

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).
- 531. LECTURES IN COMMUNITY ORGANIZATION.** Theoretical and pragmatic aspects of community problems and development. (3).
- 545. SEMINAR IN POPULATION STUDIES.** Population distribution, composition, growth, migration, vital processes and problems. (3).
- 552. INDIVIDUAL STUDY PROJECT.** Prerequisite: written consent of the instructor. (3).
- 555. HEALTH CARE IN CONTEMPORARY SOCIETY.** Development, current organization, and financing of the contemporary health-care system in the United States 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. (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 RACE AND ETHNICITY.** Examines racial and ethnic relations in historical and comparative perspectives using contemporary social scientific research and theories. (3).
- 615. SOCIOLOGY OF CULTURE.** This seminar will explore themes and debates that emerge from the intersection of contemporary social theory and sociology of culture and that animate contemporary research on culture. (3).
- 621. PROFESSIONAL DEVELOPMENT I.** Practical topics related to the graduate program and the discipline of sociology, including succeeding in graduate school, preparing a vita, ethical and human subjects issues, forming a thesis committee, utilizing technology, and preparing for interviews. (1).
- 622. PROFESSIONAL DEVELOPMENT II.** Continuation of SOC 621 Professional Development I. Prerequisite: SOC 621. (1).
- 623. COLLABORATIVE RESEARCH SEMINAR.** Offers graduate students the opportunity to discuss collectively a variety of issues related to writing a Master of Arts thesis. Focus on peer review and revision of thesis chapters. (1).
- 625. CURRENT DEBATES IN GENDER.** Examines the social and cultural construction of gender differences in contemporary U.S. society, focusing on the social history of gender roles and gender inequality in current cultural and institutional practices. (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).
- 635. TEACHING SOCIOLOGY.** Interactive seminar includes creating a teaching philosophy, fostering creativity, leading meaningful discussions, managing a classroom, planning a class or presentation, communicating powerfully, utilizing technology, and evaluation. Develop practical skills and practice leading sessions. (3).
- 651. FIELDS OF SOCIOLOGY.** Basic theory and methods applied to selected areas of sociological analysis. (3).
- 652. INDIVIDUAL STUDY PROJECT.** Prerequisite: written consent of the instructor. (3).
- 697. THESIS.** (1-12).
- 699. INTERNSHIP IN SOCIOLOGY.** Supervised research and work in organizations either on or off campus. (3-9). (Z grade).

SOUTHERN STUDIES — S ST

Professor Ted M. Ownby, interim director, Center for the Study of Southern Culture; • Barnard Observatory
<http://www.olemiss.edu/depts/south/>

Professors Eagles, Fisher, Harrington, Kartiganer, Ownby, M. Williams, and Wilson • Associate Professors Bercauw, Dewey, Ethridge, Ford, Grisham, Gussow, Kullman, McKee, Namorato, Payne, and Steel • Assistant Professors Crouther, Moen, Watson, and Wharton

Overview: The Center for the Study of Southern Culture offers the Master of Arts (M.A.) in Southern studies.

Preliminary Requirements: 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 a M.A. degree in Southern studies. Admissions decisions are made by a committee composed of the program director and at least two other members.

M.A. in Southern Studies

Description: The M.A. in Southern studies is an intense, interdisciplinary course of study touching on all facets of Southern life, history, and culture. The program is the only one of its kind in the country, and students can study an array of Southern topics and issues, from Faulkner to the blues, from the Civil War to the civil rights movement, from folk art to fundamentalism.

Goals/Mission Statement: Through a variety of disciplines, including anthropology, art, history, literature, music, politics, religion, and sociology, Southern studies seeks to investigate the challenges and contributions of the region, in order to situate the South in the fabric of American life. The degree provides students with (1) a broad understanding of the South, its history, its culture, its potential; (2) the training, experience, and methods necessary to conduct independent study; (3) opportunities for individualized learning experiences through research and field work; and (4) humanistic education that will be valuable in itself and as a basis for the practice of a variety of professions.

Course 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 S St 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 6 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.

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; AH 538, 539, 548, 549, 550; Engl 568, 569, 593, 661, 663, 675, 695; His 605, 606, 607, 701, 702; Psy 513; Rel 503; Soc 521, 607, 611, 613; Thea 521.

Other Academic Requirements: 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.

534. STUDIES IN DOCUMENTARY FIELD WORK. Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and videotapes, audio recordings, and field notes. (3).

597. SPECIAL TOPICS. (3).

598. SPECIAL TOPICS. Interdisciplinary study of specialized topics in Southern culture. (3).

599. SPECIAL TOPICS. (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 Communication Sciences and Disorders.

Patterson School of Accountancy

W. Mark Wilder, interim dean

200-H Conner Hall • (662) 915-5756

Dale L. Flesher, associate dean

200-E Conner Hall • (662) 915-7623

<http://www.olemiss.edu/depts/accountancy/>

Professors Davis, Elam, D. Flesher, T. Flesher, Lawrence, Stocks, and Wilder • Associate Professors Burkett, Cassidy, and Nichols • Assistant Professors Bizarro, Morf, Shaw, Walker, and Wang • Instructors McCaffrey and Rhodes

Overview: The School of Accountancy offers a Master of Accountancy (M.Accy.), a Master of Taxation (M.Tax.), and a Doctor of Philosophy (Ph.D.) in accountancy.

Accreditation: The School of Accountancy has been accredited by the American Assembly of Collegiate Schools of Business since 1944. In 1983, the School of Accountancy was one of the first 28 schools nationwide to receive separate accounting accreditation. Accreditation is offered only to schools that meet the strict academic standards and program requirements prescribed by this assembly. All degree programs in the School of Accountancy received full reaccreditation in 2001.

Preliminary Requirements

Prerequisites • Students must present credit in the following undergraduate courses (or their equivalents): Accy 303, 304, 309, 401, 402, 405; Econ 202, 203, 230, 302; Bus 250 and Accy 411; Mgmt 371; Mktg 351; Math 267; and knowledge of computer programming. A minimum grade of C is required in Accy 401, 402, and 405.

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 100 on the Internet-based TOEFL.

Additional Information: The American Institute of Certified Public Accountants recommends five years of academic study in order to obtain the professional knowledge for a career in accounting. More than 46 states, including Mississippi and surrounding states, have laws requiring five years of study as a prerequisite to sit for the CPA examination.

Master of Accountancy (M.Accy.)

Description: The objective of the M.Accy. is to provide students with greater breadth and depth in accounting education. The purpose of this program is to provide students with the knowledge and background necessary for entry into the profession and to enable them to continue to grow and develop within the profession.

Course Requirements: Requirements for the M.Accy. include Accy 509, 601, 605, and 610. Twelve additional hours of accounting electives may be chosen from Accy 501, 515, 521, 525, 530, 603, 609, 612, 625, 626, 633, and 634. In addition, 6 hours of nonaccounting electives may be chosen from any approved 500-level or above course.

Master of Taxation (M.Tax.)

Description: The objective of the M.Tax. 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.

Course Requirements: Requirements for the M.Tax. degree include Accy 509, 601, 605, 610, and 612. Six additional hours of tax electives may be chosen from Accy 603, 625, 626, 633, and 634. Six hours of accounting electives may be chosen from Accy 501, 515, 521, 525, 530, 609, and 690. In addition, 3 hours of nonaccounting electives may be chosen from any approved 500-level or above course.

Ph.D. in Accountancy

Description: The objective of the Ph.D. in accountancy program is to give students a greater breadth and depth in accounting and a specialization in a particular area. Graduates learn research tools, so they are well-prepared for careers in accounting education where opportunities are plentiful.

Preliminary Requirements: Admission to the program is based on the applicant's undergraduate and graduate record as well as the score made on the Graduate Management Admission Test.

A GMAT score of 600 or higher is required for admission. In recent years, GMAT scores have averaged above 650. International students must earn a TOEFL score of 600 or above (or 100 on the Internet-based TOEFL). All students must present credit equivalent to a bachelor's degree and a master's degree in accountancy. Two undergraduate calculus courses are also required. All students should hold some form of accounting certification such as the CPA, CMA, and/or CIA.

Fulfillment of these criteria does not guarantee admission; a limited number of students are accepted into the program each year. A personal interview, on campus, is required of all applicants prior to admission.

Course Requirements: The minimum course requirements for the Ph.D. in accountancy include 25 hours in accountancy, 12 hours in a minor field, 15 hours in research- tool courses, and 18 hours of dissertation. At least 25 hours in 600-level accountancy courses are required. Specific required courses include Accy 602, 607, 613, 614, 620, and 750. Course schedules differ depending upon the background and needs of each student.

Other Academic Requirements: Doctoral students are required to have a minor field, which is usually in the business school (such as management, management information systems, or finance) but may be in other disciplines if such courses meet the research needs of the student. A popular minor is taxation, which can include courses in the law school. A minor field generally requires the completion of at least four courses.

Doctoral students must also complete a comprehensive examination, a dissertation prospectus, a dissertation, and a final oral defense of the dissertation.

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).

613. SEMINAR IN AUDITING AND ACCOUNTING INFORMATION SYSTEMS RESEARCH. (3).

614. SEMINAR IN FINANCIAL ACCOUNTING AND CAPITAL MARKET-BASED RESEARCH. (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).

750. RESEARCH COLLOQUIUM IN ACCOUNTANCY. (1).

797. DISSERTATION. (1-18).

School of Applied Sciences

Linda F. Chitwood, dean

George Street University House • (662) 915-7900

http://www.olemiss.edu/depts/applied_sciences/

COMMUNICATION SCIENCES AND DISORDERS — CD

Assistant Professor Lennette Ivy, interim chair • 303 George Hall
http://www.olemiss.edu/depts/comm_disorders/index.htm

Professor Kellum • Associate Professor Higdon • Assistant Professors Ivy, Snyder, and Vaughan • Instructors Coker, Henton, Lowe, and Randle

Overview: The Department of Communication Sciences and Disorders offers the Bachelor of Arts (B.A.) in communication sciences and disorders, as well as the Master of Science (M.S.) in communication sciences and disorders.

Accreditation: The M.S. in communication sciences and disorders program is accredited by the American Speech-Language-Hearing Association (ASHA) through the Council on Academic Accreditation.

Preliminary Requirements: Applicants must have completed an undergraduate major in communication sciences and disorders or the prerequisite undergraduate course work before entering the graduate program.

M.S. in Communication Sciences and Disorders

Description: The M.S. in communication sciences and disorders is designed for students who are interested in the study of speech-language pathology, the study of habilitation and rehabilitation of communication disorders and swallowing disorders.

Mission: The mission of the Department of Communication Sciences and Disorders is to provide an accredited program to educate and train graduate students in the discipline of communication disorders specific to the field of speech-language pathology. In addition, the department houses a Speech and Hearing Clinic for training students and for service to the community and university consumers.

Course Requirements: Course requirements are a minimum of 36 academic course hours, 15 hours of clinical practicum, and 10 hours of graduate seminar. Academic course requirements are CD 505, 513, 521, 522, 523, 526, 531, 532, 541, 557, 613, 620, 627, 642, and 605. Clinical course requirements are five semesters of clinical practicum (CD 595) and five semesters of clinical seminar (CD 592).

Other Academic Requirements: Graduate students have a thesis option, requiring at least 6 hours of thesis credit in addition to the required didactic and clinical practicum courses. Students must pass a comprehensive examination 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 audiologic 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).
- 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).
- 620. ASSESSMENT AND TREATMENT OF DYSPHAGIA.** Courses will include anatomy and physiology of swallowing, etiologies of dysphasia, and assessment and intervention techniques. Advanced study includes ethical and professional issues for pediatric and adult populations. (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).
- 631. COMMUNICATION CHANGES IN AGING.** Typical and atypical communication and swallowing abilities in the aging population. Emphasis will be placed on the underlying systemic changes and differential diagnosis of disorders in cognition, communication, and swallowing. Prerequisite: CD 505. (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).

HEALTH, EXERCISE SCIENCE, AND RECREATION MANAGEMENT

Professor Mark Loftin, chair • 215 Turner Building
<http://www.olemiss.edu/depts/hesrm/>

Professors Chitwood, Gilbert, and Loftin • Associate Professors Beason, Hallam, and Owens • Assistant Professors Dupper, Ford, Garner, Lamont, Dwight Waddell, and Zuefle • Instructors Lacey and David Waddell

Overview: The Department of Health, Exercise Science, and Recreation Management offers the following degrees: the Bachelor of Science in Exercise Science (B.S.E.S.), the Bachelor of Arts in Park and Recreation Management (B.A.P.R.M.), the Master of Arts (M.A.) in park and recreation management, the Master of Science (M.S.) in exercise science, the Master of Science (M.S.) in health promotion, and the Doctor of Philosophy (Ph.D.) in exercise science.

Accreditation: The Park and Recreation Management program is accredited by the National Recreation and Park Association.

Preliminary Requirements: Students admitted to the program with an undergraduate degree from a nonaccredited 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.

M.A. in Park and Recreation Management

Description: The M.A. in park and recreation management degree program is designed to develop leisure service delivery skills and form a solid knowledge base preparatory to leadership and supervisory roles for a variety of leisure service industries, including municipal, outdoor, therapeutic, military, church, youth, commercial/tourism, and industrial.

Course Requirements: For the M.A. in park and recreation management, a minimum of 33 semester hours of graduate study are required, which shall include the following:

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)

Nonthesis Option (15 hours)

- PRM 653-Independent Research
- PRM 654-Directed Event Programming
- 9 hours approved electives

Thesis Option (15 hours)

- PRM 697-Thesis (6 hours)
- 9 hours approved electives

Other Academic Requirements: 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.

M.S. in Health Promotion

Description: The M.S. in health promotion enables a student to participate in research projects involving exercise behavior, injury prevention, and health promotion, from individual, workplace, and community perspectives.

Course Requirements: For the M.S. in health promotion, a minimum of 33 hours of graduate study are required. Included in the 33-hour curriculum is an 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 hours)

- HP 627-Internship in Health Promotion (9)
- Approved electives (6)

Thesis Option (15 hours)

- HP 697-Thesis (6)
- Statistics (adviser approval) (3)
- Approved electives (6)

M.S. in Exercise Science

Description: The M.S. in exercise science prepares students for careers in fitness and allied health and research. The degree also prepares students for advanced study at the doctoral (Ph.D.) level.

Course Requirements: For the M.S. in exercise science, a minimum of 32 semester hours of graduate study is required. Requirements for the M.S. in exercise science are ES 611, 512, 613, 608 or 612, 625, 650 (2 hours), an approved statistics course, ES 653 (3 hours), ES 697 (6 hours), or 610 (9 hours), plus 3-9 hours of ES electives (selected from among ES 608, 609, 612, 614, 615, 616, 651, 652, HP 615, or departmentally approved courses).

Ph.D. in Exercise Science

Description: The Ph.D. in exercise science prepares students for university teaching and research positions. Also, the degree prepares students for research careers in industry and medicine that include the study of exercise.

Preliminary Requirements: Admission is competitive, limited in number, and dependent upon availability of faculty mentors.

Course Requirements: The requirements for the Ph.D. in exercise science are as follows: 15 hours in an exercise science specialty area (selected from among exercise physiology, motor behavior, and exercise motivation); 12 hours of research methods and statistics; 12 hours of supporting course work; and 18 hours of dissertation. Additional course work will be required for students who do not enter the program having completed an M.S. degree in exercise science or closely related discipline. The specific courses used to satisfy the above requirements must be approved by a student's adviser.

Other Academic Requirements: The student also must complete written and oral comprehensive exams before undertaking the prospectus and dissertation.

Health, Exercise Science and Recreation Management — HESRM

797. DISSERTATION. (1-18). (Z grade).

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).
- 574. CURRENT TRENDS IN THERAPEUTIC RECREATION.** (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).

LEGAL STUDIES

Professor David H. McElreath, chair • Odom Hall
<http://www.olemiss.edu/depts/legalstudies/>

CRIMINAL JUSTICE — CJ

Professors McElreath and Quarles • Associate Professors Bounds and Mallory • Assistant Professors Jensen, Mongue, and Williamson • Lecturers Hall, Lyons, and Tannehill • Instructors Johnson and Williams

Overview: The Department of Legal Studies offers a Bachelor of Paralegal Studies (B.P.S.), a Bachelor of Science of Criminal Justice (B.S.C.J.), and a Master of Criminal Justice (M.C.J.).

Master of Criminal Justice (M.C.J.)

Description: The M.C.J. provides the justice practitioner with academic training beyond the bachelor's degree to enhance skills as criminal justice and homeland security professionals. Two emphases are offered: homeland security and criminal justice.

Preliminary Requirements: An applicant for the M.C.J. must submit a satisfactory score on the Graduate Record Examination (GRE) and three letters of recommendation. Admission is competitive, limited in number, and dependent upon availability of faculty members. An applicant must have completed an undergraduate major in criminal justice or a related field, or complete the prerequisite undergraduate course work before entering the graduate program.

Course Requirements: The M.C.J. is a 36-graduate-hour program. Students are required to complete a thesis (6 hours) or complete a criminal justice practicum (6 hours). All students must complete the core courses (12 hours), emphasis area courses (9 hours from either the criminal justice or homeland security emphasis course set), and approved electives (9 hours).

Core Courses:

- CJ 500-Criminal Justice Administration
- CJ 635-Criminal Justice Research Methods
- CJ 645-Criminal Justice and Intelligence Analysis
- CJ 655-Criminal Justice Statistical Analysis

Emphasis Courses: 9 hours from either emphasis areas

Electives and Thesis/Practicum: Students must have a minimum of 9 hours of electives from the courses included in this program or graduate courses approved by the M.C.J. program director. Students must complete a thesis (CJ 697, 6 hours) or a practicum course (CJ 690, 3 hours).

Other Academic Requirements: Students must pass a comprehensive examination in the emphasis area during the last semester of course enrollment.

Emphasis in Criminal Justice

Description: The M.C.J. with emphasis in criminal justice prepares a graduate for a variety of law enforcement positions in local, state, and federal agencies.

Course Requirements: The M.C.J. degree with emphasis in criminal justice requires completion of the following courses, in addition to the core, elective, and thesis/practicum courses.

CJ 620-Criminal Justice in American Society
CJ 625-Criminal Justice Theory
CJ 640-Legal Issues in Criminal Justice
CJ 660-Operational and Staff Planning

Emphasis in Homeland Security

Description: The M.C.J. with emphasis in homeland security provides specific training related to protection of our society and its institutions from both domestic and international threats.

Course Requirements: The M.C.J. degree with emphasis in homeland security requires completion of the following courses, in addition to the core, elective, and thesis/practicum courses.

CJ 610-Homeland Security Operations
CJ 630-Terrorism: Asymmetrical Conflict
CJ 650-Terrorism and Homeland Security
CJ 670-Intelligence and Homeland Security

500. CRIMINAL JUSTICE ADMINISTRATION. An examination of the organizational theory, leadership, human resource management, financial management, organizational change, and organizational communication in criminal justice agencies. (3).

610. HOMELAND SECURITY OPERATIONS. A study of the issues pertaining to the role and mission of the Department of Homeland Security and related agencies, both domestically and internationally. Prerequisite: CJ 500 or related course. (3).

620. CRIMINAL JUSTICE IN AMERICAN SOCIETY. An examination of the role of criminal justice agencies and the skills required for effective organizational leadership and the strategic thinking by which performance-based organizational cultures are developed. Critical issues associated with change management and continuous improvement within the justice system. Prerequisite: CJ 500 or related course. (3).

625. CRIMINAL JUSTICE THEORY. An in-depth study of crime, relationships among theoretical concepts, and the application of theoretical concepts in empirical research. Prerequisite: CJ 500 or related course. (3).

630. TERRORISM: ASYMMETRICAL CONFLICT. (3).

635. CRIMINAL JUSTICE RESEARCH METHODS. An examination of research design within the discipline. The relationship between theory and research, causation, data collection,

research ethics, and measurement are topics of discussion. Prerequisite: approved graduate research course. (3).

640. LEGAL ISSUES IN CRIMINAL JUSTICE ADMINISTRATION. Examination of current issues in criminal justice administration, including, but not limited to, hiring personnel, personnel issues, employment contracts, effective training and job education, employee discipline, violation of civil rights and tort liability of state and local law enforcement agencies, and budgeting issues in law enforcement. Prerequisite: CJ 500 or related course. (3).

645. CRIMINAL AND INTELLIGENCE ANALYSIS. An integration of theory, software application, and investigative analysis are examined in relation to information management. Designed to provide an understanding of the intelligence and criminal analysis process. (3).

650. DEFEATING TERRORISM IN A HOMELAND SECURITY ENVIRONMENT. An examination of the facts of terrorism, methods of terrorism, and the goals of terrorism from a homeland security and terrorism deterrence approach. Prerequisite: CJ 500 or related course. (3).

655. CRIMINAL JUSTICE STATISTICAL ANALYSIS. Application of statistical procedures common to criminal justice research. Includes data collection, input, analysis, interpretation, and presentation of results. Prerequisite: approved graduate statistics course. (3).

660. OPERATIONAL AND STAFF PLANNING IN CRIMINAL JUSTICE. An examination of process and problem identification, analysis, resource assessment, course of action development, and solution implementation through the use of a staff. Prerequisite: CJ 500 or related course. (3).

670. INTELLIGENCE AND COUNTERINTELLIGENCE ASPECTS OF HOMELAND SECURITY. An advanced course on intelligence and counterintelligence aspects of homeland security, as those aspects relate to the four central missions of a homeland security agency, such as DHS. Domestic security, emergency preparedness, technology policy, and timely intelligence for preemptive action and improved policy making are discussed. Prerequisite: CJ 500 or related course. (3).

675. PROBLEMS AND PRACTICES IN JUDICIAL ADMINISTRATION. An examination of current problems and practice trends in the administration of the judicial process from the perspective of court officials responsible for the judicial system. Prerequisite: instructor approval and CJ 500 or related course. (3).

685. SPECIAL TOPICS IN JUSTICE STUDIES. An examination of critical issues within the criminal justice system with emphasis on various topics of current concern, including criminal trends, civil liability, and street gangs. Prerequisite: instructor approval and CJ 500 or related. (3).

690. CRIMINAL JUSTICE PRACTICUM. Practical learning experience in the management of a criminal justice agency. Instructor approval required. (6).

697. THESIS. Applied research in area of criminal justice. Instructor approval required. (6).

SOCIAL WORK—SW

Professor Carol M. Boyd, chair • 231 Hume Hall
<http://www.olemiss.edu/depts/socialwork/>

Professors Boyd and O'Quin • Associate Professors Allen, Eftink, Moore, O'Dell, Shackelford, and Stafford • Assistant Professors Campbell and Watson • Instructors Shaw and Williams-Jenkins

Overview: The Department of Social Work offers the Bachelor of Social Work (B.S.W.) and Master of Social Work (M.S.W.) degrees.

Accreditation: The program is seeking candidacy from the Council on Social Work Education (CSWE) at the M.S.W. level.

Master of Social Work (M.S.W.)

Description: The M.S.W. is a professional degree that prepares a student to work with individuals, families, and communities in administrative or direct care positions in private practice, hospitals, city, county, state, or federal social services agencies. Students pursue either a regular track or advanced placement track, depending on their background.

Preliminary Requirements: Students are admitted to the M.S.W. program on either a regular admission track or on an advanced standing track. In addition to meeting regular Graduate School requirements, students seeking regular admission to the M.S.W. program must meet or submit the following:

- Completion of the following liberal arts courses: statistics, psychology, sociology, human biology, and 12 hours of electives in the social or behavioral sciences
- Resume, personal autobiographical statement, essay, three letters of recommendation, and background check

In addition, students seeking admission to the advanced standing program for the M.S.W. must meet the following:

- 3.0 GPA on the last 60 hours of undergraduate course work
- 3.0 overall GPA
- Completion of B.S.W. degree from a CSWE-accredited program within the last five years

Prospective students should understand that admission to the M.S.W. program is competitive, with slots limited in number and dependent upon the availability of faculty. Meeting the above requirements does not guarantee admission.

No academic credit is given for life experience or previous social work experience.

Goals/Mission Statement: The M.S.W. program mission, in keeping with the university's emphasis on excellence in teaching, research, and service, is to prepare competent, effective, and ethical social work professional leaders who are equipped to develop social work knowledge and to provide leadership in the development of service delivery systems. This process involves a thorough grounding of students in both theoretical and practice frameworks on which the professional development of social work clinical practice is based at the advanced level. The faculty emphasizes a commitment to enhancing human well-being through alleviating social problems and emphasizing diversity and social and economic justice with systems of all sizes at the local, national, and global levels.

Course Requirements: Students must complete the requirements for either the regular track or advanced placement track.

M.S.W. Regular Track

Description: The regular track M.S.W. program is designed for students who do not enter the program with a B.S.W. degree from a CSWE-accredited program within the past five years.

Course Requirements: Students in the regular track for the M.S.W. must complete 60 hours of social work courses, including a set of 24 hours of foundation courses, 30

hours of clinical practice courses, and 6 hours of electives (from among the set of listed courses). No thesis or final oral examination is required.

Foundation Curriculum (24 hours):

- SW 601-Human Behavior and the Social Environment (3)
- SW 602-Social Work Practice with Individuals (3)
- SW 603-Social Work Research Methods (3)
- SW 604-Social Welfare Policies and Programs (3)
- SW 615-Practice with Families and Groups (3)
- SW 620-Practice with Organizations and Communities (3)
- SW 621-Field Instruction I [225 hours] (3)
- SW 622-Field Instruction II [225 hours] (3)

Concentration Area—Clinical Practice (30 hours):

- SW 630-Theories and Methods of Family Intervention (3)
- SW 640-Advanced Practice with Groups (3)
- SW 650-Clinical Assessment and Diagnosis (3)
- SW 660-Clinical Supervision (3)
- SW 680-Evaluation Research (3)
- SW 683-Theories of Psychotherapy (3)
- SW 686-Traumatic Stress and Crisis Intervention (3)
- SW 687-Substance Abuse and Addiction (3)
- SW 623-Field Instruction III [225 hours] (3)
- SW 624-Field Instruction IV [225 hours] (3)

Electives (6 hours):

- SW 670-Leadership and Administration (3)
- SW 681-Forensic Social Work with Children (3)
- SW 682-Clinical Practice in Child Welfare (3)
- SW 684-Social Work in Health Care Settings (3)
- SW 685-Gerontological Social Work (3)

M.S.W. Advanced Placement Track

Description: The advanced placement track for the M.S.W. is designed for highly qualified students who have completed a B.S.W. from a CSWE-accredited program within the past five years.

Course Requirements: Students in the advanced placement track for the M.S.W. must complete 36 hours of social work courses, 30 hours of clinical practice courses, and 6 hours of electives (from among the set of listed courses). No thesis or final oral examination is required.

Clinical Practice (30 hours):

- SW 630-Theories and Methods of Family Intervention (3)
- SW 640-Advanced Practice with Groups (3)
- SW 650-Clinical Assessment and Diagnosis (3)
- SW 660-Clinical Supervision (3)
- SW 680-Evaluation Research (3)
- SW 683-Theories of Psychotherapy (3)
- SW 686-Traumatic Stress and Crisis Intervention (3)
- SW 687-Substance Abuse and Addiction (3)
- SW 623-Field Instruction III [225 hours] (3)
- SW 624-Field Instruction IV [225 hours] (3)

Electives (6 hours):

SW 670-Leadership and Administration (3)

SW 681-Forensic Social Work with Children (3)

SW 682-Clinical Practice with Children (3)

SW 684-Social Work in Health Care Settings (3)

SW 685-Gerontological Social Work (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 PSY 575). (3).

601. HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT. Knowledge of reciprocal relationships between human behavior and social environments. Theories and knowledge on interactions between and among individuals, families, groups, societies, and economic systems are discussed. Prerequisite: admission to the M.S.W. program. (3).

602. SOCIAL WORK PRACTICE WITH INDIVIDUALS. Basic theory, professional values and ethics, and methods of social work practice with individuals along with assessment and planning, communication, intervention, and evaluation skills. Prerequisite: admission to the M.S.W. program. (3).

603. SOCIAL WORK RESEARCH METHODS. Research methodologies with respect to evolution and application to social work theory and practice are covered. History and philosophies of science; problem formulation; research design; ethics; instrument use and construction; data collection; analysis and reporting; and evaluation and utilization of research. Prerequisite: admission to the M.S.W. program. (3).

604. SOCIAL WELFARE POLICIES AND PROGRAMS. Historical perspective on the development of social welfare institutions, programs, and policies are addressed. Students will learn methods of current policy analysis and evaluation of social problems. Prerequisite: admission to the M.S.W. program. (3).

615. PRACTICE WITH FAMILIES AND GROUPS. Generalist practice with family and small group systems is the focus of this course. Ecological theory to frame understanding of such systems and their adaptation to environments and various social work roles and intervention strategies pertaining to client systems. Prerequisite: admission to the M.S.W. program. (3).

620. PRACTICE WITH ORGANIZATIONS AND COMMUNITIES. Basic theory, methods, problems, and strategies in implementing planned change within and among larger social systems: task groups, human service organizations, and community systems. Various practice roles: planner, program developer, supervisor, administrator, advocate, and task group leader. Prerequisite: admission to the M.S.W. program. (3).

621. FIELD INSTRUCTION I. The first of two foundation internship courses that requires a minimum of 225 hours of directed practicum in an approved social service setting with individuals, families, groups, formal organizations, and communities. This course includes a 3-hour seminar that will meet monthly. Prerequisites: SW 601, 602, 603, 604, 615, and 620. (3).

622. FIELD INSTRUCTION II. The second foundation internship course that requires a minimum of 225 hours of directed practicum experience. This course includes a 3-hour seminar that will meet monthly. Prerequisites: SW 601, 602, 603, 604, 615, and 620. (3).

623. FIELD INSTRUCTION III. One of two concentration internship courses providing a minimum of 225 hours of internship experience in a clinical setting. The course includes a 3-hour seminar that will meet monthly. Prerequisites: SW 621, 622 or advanced standing and 630, 640, and 650. (3).

624. FIELD INSTRUCTION IV. This course is the second of two concentration internship courses providing a minimum of 225 hours of internship experience in a clinical setting. This course requires a 3-hour seminar that will meet monthly. Prerequisites: SW 623 or advanced standing and 683, 686, and 687. (3).

630. THEORIES OF FAMILY INTERVENTION. Understanding and analyzing family dynamics and patterns of interaction from the perspective of major family therapy models. Intervention, theories, methods, and skills for problem resolution are discussed. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).

- 640. ADVANCED PRACTICE WITH GROUPS.** Theoretical and historical approaches to social work with groups and clinical principles supporting specific types of group work used in clinical practice and associated leader interventions. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 650. CLINICAL ASSESSMENT AND DIAGNOSIS.** This course will provide students with the knowledge and skills needed for the diagnostic assessment and treatment of adults and youths with psychiatric problems and with information on psychotropic medications utilized in mental health settings. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 660. CLINICAL SUPERVISION.** Interactive and clinical supervisory skills that social workers need for supervision and consultation in the clinical setting are covered. The students will examine the dynamics of the supervisory relationship and supervisor roles. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 670. LEADERSHIP AND ADMINISTRATION.** Management practices and leadership skills required in development and management of human services delivery systems. Issues regarding human resources management, resource allocation, strategic planning, and organizational dynamics are included. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 680. EVALUATION RESEARCH.** History, philosophy and issues, conceptual approaches, techniques and methods in practice and utilization of evaluation research as applied to development and evaluation of social work programs and policies. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 681. FORENSIC SOCIAL WORK WITH CHILDREN.** This course encompasses forensic social work with children and adolescents. The students will develop skills in court evaluations, court testimony, and the treatment of child/adolescent victims. Prerequisites: SW 621, 622 or advanced standing and 630, 640, and 650. (3).
- 682. CLINICAL PRACTICE IN CHILD WELFARE.** This course is intended to provide students an advanced study of the field of child welfare and the complex and changing practice and policies within this specialized field. Focus will be upon the knowledge, skills, and values required in this area. This course will emphasize child welfare services for a diverse society. Prerequisites: SW 621, 622 or advanced standing and 630, 640, and 650. (3).
- 683. THEORIES OF PSYCHOTHERAPY.** This course is designed to familiarize students with therapeutic models and related intervention strategies by focusing on the common principles and elements of current psychotherapies, with a special emphasis on cognitive and behavioral therapeutic approaches. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 684. SOCIAL WORK IN HEALTH CARE SETTINGS.** Individual, group, and family approaches to social work practice in health care settings. Special emphasis on cross-cultural practice and ethical/legal issues, including managed care, health care insurance, Medicare, and Medicaid. Prerequisites: SW 621, 622 or advanced standing and 630, 640, and 650. (3).
- 685. GERONTOLOGICAL SOCIAL WORK.** This seminar provides an introduction to gerontology with a foundation in the biological, psychological, social, and behavioral aspects of aging. Emphasis will be on incorporating current research and experiential components in working with the aging population. Prerequisites: SW 621, 622 or advanced standing and 630, 640, and 650. (3).
- 686. TRAUMATIC STRESS AND CRISIS INTERVENTION.** This course explores the phenomenon of traumatic stress in relation to social work practice. Topics include clinical social work treatment of survivors of traumatic situations, posttraumatic stress disorder, secondary traumatic stress, vicarious trauma and burnout. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).
- 687. SUBSTANCE ABUSE AND ADDICTION.** Survey and analysis of social, cultural, medical, and psychological factors underlying alcoholism, drug abuse, and addiction; recent research and practice innovations. Prerequisites: SW 601, 602, 603, 604, 615, and 620 or advanced standing. (3).

School of Business Administration

Ken Cyree, interim dean

Sue L. Hodge, assistant to the dean for undergraduate programs

Delvin D. Hawley, senior associate dean

Doug Gurley, executive director, Mississippi Small Business Development Center

253 Holman Hall

<http://www.olemissbusiness.com/>

Overview: The School of Business Administration offers the Bachelor of Business Administration (B.B.A.) degree in the emphasis areas of banking and finance, economics, management, management information systems, marketing, marketing communications, real estate, and risk management and insurance.

At the graduate level, the school offers both a residential and a professional Master of Business Administration (M.B.A.) and a Doctor of Philosophy (Ph.D.) in the emphasis areas of finance, management, marketing, management information systems, and production-operations management.

Accreditation: The School of Business Administration is accredited by the Association for the Advancement of Collegiate Schools of Business.

Master of Business Administration (M.B.A.)

Description: The M.B.A. exposes students to a variety of subjects, including statistics, economics, organizational behavior, business communication, marketing, financial strategy, operations management, and information technology management. The M.B.A. is available as either a residential program or as a professional program. The residential M.B.A. is a compressed one-year program for full-time students. The professional M.B.A. is designed for working business professionals and involves a variety of technological delivery modes.

Preliminary Requirements: Admission to both the residential and professional programs is competitive with a limited cohort size. Applicants are evaluated based on their academic qualifications, GMAT score, work experience, and other personal attributes. Minimum requirements for admission in full standing include completion of an undergraduate program in an accredited U.S. college or its international equivalent with an acceptable GPA in the last 60 semester hours of academic course work; a GMAT score that indicates proficiency for graduate-level business study; two acceptable letters of recommendation; and professional experience. Whereas post-bachelor's work experience is not required for admission to the full-time M.B.A. program, particular consideration is given to applicants for the part-time, professional M.B.A. program possessing two or more years of professional work experience. A TOEFL score of 600 or higher on the paper-based test (or 100 or better on the Internet-based test) is required for international applicants whose native language is not English. Prior to beginning the M.B.A. program, all students must have completed at least two courses in accounting, and one course in each of the following: advanced statistics, finance, management, and marketing. These admission requirements are

subject to change without notice, and satisfaction of the criteria does not guarantee admission.

Additional Information: All students must have a laptop computer that meets minimum approved specifications.

The Full-Time, Residential M.B.A. Program

The 12-month, full-time, campus-based program begins in June with an intensive series of classes that precedes the beginning of the fall semester. In the summer session, students develop essential skills in statistics, managerial economics, and decision-making analysis. Students move through the fall and spring semesters as a cohort. Skills courses in both semesters develop advanced capabilities in finance, communication, organizational behavior, and marketing analysis. During the spring semester, courses emphasize technology applications, entrepreneurship, and a capstone class emphasizes strategy integration. The 12-month residential M.B.A. program is based on a lock-step cohort system, and new students may begin the program only in the first summer session each year. All students take the same courses and are involved with the same peer group throughout the one-year program.

The Part-Time, Professional M.B.A. Program

The professional M.B.A. program is designed to meet the needs of working adults interested in completing a graduate business degree. As opposed to the full-time, residential M.B.A. program, the professional M.B.A. employs alternatively delivered methodologies such as Internet learning systems, telephone conference calls, videoconferencing, interactive CD-ROM/DVD technology, and short in-person gatherings. The program may be completed over a two-year period if a student chooses to take two courses each semester: fall semester, spring semester, and summer session. Alternatively, a student may choose to enroll in courses at a rate of one class a semester and, thereby, complete the program in four years. Students may begin the professional M.B.A. in the spring semester, summer session, or fall semester.

Course Requirements: Students must complete the requirements for either the residential or professional M.B.A. program.

Residential M.B.A.

Description: The residential M.B.A. is a compressed one-year program for full-time students.

Course Requirements: The residential M.B.A. is a cohort, lock-step program that requires successful completion of the following 34-hour set of core courses:

Summer

MBA 621-Statistical Analysis

MBA 614-Business Environment

MBA 612-Business Decision Making

Fall

MBA 601-Managerial Communications

MBA 602-Seminar Series

MBA 606-Organizational Behavior

MBA 611-Financial Analysis

MBA 623-Integrative Business Analysis

Winter Intersession

MBA 602-Seminar Series

Spring

MBA 602-Seminar Series

MBA 613-Mobilizing Technology in the Modern Business

MBA 622-Business Planning and Entrepreneurship

MBA 631-Strategic Management: Competitiveness and Globalization

Professional M.B.A.

Description: The professional M.B.A. is designed for working business professionals and involves a variety of technological delivery modes.

Course Requirements: The professional M.B.A. program requires the following 33 hours of courses:

MBA 621-Statistical Analysis

MBA 614-Business Environment

MBA 612-Business Decision Making

MBA 601-Managerial Communications

MBA 606-Organizational Behavior

MBA 611-Financial Analysis

MBA 623-Integrative Business Analysis

MBA 613-Mobilizing Technology in the Modern Business

MBA 622-Business Planning and Entrepreneurship

MBA 624-Project Analysis

MBA 631-Strategic Management: Competitiveness and Globalization

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. Prerequisites: MBA 621 and MBA 614 or consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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: Completion of MBA 621 and MBA 614. (To be taken two times). (1).

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. Prerequisites: MBA 621 and MBA 614, or consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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. Prerequisites: MBA 621 and MBA 614, or FIN 331, BUS 302, and MIS 309, and consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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. Prerequisites: MBA 621 and MBA 614 or consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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. Prerequisites: MBA 621 and MBA 614, or MBA prerequisite courses and consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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. Prerequisites: Admission to MBA program or consent of instructor. Limited number of non-MBA students admitted. (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. Prerequisites: Completion of MBA 621 and MBA 614 or consent of instructor. Limited number of non-MBA students admitted; laptop is required. (3).

621. STATISTICAL ANALYSIS. A critical examination of the theory and assumptions underlying the major multivariate statistical techniques. Prerequisites: Admission to MBA program or consent of instructor. Limited number of non-MBA students admitted; laptop is required. (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. Prerequisites: Completion of MBA 601, MBA 606, MBA 611, and MBA 613. (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. Prerequisites: Admission to MBA program or consent of instructor. Limited number of non-MBA students admitted. (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. Prerequisites: Completion of MBA 622, MBA 614, MBA 612, and MBA 615. (3).

Ph.D. IN BUSINESS ADMINISTRATION

Dr. Charles Noble, director of doctoral programs
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Description: The Ph.D. in business administration is offered with an emphasis in finance, management, management information systems (MIS), production/operations management (POM), and marketing. These emphases are designed 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 the emphasis field.

Preliminary Requirements: 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: (1) an overall undergraduate GPA of 3.0 or above or a 3.10¹ GPA on the last 60 credit hours attempted at either the undergraduate and/or graduate level; (2) a minimum score of 550 on the GMAT test or a combined score of 1100 on the quantitative and verbal portions of the GRE, as well as 4.0 on the analytical portion; (3) two letters of recommendation from academic or professional sources; (4) a 600 (paper-based) or 100 (Internet-based) TOEFL score (international applicants only); (5) curriculum vitae (résumé) and a brief statement of purpose.

The School of Business Administration is currently admitting students for fall semesters only. Preference will be given to applicants with business work experience. Unofficial copies of the GMAT/GRE test may be submitted at the time of application. However, official copies of these scores must be received by the application deadline.

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.

Additional Information

Curriculum: 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.

Course Requirements: Students in the Ph.D. program in business administration must satisfy the course requirements for an emphasis in finance, management, management information systems (MIS), production/operations management (POM), or marketing.

Other Academic Requirements

Written comprehensive examination: All doctoral 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.

Ph.D., Emphasis in Finance

Course Requirements: Doctoral students in the Ph.D. program with emphasis in finance are required to complete at least 60 hours of approved graduate credit beyond the bachelor's degree or at least 30 hours of approved courses numbered above 600 beyond the master's degree. The number of graduate credit hours will be determined by the student's program of study and prior undergraduate and/or graduate courses. 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). In addition to the major and minor fields, each candidate must satisfy such additional requirements as deemed appropriate by the advisory committee. A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

Students majoring in finance must successfully complete a written preliminary examination at the end of their first year in the program. The examination consists of a quantitative part that satisfies the School of Business tool requirement and a theory part that covers material taught in background finance courses.

Other Academic Requirements: In addition to a written comprehensive examination, students majoring in finance will also take an oral comprehensive examination after successfully completing all of the written comprehensive examinations. The purpose of the oral examination is to evaluate the student's ability to integrate the content of the major and minor areas of concentration.

Ph.D., Emphasis in Management

Course Requirements: Doctoral students in the Ph.D. program with emphasis in management are required to complete at least 60 hours of approved graduate credit beyond the bachelor's degree or at least 30 hours of approved courses numbered above 600 beyond the master's degree. The number of graduate credit hours will be determined by the student's program of study and prior undergraduate and/or graduate courses. 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). In addition to the major and minor fields, each candidate must satisfy such additional requirements as deemed appropriate by the advisory committee. A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

Ph.D., Emphasis in Management Information Systems

Course Requirements: Doctoral students in the Ph.D. program with emphasis in management information systems are required to complete at least 60 hours of approved graduate credit beyond the bachelor's degree or at least 30 hours of approved courses numbered above 600 beyond the master's degree. The number

of graduate credit hours will be determined by the student's program of study and prior undergraduate and/or graduate courses. 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). In addition to the major and minor fields, each candidate must satisfy such additional requirements as deemed appropriate by the advisory committee. A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

Ph.D., Emphasis in Marketing

Course Requirements: Doctoral students in the Ph.D. program with emphasis in marketing are required to complete at least 60 hours of approved graduate credit beyond the bachelor's degree or at least 30 hours of approved courses numbered above 600 beyond the master's degree. The number of graduate credit hours will be determined by the student's program of study and prior undergraduate and/or graduate courses. 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). In addition to the major and minor fields, each candidate must satisfy such additional requirements as deemed appropriate by the advisory committee. A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

Ph.D., Emphasis in Production-Operations Management

Course Requirements: Doctoral students in the Ph.D. program with emphasis in production-operations management are required to complete at least 60 hours of approved graduate credit beyond the bachelor's degree or at least 30 hours of approved courses numbered above 600 beyond the master's degree. The number of graduate credit hours will be determined by the student's program of study and prior undergraduate and/or graduate courses. 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). In addition to the major and minor fields, each candidate must satisfy such additional requirements as deemed appropriate by the advisory committee. A doctoral student must also demonstrate proficiency in research methodology and satisfy the tools requirement of the major field department.

BUSINESS STUDIES — BUS

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).

650. ENTERING THE PROFESSION SEMINAR. (1).

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

Associate Professor R. Phil Malone, chair • 337 Holman Hall

Professor Cox • Associate Professors Cyree, Hawley, Malone, B. Van Ness, R. Van Ness, and M. Walker • Assistant Professors Fuller and Liebenberg • Clinical Assistant Professor Moya • Visiting Instructor Shkilko

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

Associate Professor Walter D. Davis, chair • 340 Holman Hall

Professors Harvey, Martin, Paolillo, and Robinson • Associate Professors Canty, Davis, Frink, and Novicevic • Assistant Professors Bing, Littlejohn, and C. Walker • Clinical Assistant Professors Crawford, Davison, Dorn, and Hamilton • Visiting Assistant Professor Goldsmith

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

Professor Milam W. Aiken, chair • 334 Holman Hall

Professors Aiken, Alidaee, and Reithel • Associate Professors S. Conlon and Rego • Assistant Professors Ammeter, Garner, and Huang • Instructor 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. E-COMMERCE AND INTERNET PROGRAMMING. (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

Professor Scott J. Vitell, Jr., chair • 325 Holman Hall

Professors Ingene and Vitell • Associate Professors Bush, C. Noble, S. Noble, Sloan, and Vorhies • Assistant Professors Cousley, Garg, Govind, and Yang • Clinical Assistant Professors Cosenza and Southern

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

222 Guyton Hall

(662) 915-7063

http://www.olemiss.edu/depts/educ_school2/

CURRICULUM AND INSTRUCTION

Associate Professor Kim Hartman, chair • 316 Guyton Hall

Professors Burnham, Dougherty, Hanshaw, Love, Payne, Oliphant-Ingham, and Sumrall • Associate Professors Barlow, Blackburn, Chessin, Gauthier, Hartman, Holmes, Pepper, Rowland, and Smothers-Jones • Assistant Professors Blackwell, Boyd, Cross, Deaton, Foster, Moore, Plants, Raines, Webb, Wiggers, and Williams-Black • Visiting Assistant Professors Mathis, and Monroe • Instructors Angle, Carter, Lee, Lowry, McConnell, Pegram, and Whitwell • Visiting Instructors Lee and Ridgeway

Overview: The Department of Curriculum and Instruction offers the Master of Education (M.Ed.) and Educational Specialist (Ed.S.), with emphases in elementary education, secondary education, special education, and literacy education; the Master of Arts (M.A.) (Teacher Corps option); the Doctor of Education (Ed.D.) in elementary education; and the Doctor of Philosophy (Ph.D.) in secondary education.

Accreditation: The Department of Curriculum and Instruction is accredited by the Mississippi Department of Education, National Council for Accreditation of Teacher Education, and the Southern Association of Schools and Colleges.

Goals/Mission Statement: The philosophy of the Department of Curriculum and Instruction, as it applies to the preparation of teachers, is reflected by the belief that teachers should be prepared to

- Develop and engage in appropriate teaching strategies by studying, interacting, practicing, and reflecting;
- Collaborate in identifying and meeting the broad range of goals for which schools are responsible in today's society;
- Show by modeling and encouraging students the dispositions of leading, thinking, problem solving, and lifelong learning;
- Respect and serve culturally diverse populations and communities; and
- Assume responsibility for the quality and effectiveness of their professional lives.

M.Ed. in Curriculum and Instruction

Description: The M.Ed. in curriculum and instruction is offered with three emphasis areas: elementary education, special education, and secondary education. The latter emphasis can also be completed with one of four specializations: English education, mathematics education, science education (biology, physics, and chemistry), and social studies education. For each program, candidates engage in readings, research, discussions, simulations, reflections, applications, and field experiences/clinical practices intended to help them grow as reflective education professionals.

Preliminary Requirements

Entrance to all M.Ed. programs requires the following:

1. Verification of National Board Certification OR an OFFICIAL COPY of passing Praxis II scores on either the Principles of Learning and Teaching (PLT) (minimum score 156) OR the required subject area exam according to department requirements. Contact the department for test codes and minimum scores. GRE scores are required for spring 2009 applicants. Praxis II scores and National Board Certification will not be accepted after fall 2008.
2. A copy of the Class A (standard five-year) license OR proof of eligibility to hold a standard teaching license.
3. Minimum GPA of 3.0 on all previous course work.
4. Two disposition assessment forms completed as indicated on form. Contact the department for copies of these forms.

Note: A decision regarding admission will not be made until all required paperwork is on file at the Department of Curriculum and Instruction office.

Additional Information: Candidates who are conditionally admitted or who elect to enroll as nondegree-seeking students may take only 9 hours and are NOT eligible for financial aid.

Course Requirements: The M.Ed. degree requires 30 semester hours of course work with emphasis in elementary, secondary, or special education. All candidates for the degree must take Educational Research I (Edrs 605) and Advanced Curriculum Theory and Practice (Edci 601).

M.Ed. with an Emphasis in Elementary Education

Description: The M.Ed. with an emphasis in elementary education enables a student to specialize in language arts/reading or science/mathematics. The M.Ed. program addresses national board standards with special emphasis placed on lifelong learning, research findings, and innovative curricula.

Course Requirements: The M.Ed. in curriculum and instruction with emphasis in elementary education requires the following: professional core courses (9 hours, Edrs 605, Edci 601, Edci 503); specialization area courses (15 hours from either language arts/reading or math/science); and 6 hours of electives (electives must be approved by the adviser). Total hours in the master's program are 30.

Other Academic Requirements: M.Ed. candidates must successfully complete a professional portfolio and have a minimum of 45 hours of adviser-approved field experiences. M.Ed. candidates must also pass a comprehensive exam at the end of their program.

M.Ed. with an Emphasis in Secondary Education

Description: The M.Ed. with an emphasis in secondary education can be completed with a specialization in English education, mathematics education, science education, or social studies education. The program addresses national board standards with special emphasis placed on lifelong learning, research findings, and innovative curricula.

Course Requirements: The M.Ed. in curriculum and instruction with emphasis in secondary education requires students to complete a set of professional core courses (9 hours, Edrs 605, Edci 601, Edci 503) and to complete one of two options. Option I candidates are required to take 15 hours based on their specialization area (English, mathematics, science, or social studies) and two (6 hours) electives. Option II requires candidates to be full-time students at the Oxford campus and to take 21 hours of content courses from the specialization area. All courses must be approved by the candidate's adviser. Total hours in the master's program are 30.

Other Academic Requirements: M.Ed. candidates must successfully complete a professional portfolio and have a minimum of 45 hours of approved field experiences. M.Ed. candidates must also pass a comprehensive exam at the end of their program.

M.Ed. with an Emphasis in Special Education

Description: The M.Ed. with an emphasis in special education addresses national board standards with special emphasis placed on lifelong learning, research findings, and innovative curricula.

Course Requirements: The M.Ed. in curriculum and instruction with emphasis in special education requires the following: professional core courses (9 hours, Edrs 605, Edci 601, Edci 503); major area courses (15 hours to include Edsp 628, Edsp 683, Edsp 552, and two additional courses in special education); and 6 hours of electives (electives must be approved by the adviser). Total hours in the master's program are 30.

Other Academic Requirements: M.Ed. candidates must complete a professional portfolio and have a minimum of 45 hours of approved field experiences. M.Ed. candidates must also pass a comprehensive exam at the end of their program.

M.Ed. in Literacy Education

Description: The M.Ed. in literacy education is designed to meet the needs of in-service teachers in two ways: 1) to become literacy coaches/literacy leaders in K-12 schools, and 2) to become more specialized as literacy teachers in K-12 classrooms.

Preliminary Requirements: Admission to the M.Ed. in literacy education is competitive, with admission's openings limited in number and dependent upon the availability of faculty mentors. Candidates admitted to the program will be assigned a faculty mentor upon admittance.

The admission requirements for the program are as follows:

- 3.0 GPA on the last 60 hours of undergraduate work
- Competitive GRE scores
- Statement on philosophy of education (including an assignment and rubric for grading)
- Two letters of recommendation
- Hold or be eligible to hold an educator's license

Applications must be received before March 15 for the first summer term admission. Candidates are admitted only during the spring semester with course work beginning the first summer term.

Course Requirements: The M.Ed. in literacy education requires 36 hours of course work. All candidates for the degree are required to take the following courses:

Core Courses—9 hours

Edrs 605-Educational Research
Edci 601-Advanced Curriculum and Theory
Edci 503-Measurement and Evaluation

Literacy Education Courses—27 hours

Edlt 601-Literacy Foundations: Theory, History, and Research
Edlt 602-Early Literacy Development
Edlt 603-Expanding Literacy Development
Edlt 604-Effective Literacy Assessment and Intervention
Edlt 605-Content Area Literacy
Edlt 606-Literature for Children and Adolescents
Edlt 607-Literacy Leadership
Edlt 608-Literacy Internship I
Edlt 609-Literacy Internship II

Additional Requirements: Candidates must maintain a “B” average on all course work in the program and must meet with the faculty adviser prior to registration each semester. At the end of the program, candidates must successfully complete a written comprehensive examination and a portfolio evaluation.

Ed.S. in Curriculum and Instruction

Description: The Ed.S. degree provides students with educational development beyond the master’s level. Graduates may pursue this degree to obtain additional credentials or as a step while deciding whether to work for a doctoral degree. Specialist’s degree candidates address national board standards with special emphasis on lifelong learning and development of leadership skills.

Preliminary Requirements

Entrance to all specialist programs requires the following:

1. Verification of National Board Certification OR an OFFICIAL COPY of passing Praxis II scores on either the Principles of Learning and Teaching (PLT) (minimum score 164) OR the required subject area exam according to department requirements. Contact the department for test codes and minimum scores. GRE scores are required for spring 2009 applicants. Praxis II scores and National Board Certification will not be accepted after fall 2008.
2. A copy of the Class AA license.
3. Minimum GPA of 3.25 on all previous graduate work.
4. Two disposition assessment forms completed as indicated on form. Contact the department for copies of these forms.
5. Evidence of two years’ teaching experience or relevant work experience (letter from employer).
6. Complete an acceptable writing sample under conditions set forth by the faculty of the Department of Curriculum and Instruction.

Note: A decision regarding admission will not be made until all required paperwork is on file at the Department of Curriculum and Instruction office.

Additional Information: Candidates who are conditionally admitted or who elect to enroll as nondegree-seeking students may take only 9 hours and are NOT eligible for financial aid.

Course Requirements: The Ed.S. degree requires 36 semester hours of course work beyond the master's level. Students must complete an emphasis in either elementary, secondary, or special education. The requirements include a set of foundation courses, a set of specialization requirements (in either elementary, secondary, or special education), and a selection of emphasis area and elective courses.

Other Academic Requirements: Specialist's candidates must complete a minimum of 65 hours of approved field experiences and submit a scholarly paper to a refereed journal.

Ed.S. with Emphasis in Elementary Education

Course Requirements: The Ed.S. with emphasis in elementary education requires the following: foundation course requirements (18 hours), Edci 601, Edrs 605, Edci 658, Edrs 501, Edci 557, Educ 555; specialization courses (12 hours), including Edci 635, Edel 601, Edel 767, with the remaining 9 hours being electives (3 from the emphasis area and 6 general electives), which must be approved by the candidate's adviser. Total hours in the Ed.S. with emphasis in elementary education are 36.

Ed.S. with Emphasis in Secondary Education

Course Requirements: The Ed.S. with emphasis in secondary education requires the following: foundation courses (15 hours), including Edrs 501, Edci 557, and Edci 658, and with the remaining 6 hours of foundation courses being electives that must be approved by the candidate's adviser; specialization courses (9 hours), including Edse 690, Edse 767, and Edse 625; the remaining 12 hours (6 from the emphasis area and 6 general electives) are electives that must be approved by the candidate's adviser. Total hours in the Ed.S. with emphasis in secondary education are 36.

The secondary education specialist must take 15 hours of foundation courses, including Edrs 501-Educational Statistics, Edci 557-Computer Concepts and Applications for Educators, and Edci 658-Trends and Issues in Teaching. The remaining 6 hours of foundation courses are electives, which must be approved by the candidate's adviser. Specialization courses include Edse 690-Master's Seminar in Secondary Education, Edse 767-Field Study, Edse 625-Trends and Issues in Secondary Education. The remaining 12 hours (6 from the specialization area and 6 general electives) are electives that must be approved by the candidate's adviser. Total number of hours in the specialist's program are 36.

Ed.S. with Emphasis in Special Education

Course Requirements: Requirements for the Ed.S. with emphasis in special education include foundation requirements (18 hours), Edci 601, Edrs 605, Edci 658, Edrs 501, Edci 557, Educ 555; specialization requirements (12 hours), Edsp 674 and Edsp 651, with the remaining 12 hours (6 from the emphasis area and 6 general electives) being electives that must be approved by the candidate's adviser. Total hours in the special education Ed.S. program are 36.

Ed.D. in Elementary Education

Description: The Ed.D. degree in elementary education prepares graduates to assume positions such as teacher educators, curriculum directors, state department of education personnel, or leaders in other educational settings. Doctoral-level students generate and utilize research, apply research and theory in curriculum development, and communicate ideas through writing and speaking with other professionals in the field.

Preliminary Requirements

Entrance requirements for the Ed.D. program are as follows:

1. Verification of National Board Certification OR an OFFICIAL COPY of passing Praxis II scores on either the Principles of Learning and Teaching (PLT) (minimum score 164) OR the required subject area exam according to department requirements. Contact the department for test codes and minimum scores. GRE scores are required for spring 2009 applicants. Praxis II scores and National Board Certification will not be accepted after fall 2008.
2. Minimum GPA of 3.5 on all previous graduate work.
3. Two disposition assessment forms completed as indicated on form. Contact the department for copies of these forms.
4. Evidence of two years' teaching experience or relevant work experience (letter from employer). Exceptions must be submitted to the graduate coordinator for graduate committee consideration.
5. Complete a two-hour written preliminary exam on an assigned topic set forth by the faculty of the Department of Curriculum and Instruction.
6. Complete an oral interview with Department of Curriculum and Instruction graduate faculty.

Note: A decision regarding admission will not be made until all required paperwork is on file at the Department of Curriculum and Instruction office.

Additional Information: Candidates who are conditionally admitted or who elect to enroll as nondegree-seeking students may take only 9 hours and are NOT eligible for financial aid.

Course Requirements: The Ed.D. degree requires a minimum of 81 hours of course work, plus 18 hours of dissertation, for a total of 99 hours beyond the bachelor's degree. Requirements include the professional core, including Edrs 501-Educational Statistics I, Edrs 605-Educational Research I, Edrs 701-Educational Statistics II, Edrs 704-Foundations of Qualitative Research Methodology, Edrs 705-Educational Research II, and Edfd 609-The Cultural Context of Education. Additionally, candidates must take Edci 503-Measurement and Evaluation for the Classroom Teacher and Edci 601-Advanced Curriculum Theory and Practice. All electives should be approved by the candidate's adviser.

Other Academic Requirements: Doctoral candidates must complete a written comprehensive exam, present a professional portfolio and a complete dissertation, in addition to completing 75 hours of approved field experiences.

Ph.D. in Education

Preliminary Requirements: Different entrance requirements exist for the emphasis in secondary education and the emphasis in educational leadership (to be found under Leadership and Counselor Education):

Secondary Education

1. Verification of National Board Certification OR an OFFICIAL COPY of passing Praxis II scores on either the Principles of Learning and Teaching (PLT) (minimum score 164) OR the required subject area exam according to department requirements. Contact the department for test codes and minimum scores.
2. Minimum GPA of 3.5 on all previous graduate work.
3. Two recommendation forms completed as indicated on form. Contact the department for copies of these forms.
4. Evidence of two years' teaching experience or relevant work experience (letter from employer). Exceptions must be submitted to the graduate coordinator for graduate committee consideration.
5. Complete a two-hour written preliminary exam on an assigned topic set forth by the faculty of the Department of Curriculum and Instruction.
6. Complete an oral interview with curriculum and instruction graduate faculty.

Note: A decision regarding admission will not be made until all required paperwork is on file at the Department of Curriculum and Instruction office.

Ph.D. in Education with Emphasis in Secondary Education

Description: The Ph.D. in education with emphasis in secondary education can be completed with specializations in English, mathematics, science, and social studies education. Candidates in the program address national board standards, conduct research and further their development of leadership skills. Graduates may assume positions as university faculty and leaders in other educational settings. Doctoral-level graduates generate and utilize research, apply research and theory in curriculum development, and communicate ideas through writing and speaking with other professionals in the field.

Course Requirements: The Ph.D. with an emphasis in secondary education requires 99 semester hours beyond the bachelor's degree, including 18 dissertation hours. The 99 hours include 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 professional core includes Edrs 501-Educational Statistics I, Edrs 701-Educational Statistics II, Edrs 605-Educational Research I, Edrs 704-Foundations of Qualitative Research Methods, Edrs 705-Educational Research II, and Edfd 609-The Cultural Context of Education. All electives should be approved by the candidate's adviser.

Other Academic Requirements: Doctoral candidates must complete a written comprehensive exam, present a professional portfolio and a complete dissertation, in addition to completing 75 hours of approved field experiences.

M.A. in Curriculum and Instruction

Description: The M.A. in curriculum and instruction is offered for students who participate in the Mississippi Teacher Corps program. Teacher Corps is a two-year

program, similar to the Peace Corps, that recruits college graduates to teach in the Mississippi Delta. The program is designed for noneducation majors and offers a host of benefits, including

- Teacher training and certification;
- Full scholarship for a master's degree in education;
- Job placement that includes full pay (\$30,000+) and benefits;
- The opportunity to make a difference in the lives of students in one of the poorest areas of the country.

Preliminary Requirements

Application Process: All candidates must have received or expect to receive a bachelor's degree by June before the entry fall semester and have a grade-point average (GPA) of at least 3.0 on a 4.0 scale on all course work in the baccalaureate degree. No previous education course work is required or expected. As part of the application process, candidates will be asked to submit the following:

1. **References.** Candidates will list two references, including work phone number and e-mail address. References should be familiar with your work ethic, academic ability, and potential as a teacher. We recommend professors or job supervisors.
2. **Resume (optional).** A current resume outlining extracurricular activities and work experience. Including your resume is optional.
3. **Praxis Test Scores (optional).** The Praxis I and II are not required for initial application. The Praxis I and II are standardized tests administered by the Educational Testing Service (ETS) and are required for full admittance into the Mississippi Teacher Corps. Click here to view our Praxis information sheet as a PDF document (opens in a new window). For further information or a registration packet, contact the Educational Testing Service at 800-772-9476 or visit the Praxis Web site: www.ets.org/praxis.

Course Requirements: See your department chair or adviser for major specific 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).

616. SCIENCE, TECHNOLOGY, SOCIETY IN THE CLASSROOM. The interrelationships among trends, issues, and strategies in teaching science, technology, and society (STS) will be explored. Students will research, discuss, and critique approaches to teaching STS as well as plan and evaluate different learning strategies. (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

Associate Professor Timothy Letzring, chair • 120 Guyton Hall

Professor Kline • Associate Professors Bartee, Davis, Letzring, Mullins, Snow, Spruill, and Wells • Assistant Professors Bunch, McClelland, Melear, Reardon, Showalter, Sommer, and Stoltz

Overview: The Department of Leadership and Counselor Education offers graduate degrees in three general areas: higher education, K-12 leadership, and counselor education. These graduate degrees are a Master of Arts (M.A.) in higher education/student personnel; a Doctor of Philosophy (Ph.D.) in higher education; a Master of Education (M.Ed.) and Education Specialist (Ed.S.) in educational leadership; a Doctor of Philosophy (Ph.D.) in education with emphasis in educational leadership/K- 12; and a Master of Education (M.Ed.), Education Specialist (Ed.S.), and Doctor of Philosophy (Ph.D.) in counselor education.

Accreditation: The specialist program in professional counseling is located in the counselor education program in the Department of Leadership and Counselor Education in the NCATE-accredited School of Education. The program's academic and experiential requirements meet the accreditation requirements of the Council for the Accreditation of Counselor and Related Educational Programs (CACREP).

M.Ed. in Counselor Education

Description: The M.Ed. in counselor education must be completed with either an option in school counseling or community counseling. The program requires satisfactory completion of courses and course experiences, development of basic counseling skills, performance in practicum and internship, and demonstration of specific clinical competencies beyond class requirements.

Accreditation: The M.Ed. program's academic and experiential requirements meet the accreditation requirements of the Council for the Accreditation of Counselor and Related Educational Programs (CACREP).

Goals/Mission Statement: The general objective of the M.Ed. in counseling is to prepare students to be professional counselors. The counselor education faculty believes that the development of a strong professional identity, a rich knowledge base, and expertise in the skills of counseling are essential to becoming a professional counselor. The program's first priority is to serve the people of Mississippi by providing highly qualified counselors.

Course Requirements: To complete the M.Ed. in counselor education, a student must complete the following core courses and also complete specific courses for either the option in school counseling or community counseling.

Core courses for the M.Ed. include
Coun 539-Introduction to the Counseling Profession
Coun 570-Multicultural Counseling
Coun 672-Seminar in Legal and Ethical Issues
Coun 643-Group Procedures
Coun 594-Play Therapy
Coun 683-Counseling Theory
Coun 690-Counseling Skills
Coun 605-Research in Counseling
Coun 601-Lifespan Development
Coun 680-Career Counseling
Coun 621-Assessment
Coun 693-Practicum
Coun 688-Counseling Children and Adolescents
Coun 695-Internship (6)
Coun 682-Family Counseling

Other Academic Requirements: Along with the scholarship aspect of the program, which is the mastery of academic content, the master's program in counselor education requires students to demonstrate competencies in the core competency areas outlined in the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) 2001 Standards.

All master's degree students in the counselor education program are required to pass the Counselor Preparation Comprehensive Examination (CPCE). Students will retake the CPCE until they can achieve a passing score.

School Counseling Option

Description: The M.Ed. in counselor education/school counseling option requires that all students successfully complete a range of program experiences. Graduates of this program should be prepared for counselor positions in K-12 schools.

Course Requirements: Beyond the M.Ed. counselor education core courses, the school counseling option requires the following course: Coun 688-Organization, Administration, and Consultation in School Counseling.

Community Counseling Option

Description: The M.Ed. in counselor education/community counseling option requires that students complete a range of program experiences. Graduates of this program are prepared to become community counselors in public and private community settings.

Course Requirements: Beyond the core course requirements for the M.Ed. program, the community counseling option also requires the following courses:

Coun 685-Organization, Administration, and Consultation in Community Counseling
Coun 674-Diagnostic Systems in Counseling
Electives (6)

Ed.S. in Counselor Education

Description: The Ed.S. in counselor education is designed specifically for school counselors. Completion of this degree will partially fulfill requirements in the state of Mississippi for AAA school counselor licensure.

Preliminary Requirements: The 18-hour Ed.S. degree requires completion of the 48-hour M.Ed. in counselor education.

Course Requirements: The Ed.S. in counselor education requires 18 hours of course work to include

Coun 653-Group Counseling Practicum
Coun 682-Family Counseling
Coun 674-Diagnostic Systems in Counseling
One 3-hour elective and 6 hours of Coun 695-Internship.

This set of requirements is built upon the following courses for the M.Ed. in counselor education (48 hours). The student may be required to take these courses if any of them are not in his/her record: Coun 539, 570, 594, 601, 605, 621, 643, 680, 683, 672, 686, 690, 688, 693, and 695.

Ph.D. in Counselor Education

Description: The doctoral program in counselor education is located in the Department of Leadership and Counselor Education in the NCATE-accredited School of Education. The program's academic and experiential requirements meet the accreditation requirements of the Council for the Accreditation of Counselor and Related Educational Programs (CACREP).

Preliminary Requirements: A prerequisite for admission to the Ph.D. in counselor education is a master's degree in counseling that includes CACREP required core and program area curricular components. Preference will be given to applicants who are graduates of CACREP-accredited programs.

GRE verbal, quantitative, and writing scores are also required.

Goals/Mission Statement: The Ph.D. in counselor education prepares a graduate to become a counselor educator.

Course Requirements: Course requirements for the Ph.D. in counselor education include

- Coun 783-Advanced Counseling Theory
- Coun 794-Advanced Group Counseling
- Edrs 701-Educational Statistics II
- Coun 687-First-year Seminar (twice for credit)
- Coun 750-Research and Publication in Counselor Education
- Coun 753-Supervision of Counseling Services
- Coun 793-Advanced Practicum
- Coun 795-Internship (12 hours)
- Edld 662-College Teaching
- Coun 751-Qualitative Perspectives in Counselor Education

- Coun 754-Advanced Clinical Supervision
- Coun 752-Qualitative Methods and Analysis for Counselor Educators
- Edrs 705-Educational Research II
- Coun 797-Dissertation (18 hours)

Students will develop a minimum of one core content area specialization and a counseling major specialization in community or school counseling. Core content area specializations involve developing advanced level competencies in courses that correspond to the eight core content areas described in CACREP accreditation standards and play therapy. Counseling major specializations involve developing advanced level competencies in courses designed to fulfill requirements for master's level counseling majors in school or community counseling. The above course list gives the standard program requirements, but specific requirements will be developed individually to best fit students' objectives and prior experiences. This is outlined more specifically in the Counselor Education Doctoral Handbook.

Other Academic Requirements: Students must complete a comprehensive examination, a dissertation prospectus, and prepare and defend a dissertation.

M.A. in Higher Education/Student Personnel

Description: The M.A. in higher education/student personnel is designed to prepare qualified students for entry-level positions in higher education and/or student personnel. Graduates have found employment as higher education professionals in a variety of areas, including housing, career counseling, international student affairs, financial aid, student activities, Greek life, and development, just to name a few.

Accreditation: The M.A. program is aligned with program guidelines as outlined by the Council on Academic Standards (CAS) of the American College Personnel Association. Every four to five years, the program faculty conducts a self-study of the program to assess its alignment with the standards from CAS. This maintains a relevant and current program for our students.

Preliminary Requirements: Students must have a bachelor's degree, competitive scores on the GRE, and indicate a rationale for desiring to enroll in this program.

Course Requirements: The requirements for the M.A. in higher education/student personnel include

Edfd 609-The Cultural Context of Education

Edrs 605-Educational Research I

Edld 658-Organization and Governance of Higher Education

Edld 659-Finance of Higher Education

Edld 660-History of Higher Education

Edld 664-Law in Higher Education

Edld 665-Cont. Issues of Higher Education

Edld 667-Practicum

Edld 668-Practicum (required only of students having no higher education work experience and no current assistantship in higher education)

Edld 689-Student Services in Higher Education

Edld 691-The College and the Student

12 hours of electives if Edld 668 is not required

Other Academic Requirements: Students must complete a final portfolio as a part of their comprehensive examination.

Ph.D. in Higher Education

Description: The Ph.D. in higher education prepares higher education administrators following the practitioner-scholar model. The intent of the doctoral program is to offer advanced course work and experiences that provide the student with greater knowledge of higher education and the leadership aspects associated with such organizations.

Preliminary Requirements: Applicants must have a master's degree, two years' employment experience at a college or university, competitive scores on the GRE, and excellent writing skills.

Course Requirements: Course requirements for the Ph.D. in higher education include

Edrs 501-Educational Statistics I
Edrs 605-Educational Research I
Edrs 700-Models of Inquiry and Literature Review
Edrs 701-Educational Statistics II
Edrs 704-Foundations of Qualitative Methodology
Edrs 705-Educational Research II
Edfd 609-Cultural Context of Education
Edld 750-Organizational Improvement
Edld 659-Finance of Higher Education
Edld 662-College Teaching
Edld 664-Law of Higher Education
Edld 660-History of Higher Education
Edld 665-Contemporary Issues of Higher Education
Edld 760-Advanced Educational Policy Analysis

Other requirements are 6 hours in the leadership component, a minimum of 12 hours of higher education electives, and 18 hours of teaching cognate/minor.

Other Academic Requirements: Students must pass a written comprehensive examination, prepare a dissertation prospectus, and then successfully write and defend their dissertation.

M.Ed. in Educational Leadership

Description: The M.Ed. in educational leadership is designed to prepare public school administrators for Class AA and AAA certification.

Preliminary Requirements: Prerequisites for admission to the M.Ed. in educational leadership include

1. Hold a Class A teacher's certificate;
2. Minimum two years' successful (K-12) teaching experience;
3. Have at least 3.0 GPA;
4. Competitive scores on the Graduate Record Examination; must be less than five years old (verbal, quantitative, and writing sections);
5. Exhibit proficient writing skills on position paper(s);

6. Evidence of leadership potential;
7. Three references; and a
8. Successful interview.

Goals/Mission Statement: The M.Ed. in educational leadership prepares leaders using a cohort model. The program provides candidates with the knowledge, skills, and dispositions to meet ELCC standards and leads to AA certification for K-12 public school administrators.

Course Requirements: The M.Ed. in educational leadership requires 36 hours of the following course work:

- Eddl 671-Leadership Concepts and Skills (6)
- Eddl 672-Common Ground: School and Community (6)
- Eddl 673-Organizational Management (6)
- Eddl 674-Students, Teachers, and the Educational Program (6)
- Eddl 675-Policy, Integrity, Ethics, Legal, and Political Issues (6)
- Eddl 656-Administrative Internship (6)

Ed.S. in Educational Leadership

Description: The Ed.S. in educational leadership is designed to prepare public school administrators for Class AA and AAA certification. The program affords the student excellent opportunities to expand their leadership capabilities at the building level.

Preliminary Requirements: Prerequisites for admission to the Ed.S. in educational leadership include

1. Hold a master's degree outside of leadership,
2. Hold Class AA teacher's certification,
3. Minimum two years successful (K-12) teaching experience,
4. Minimum 3.0 GPA,
5. Competitive scores on the Graduate Record Examination; must be less than five years old (verbal, quantitative, and writing sections),
6. Exhibit proficient writing skills on position paper(s),
7. Evidence of leadership potential,
8. Three references, and
9. Successful interview.

Goals/Mission Statement: The Ed.S. in educational leadership program provides candidates with the knowledge, skills, and dispositions to meet ELCC standards and leads to AAA certification for K-12 public school administrators.

Course Requirements: Course requirements for the Ed.S. in educational leadership are

- Eddl 671-Leadership Concepts and Skills (6)
- Eddl 672-Common Ground: School and Community (6)
- Eddl 673-Organizational Management (6)
- Eddl 674-Students, Teachers, and the Educational Program (6)
- Eddl 675-Policy, Integrity, Ethics, Legal, and Political Issues (6)
- Eddl 656-Administrative Internship (6)

Ph.D. in Education

Preliminary Requirements: Different entrance requirements exist for the emphasis in secondary education (to be found under Curriculum and Instruction) and the emphasis in educational leadership:

Educational Leadership/K-12

The educational leadership doctoral program admits once per year for the spring semester.

1. Hold a master's degree from a regionally accredited institution of higher education.
2. Have at least a B average on all previous graduate work applicable to the doctoral program.
3. Have at least two years' successful experience as a professional in a school or school district (K-12).
4. Make a competitive score on the Graduate Record Examination (verbal, quantitative, and writing sections).
5. Exhibit proficient writing skills on position papers.
6. Hold AA administrator license in K-12.
7. Evidence of successful performance as a leader.

Ph.D. in Education with Emphasis in Educational Leadership

Description: The Ph.D. in education with emphasis in educational leadership offers practicing professionals additional education for positions in the schools, school districts, and higher education as faculty.

Course Requirements: The Ph.D. in education with emphasis in educational leadership requires the following courses:

Educational Leadership Core (24 hours):

Edfd 609-Cultural Context in Education

Edld 630-Organization-Environment Interaction

Edld 694-Human Resource Development

Edld 700-Administrative Theory

Edld 721-Leadership and Management

Edld 730-Multidisciplinary Perspectives on Leadership

Edld 750-Organizational Improvement

Edld 756-Internship (required)

Research Component (12 hours):

Edrs 501, 701-Educational Statistics I, II

Edrs 605, 705-Educational Research I, II

Approved Electives (18 hours): outside the leadership emphasis, with 9 hours outside the School of Education

Specialty Courses (21 hours): K-12 administration courses

Dissertation (18 hours)

Other Academic Requirements: All doctoral students must complete a minimum of 36 hours of course work in residence at The University of Mississippi. All courses in the leadership core and Edrs 605, 701, and 705 must be taken in residence.

A written comprehensive examination encompassing the leadership core, research, and area of specialization is taken upon completion of course work. After passing the comprehensive examination, students must enroll for at least 3 hours of dissertation credit in two of the three semesters each year and must earn at least 18 hours of dissertation. Students must complete a dissertation prospectus and must complete and orally defend a dissertation.

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 — 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. Prerequisite: COUN majors only. (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. (1-3). (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 COUNSELING PRACTICUM.** Supervised practicum in leading counseling and psychoeducational groups. Emphasis on leader skill development, conceptualization of group dynamics, theoretical application, and development of leadership style. Prerequisites: COUN 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. (3).
- 680. CAREER COUNSELING.** Career development theories and application to counseling. Implementation of educational, occupational, social informational, and placement services within counseling. (3).
- 682. FAMILY COUNSELING.** This course provides an overview of the historical roots of family counseling and the major theoretical orientations. A brief overview of the role of research, multiculturalism, and ethics in family counseling is explored. (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. For COUN majors only. (3).
- 685. ORGANIZATION, ADMINISTRATION, AND CONSULTATION IN COMMUNITY COUNSELING.** Organization, administration, evaluation, and consultation in community counseling programs in various settings. Presents effective service delivery programs within current ethical and professional standards. Prerequisites: COUN 539 and 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, ADMINISTRATION, AND CONSULTATION IN SCHOOL COUNSELING.** Organization, administration, consultation, and evaluation in school counseling programs in educational settings. Presents effective service delivery within current ethical and professional standards. Prerequisite: COUN 539. (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. Prerequisites: COUN 683, permission of instructor, COUN majors only. (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 COUN 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).

700. ADVANCED TOPICS IN COUNSELOR EDUCATION. This course provides detailed exploration in specific areas of counselor education (social and cultural diversity, human growth and development, assessment, career development, and ethical and legal issues. Prerequisite: COUN doctoral students only. (3).

750. RESEARCH AND PUBLICATION IN COUNSELOR EDUCATION. Explores issues, methodologies, and critical lines of inquiry in counselor education literature. Examines publication processes for journals and textbooks in counselor education. Emphasizes peer review writing projects. Prerequisite: COUN doctoral students only. (3).

751. QUALITATIVE PERSPECTIVE IN COUNSELOR EDUCATION. Contrasts modernist, postmodern and social constructionist perspectives. Compares philosophical positions, methods, and objectives of essential qualitative approaches. Examines approaches sensitive to research objectives of counselor educators. Prerequisite: COUN doctoral students only. (3).

752. QUALITATIVE METHODS AND ANALYSIS FOR COUNSELOR EDUCATORS. Project-based course. Includes collecting and analyzing qualitative data and writing results. Employs various data collection methods and Grounded Theory analytic tools and coding procedures. Prerequisite: COUN 751. (3).

753. SUPERVISION OF COUNSELING SERVICES. Principles and methods involved in supervising and evaluating counseling processes, psychological services, testing. (May be repeated for credit). (3).

754. ADVANCED CLINICAL SUPERVISION. (3).

767. FIELD STUDY. Report involving original study of a problem in the candidate's field of specialization. (1-6). (Z grade).

784. ADVANCED COUNSELING THEORY. This course is designed for advanced counseling students to increase an understanding of theories, techniques, and research in counseling. (3).

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).

794. ADVANCED GROUP COUNSELING. Advanced group counseling and therapy theory and techniques. Includes topical seminars, supervision of group leadership, and development of personal leadership style. Prerequisites: consent of instructor, COUN 643, 693, 695 or their equivalents. (3).

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. (3-18). (Z grade).

797. DISSERTATION. (3-18) (Z grade).

Educational Leadership — EDLD

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).
- 657. COMPARATIVE HIGHER EDUCATION.** (3).
- 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).
- 690. TOPICS IN HIGHER EDUCATION.** (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 grantsmanship. (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

James G. Vaughan, associate dean

101 Carrier Hall

(662) 915-7407

http://www.olemiss.edu/depts/engineering_school/

Overview: The School of Engineering offers a Master of Science (M.S.) and a Doctor of Philosophy (Ph.D.) in engineering science. These graduate degrees can be completed with any of the following emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, material science and engineering, and telecommunications.

Preliminary Requirements: Entrance requirements are those of the Graduate School. Applicants are expected to possess or be in the process of completing an undergraduate degree in engineering or closely related field from an accredited institution.

M.S. in Engineering Science

Description: The M.S. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, material science and engineering, and telecommunications.

Course Requirements: A student must complete the requirements for an emphasis area. For most emphasis areas, the degree may be completed as either a thesis option (30-hour program, to include 6 hours of thesis) or nonthesis option (30-hour program, to include a minimum of 3 hours of a design-oriented project course).

M.S., Emphasis in Aeroacoustics

Description: A degree of M.S. in engineering science with emphasis in aeroacoustics prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: For the emphasis in aeroacoustics, 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.

Other Academic Requirements: For both the thesis and nonthesis options, a candidate must pass a final oral examination.

M.S., Emphasis in Chemical Engineering

Description: A degree of M.S. in engineering science with an emphasis in chemical engineering prepares graduates to apply chemical engineering science (transport phenomena, thermodynamics, chemical reaction engineering, and applied mathematics). It enables them to independently execute complex projects and pursue successful careers in engineering, medicine, law, professional education, public policy, the military, management, and sales.

Course Requirements: The M.S. with emphasis in chemical engineering requires the following courses: Advanced Transport Phenomena I, II (Ch E 560, 561); Thermodynamics of Chemical Systems (Engr 665); and Chemical Reaction and Reactor Analysis I (Engr 669); 6 hours of thesis. The student also must take three semesters (1 hour each) of the Research Seminar (Ch E 515).

Other Academic Requirements: A candidate must prepare and orally defend a thesis.

M.S., Emphasis in Civil Engineering

Description: A degree of M.S. in engineering science with emphasis in civil engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work. The program offers a choice of several concentration areas: structures, geotechnical engineering, construction materials, water resource engineering, environmental engineering, transportation systems, infrastructure asset management, and earthquake and disaster response management.

Goals/Mission Statement: The program will provide high quality graduate education in a range of civil engineering disciplines and will produce research and scholarship that is nationally recognized and supports the economic development of the state, the region, and the nation.

Course Requirements: The thesis option for the M.S. with emphasis in civil engineering requires at least 24 hours of course work and at least 6 hours of thesis credit (Engr 697-Thesis) with a thesis defense. The nonthesis option requires 27 hours of course work and a 3-hour project or research course (Engr 699-Special Projects in Engineering Science or Engr 693-Research Topics in Engineering Science) with a written report and oral presentation.

Required graduate course work for either option includes at least one course in mathematics (e.g., Engr 591-Engineering Analysis I, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575-Mathematical Statistics I); one course in numerical method (e.g., Engr 590-Finite Element Analysis); and one course in mechanics (e.g., Engr 617-Continuum Mechanics). Other graduate course work must be approved by the student's adviser.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Computational Hydroscience and Engineering

Description: An M.S. in engineering science with an emphasis in computational hydroscience and engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in computational hydroscience and engineering can be completed as either a thesis or nonthesis option.

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 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.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Computer Science

Description: An M.S. in engineering science with emphasis in computer science prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in computer science requires that a student 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 Department of Computer Science. Also required are a minimum of 9 semester hours from computer science courses at the 600 level.

Students may choose to complete the degree with either a thesis or nonthesis option. 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.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Electrical Engineering

Description: An M.S. in engineering science with emphasis in electrical engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in electrical engineering can be completed as either a thesis or nonthesis option.

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 final oral exam. Course work for either option must be approved by the student's advisory committee.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Electromagnetics

Description: An M.S. in engineering science with emphasis in electromagnetics prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in electromagnetics can be taken as a thesis or nonthesis option. Either option requires 13 semester hours of core courses in electromagnetics theory and applications:

Numerical Methods in Electromagnetics (Engr 626);
Advanced Electrodynamics (Engr 621);
Advanced Microwave Measurements (Engr 619);
Passive Microwave Circuits (Engr 623); and
Seminar (Engr 695).

Also required are 5 semester hours in specific areas of electromagnetics, including microwave circuits, antennas, electromagnetics, and computational electromagnetics courses (from among Engr 590, Engr 593, Engr 622, Engr 624, Engr 625, Engr 627, Engr 628, Engr 687, Engr 691, Engr 693 (no more than 2 semester hours), and Engr 699).

For the thesis option, the student must complete 6 hours of electives, including 3 to 6 hours in a minor field. The thesis candidate must take at least 6 hours of thesis.

For the nonthesis 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. The nonthesis candidate also must complete a 3-hour project or research course with written report and oral presentations, and a final oral exam.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Environmental Engineering

Description: An M.S. in engineering science with emphasis in environmental engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work. Students can concentrate in any of the following specialty areas: water resources, watershed systems, hydrology, surface water quality, stormwater, wastewater, solid waste, air pollution, groundwater modeling and remediation, and remote sensing and geospatial technologies. Students entering the program come from a variety of engineering and nonengineering disciplines, such as geology, chemistry, biology, and mathematics.

Goals/Mission Statement: The program will provide high quality graduate education in a range of environmental disciplines and will produce research and scholarship that is nationally recognized and supports the economic development of the state, the region, and the nation.

Course Requirements: The M.S. with emphasis in environmental engineering can be completed as either a thesis or nonthesis option. The thesis option requires at least 24 hours of course work and at least 6 hours of thesis credit (Engr 697-Thesis) with a thesis defense. The nonthesis option requires 27 hours of course work and a 3-hour project or research course (Engr 699-Special Projects in Engineering Science or Engr 693-Research Topics in Engineering Science) with a written report and oral presentation.

The graduate course work for either option must include at least one course in mathematics (e.g., Engr 591-Engineering Analysis I, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575-Mathematical Statistics I), one course in numerical method (e.g., Engr 590-Finite Element Analysis), and one course in mechanics (e.g., Engr 617-Continuum Mechanics). Other graduate course work must be approved by the student's adviser.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Geological Engineering

Description: An M.S. in engineering science with emphasis in geological engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in geological engineering can be completed as either a thesis or nonthesis option. All course selections 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.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Geology

Description: An M.S. in engineering science with emphasis in geology prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in geology can be completed as either a thesis or nonthesis option. All course selections 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.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Hydrology

Description: An M.S. in engineering science with emphasis in hydrology prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, research and development, public service, or for doctoral work.

Course Requirements: For the M.S. with emphasis in hydrology, a 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 (G E 503), Groundwater Mechanics (Engr 636), and Contaminant Transport (Engr 645)], 6 hours from an approved list of electives (G E 518, C E 541, C E 542, C E 543, Ch E 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.

Other Academic Requirements: A candidate must prepare and orally defend a thesis.

M.S., Emphasis in Materials Science and Engineering

Description: An M.S. in engineering science with emphasis in materials science and engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in materials science and engineering can be completed as either a thesis or nonthesis option. 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 nonthesis "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.

Other Academic Requirements: For either option, a candidate must pass a final oral examination.

M.S., Emphasis in Mechanical Engineering

Description: An M.S. in engineering science with emphasis in mechanical engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in mechanical engineering can be completed as a thesis or nonthesis option. 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 nonthesis "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.

Other Academic Requirements: For each option, a candidate must pass a final oral examination.

M.S., Emphasis in Telecommunications

Description: An M.S. in engineering science with emphasis in telecommunications prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work.

Course Requirements: The M.S. with emphasis in telecommunications must be completed as a thesis option only. 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.

Other Academic Requirements: A candidate must prepare and orally defend a thesis.

Ph.D. in Engineering Science

Description: The Ph.D. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, and material science and engineering.

Course Requirements: A student must complete the requirements for one of the emphasis areas. All doctoral programs require completion of a comprehensive examination, dissertation prospectus, and a dissertation. See the department chair or adviser for specific requirements for an emphasis area.

Ph.D., Emphasis in Aeroacoustics

Description: A Ph.D. in engineering science with emphasis in aeroacoustics prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as physics.

Course Requirements: The Ph.D. with emphasis in aeroacoustics requires a minimum 66 semester hours of graduate credit beyond the baccalaureate degree. The student's adviser must approve all course selections.

Other Academic Requirements: 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.

Ph.D., Emphasis in Chemical Engineering

Description: A Ph.D. in engineering science with emphasis in chemical engineering prepares graduates to apply chemical engineering science (transport phenomena, thermodynamics, chemical reaction engineering, and applied mathematics). It enables them to independently execute complex projects and pursue successful careers in engineering, medicine, law, professional education, public policy, the military, management, and sales. It further equips them with the experience to conduct research—generating and disseminating new knowledge.

Course Requirements: The Ph.D. 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.

Other Academic Requirements: Before undertaking the dissertation, the student must pass three three-hour written comprehensives and an oral examination.

Ph.D., Emphasis in Civil Engineering

Description: A Ph.D. in engineering science with emphasis in civil engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in engineering research and development, education, industry, or public service. The program offers a choice of several concentration areas: structures, geotechnical engineering, construction materials, water resource engineering, environmental engineering, transportation systems, infrastructure asset management, and earthquake and disaster response management.

Goals/Mission Statement: The program will provide high quality graduate education in a range of civil engineering disciplines and will produce research and scholarship that is nationally recognized and supports the economic development of the state, the region, and the nation.

Course Requirements: The Ph.D. degree with emphasis in civil engineering requires 24 hours of course work beyond the M.S. degree or 48 hours beyond the B.S. degree, and 18 hours of dissertation credit. At least two courses need to be in mathematics (e.g., Engr 591-Engineering Analysis I, Engr 592-Engineering Analysis II, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575-Mathematical Statistics I), one course in numerical method (e.g., Engr 590-Finite Element Analysis), and one course in mechanics (e.g., Engr 617-Continuum Mechanics). Other graduate course work must be approved by the student's advisory committee.

Other Academic Requirements: A qualifying examination, comprehensive examination, dissertation prospectus, and dissertation defense are needed. Before admission to candidacy, the student must pass written and oral comprehensive exams.

Ph.D., Emphasis in Computational Hydroscience and Engineering

Description: A Ph.D. in engineering science with emphasis in computational hydroscience and engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as civil and mechanical engineering and physics.

Course Requirements: The Ph.D. in engineering science with an emphasis 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 Academic Requirements: Other requirements include publishing at least two refereed papers (preferably one of them to be published in a professional journal);

participating in research seminars; completing assigned research projects; and passing written and oral comprehensive exams.

Ph.D., Emphasis in Computer Science

Description: A Ph.D. in engineering science with emphasis in computer science prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as electrical engineering, physics, biology, and the liberal arts.

Course Requirements: 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.

Other Academic Requirements: 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 information retrieval, software engineering, or another area approved by petition to the graduate committee.

Ph.D., Emphasis in Electrical Engineering

Description: A Ph.D. in engineering science with emphasis in electrical engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as physics and computer science.

Course Requirements: The Ph.D. 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.

Other Academic Requirements: A written comprehensive exam is taken during the first year of residency.

Ph.D., Emphasis in Electromagnetics

Description: A Ph.D. in engineering science with emphasis in electromagnetics prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as physics and mathematics.

Course Requirements: The Ph.D. with an emphasis in electromagnetics requires 36 semester hours in the major field out of a required total of 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); Numerical Methods in Electromagnetics (Engr 626); 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 2 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).

Other Academic Requirements: A written comprehensive exam is taken during the first year of residency.

Ph.D., Emphasis in Environmental Engineering

Description: A Ph.D. in engineering science with emphasis in environmental engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public service. Depending on their career focus, students can concentrate in any of the following specialty areas: water resources, watershed systems, hydrology, surface water quality, stormwater, wastewater, solid waste, air pollution, groundwater modeling and remediation, and remote sensing and geospatial technologies. Students entering the program come from a variety of engineering and nonengineering disciplines, such as geology, chemistry, biology, and mathematics.

Goals/Mission Statement: The program will provide high quality graduate education in a range of environmental engineering disciplines and will produce research and scholarship that is nationally recognized and supports the economic development of the state, the region, and the nation.

Course Requirements: The Ph.D. with emphasis in environmental engineering requires 24 hours of course work beyond a master's degree or 48 hours beyond a bachelor's degree, and 18 hours of dissertation credit. At least two courses must be in mathematics (e.g., Engr 591-Engineering Analysis I, Engr 592-Engineering Analysis II, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575-Mathematical Statistics I), one course must be in numerical method (e.g., Engr 590-Finite Element Analysis), and one course must be in mechanics (e.g., Engr 617-Continuum Mechanics). Other graduate course work must be approved by the student's advisory committee.

Other Academic Requirements: Completion of a qualifying examination, a comprehensive examination, a dissertation prospectus, and a dissertation defense is required. Before admission to candidacy, the student must pass written and oral comprehensive exams.

Ph.D., Emphasis in Geological Engineering

Description: A Ph.D. in engineering science with emphasis in geological engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as geology and physics.

Course Requirements: The Ph.D. with an emphasis in 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.

Other Academic Requirements: Successful completion of both written and oral comprehensive exams is required before undertaking the dissertation.

Ph.D., Emphasis in Geology

Description: A Ph.D. in engineering science with emphasis in geology prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as geological engineering and physics.

Course Requirements: The Ph.D. with an emphasis in geology requires 54 semester hours of graduate credit beyond the bachelor's degree; selection of courses must be approved by the student's advisory committee.

Other Academic Requirements: Successful completion of both written and oral comprehensive exams is required before undertaking the dissertation.

Ph.D., Emphasis in Hydrology

Description: A Ph.D. in engineering science with emphasis in hydrology prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as geology and civil engineering.

Course Requirements: For the Ph.D. with emphasis in hydrology, a 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 must include 13 hours of required courses [Hydrogeology (Geol 505), Environmental Geochemistry (G E 503), Groundwater Mechanics (Engr 636), and Contaminant Transport (Engr 645)], and 6 hours from an approved list of electives (G E 518, C E 541, C E 542, C E 543, Ch E 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.

Other Academic Requirements: Students must pass a written and oral comprehensive exam before completing the dissertation research.

Ph.D., Emphasis in Materials Science and Engineering

Description: A Ph.D. in engineering science with emphasis in materials science and engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as physics or chemistry.

Course Requirements: The Ph.D. with an emphasis in materials science and engineering requires 30 semester hours of course work beyond the master's degree as

specified and approved by the student's advisory committee, plus 12 hours of research and 18 dissertation hours.

Other Academic Requirements: Written and oral qualifying examinations, comprehensive examinations, a dissertation prospectus, and the dissertation defense are required. Before admission to candidacy, the student must pass the written and oral comprehensive exams.

Ph.D., Emphasis in Mechanical Engineering

Description: A Ph.D. in engineering science with emphasis in mechanical engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service. Students entering the program come from a variety of engineering and nonengineering disciplines such as civil engineering and physics.

Course Requirements: The Ph.D. 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.

Other Academic Requirements: Comprehensive exams must be passed before entering the dissertation process.

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.
- 515. ACOUSTICS.** Mathematical description of sound propagation with various boundary conditions. (Same as PHYS 521) (3).
- 537. ENVIRONMENTAL ENGINEERING II.** Interdisciplinary overview of environmental engineering. Ecology, toxicology, treatments, hydraulics/hydrology, computational simulation, waste repositories. Prerequisite: CE 471 or equivalent or graduate standing. (3).
- 540. ENVIRONMENTAL ORGANIC TRANSPORT PHENOMENA/SEPARATIONS.** (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. Prerequisites: ENGR 322 or equivalent or graduate standing. (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).
- 572. ADVANCED SANITARY ANALYSIS.** Introduction to advanced theoretical concepts in sanitary engineering with special emphasis on inorganic, organic, and physical chemistry. Prerequisite: CE 471 or graduate standing. (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. APPLICATIONS IN 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 or graduate standing. (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 I, II.** Application of higher mathematics to engineering problems; special emphasis on the expression of engineering problems in mathematical terminology. Prerequisite: MATH 353 or graduate standing. (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 or graduate standing. (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. (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. (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. Prerequisites: ENGR 603 or 604 or 605. (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. (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: 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. (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. (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. (3).

621. ADVANCED ELECTRODYNAMICS. Boundary-value problems. Green's functions, general transmission systems, coupled transmission systems, microwave optics, scattering. (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. (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. (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. (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. (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. (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. (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 concentration 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. (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. (3).
- 646. ADVANCED STRATIGRAPHY.** Advanced problems in stratigraphy. (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. (3).
- 649. ADVANCED FOUNDATION ENGINEERING.** Earth pressure theories; bearing capacity; control of groundwater in excavation, shoring, and underpinning; foundations subjected to dynamic forces. (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. (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).
- 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. (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 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. (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. (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. (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 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 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. (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. (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. (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). (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). (3).

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). (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 — CH E

Associate Professor Clint W. Williford, Jr., chair • 134 Anderson Hall
http://www.olemiss.edu/depts/chemical_eng/

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. Prerequisite: MATH 353 or graduate standing. (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. ADVANCED TRANSPORT PHENOMENA I. Development and use of the equations of conservation of mass, energy, and momentum in continuous materials. The use of detailed and integral balances. Prerequisites: ENGR 322, ENGR 310 or graduate standing. (3).

561. ADVANCED TRANSPORT PHENOMENA II. Development and use of the equations of conservation of mass, energy, and momentum in continuous materials. The use of detailed and integral balances. Prerequisite: CH E 560 or graduate standing. (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 Waheed Uddin, acting chair • 203 Carrier Hall
http://www.olemiss.edu/depts/civil_eng/

Professors Cheng and Uddin • Associate Professors Al-Ostaz and Mullen • Assistant Professors Ervin, Gohar, Song, Surbeck, and Wang

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 graduate standing. (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 or graduate standing. (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 or graduate standing. (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 or graduate standing. (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: ENGR 323 or graduate standing. (3).

542. FLOW IN POROUS MEDIA. Steady, homogeneous flow; prediction of transport properties; wells, seepage, drainage, recharge; nonhomogeneous flow. Prerequisite: ENGR 323 or graduate standing. (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: ENGR 323 or graduate standing. (3).

561. CIVIL ENGINEERING SYSTEMS. Engineering applications of linear programming, dynamic programming, PERT-CPM, game theory, stochastic systems. Prerequisite: MATH 264 or graduate standing. (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 graduate standing. (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 graduate standing. (3).

585. HIGHWAY PAVEMENTS. Stress analysis of pavements, traffic estimation, material characterization, condition monitoring and evaluation, current design schemes, computer applications. Corequisite: CE 431 or graduate standing. (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 graduate standing. (3).

COMPUTER AND INFORMATION SCIENCE — CSCI

Professor H. Conrad Cunningham, chair • 201 Weir Hall
<http://www.cs.olemiss.edu/>

Professor Cunningham • Associate Professors Lawhead, Maginnis, and Wilkins •
Assistant Professors Chen, Rhodes, Rice, and Ruth • Instructors Jenkins and Zickos

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
<http://www.ee.olemiss.edu/>

Professors Daigle, Elsherbini, Glisson, Kishk, and Lee • Associate Professors Goggans, Gordon, Matalgah, and Yakovlev • Assistant Professors Cao, Hutchcraft, 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 or graduate standing. (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 or graduate standing. (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, ELE 523 or graduate standing. (6 lab hours). (2).

TELECOMMUNICATIONS — TC

20 Anderson Hall

Professor John N. Daigle • Associate Professor Matalgah • Assistant Professor Cao

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 or graduate standing. (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 or graduate standing. (3).

533. ADVANCED OPTICAL COMMUNICATIONS SYSTEMS. Detailed consideration of the technical aspects of optical communications systems including light wave system components, proponds, propagation, loss by dispersion and absorption, and systems measures (i.e., signal-to-noise ratio). Prerequisite: TC 433 or graduate standing. (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. or graduate standing (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

Associate Professor Gregory L. Easson, chair, 118 Carrier Hall
<http://www.geo.olemiss.edu/>

Professor Major • Associate Professors Aydin, Davidson, Easson, Holt, and Kuszmaul
• Assistant Professor Panhorst

Master of Science in Engineering Science • (GEOLOGICAL ENGINEERING). 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 or graduate standing. (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 or graduate standing. (3).

504. ENVIRONMENTAL GEOCHEMISTRY LAB AND FIELD METHODS. Water quality measurement and evaluation for natural, contaminated, and industrial waste water. Prerequisite: CHEM 106 or graduate standing. (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 or graduate standing. (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 graduate standing. (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 or graduate standing. (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. Prerequisite: GEOL 305 or graduate standing. (4).

505. HYDROGEOLOGY. Groundwater hydrology for geologists. Prerequisites: GEOL 221, 222, 303 and 313 or graduate standing. (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 222 and 420 or graduate standing. (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. Prerequisites: GEOL 221, 222, 303, 313 or graduate standing. (3).

535. GEOCHEMISTRY. Application of chemical principles to geologic problems; crystal chemistry. Prerequisites: GEOL 221, CHEM 106 or graduate standing. (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 graduate standing. (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). (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. (3).
- 641.* CLAY PETROLOGY.** Geologic significance of composition and crystal chemistry of the principal clay-mineral and zeolite group. (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. (3).
- 645. ADVANCED SEDIMENTATION.** Analysis of sedimentation process and response patterns as indicators of depositional environment, dispersal, and basin evolution. Prerequisite: GEOL 313 or 315 or consent of instructor. (3).
- 646. ADVANCED STRATIGRAPHY.** Analysis of components of recent depositional systems and case studies of ancient analogues. Prerequisite: GEOL 313 or 315 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. (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 Sam Wang, acting chair • 201 Carrier Hall
http://www.olemiss.edu/depts/mechanical_eng/

Professors Mantena, Roux, Smith, Vaughan, and Wang • Associate Professors Lackey, and McCarty • Research Professor Seiner • Research Associate Professor Wagstaff • Research Assistant Professors Chambers and Gui • Instructional Professor Sharma

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).

525. ADVANCED DYNAMICS. Prerequisite: M E 325 or graduate standing. (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).

527. MATERIALS PROCESSING. Prerequisite: M E 427 or graduate standing. (3).

528. POLYMER PROCESSING. Prerequisite: ENGR 322 or graduate standing. (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 or graduate standing. (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 or graduate standing. (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 or graduate standing. (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 or graduate standing. (3).

540. FAILURE ANALYSIS. Tools, techniques, and theories of failure analysis. Topics include failure analysis tools, mechanical aspects failure analysis, macrofractographic features, and the role of failure in design. Prerequisites: ENGR 313, 314 or graduate standing. (3).

541. THEORY AND USE OF CAD AND SOLID MODELING. (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 or graduate standing. (3).

School of Pharmacy

Barbara G. Wells, dean

H. Joseph Byrd, associate dean for clinical affairs

Charles D. Hufford, associate dean for research and graduate programs

Marvin C. Wilson, associate dean for academic and student affairs

Alicia S. Bouldin, research associate professor for instructional assessment and advancement

John P. Juergens, coordinator of student professional development

1018 Thad Cochran Research Center

<http://www.pharmacy.olemiss.edu/>

Overview: The School of Pharmacy offers the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degree in pharmaceutical sciences with emphasis areas in environmental toxicology, medicinal chemistry, pharmacognosy, pharmacology or toxicology, pharmaceuticals, and pharmacy administration. The programs prepare students for teaching and research positions in universities and colleges and research positions in the pharmaceutical, chemical, agrochemical, and administrative food industries, government, and research institutions.

M.S. in Pharmaceutical Sciences

Description: The M.S. in pharmaceutical sciences can be completed with an emphasis in environmental toxicology, medicinal chemistry, pharmaceuticals, pharmacology, pharmacognosy, or pharmacy administration.

Preliminary Requirements: To be assured of consideration for admission in the fall semester, an application must be received in full (application form, transcripts, letters of recommendation, official GRE, GMAT, and TOEFL test scores) in the Graduate School by the deadlines posted on the Graduate School's Web site (March 1 or April 1, depending on the emphasis area for admission in the fall of the same year). All applicants will be considered for financial aid; no specific application is required. Two letters of recommendation are required for each emphasis area, except as indicated below. The letters should include at least one from a faculty member in the student's major department. Admission to all emphasis areas is competitive; an applicant meeting the indicated minimum admission requirements is not assured admission. Admission requirements peculiar to each emphasis area are listed below.

Environmental Toxicology—background in pharmacy, toxicology, chemistry, biological sciences, or another program that provides a sound background in the biological and physical sciences; three letters of recommendation; personal statement.

Medicinal Chemistry—undergraduate degree in pharmacy, chemistry, or related area; 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.

Pharmaceutics—undergraduate degree in pharmacy or related area; B average or better in previous course work; minimum of 600 on the paper-based TOEFL (or 100 on the Internet-based TOEFL); the following course work, if not previously taken, will be required of students: calculus through elementary differential equations, 6 semester hours of physical chemistry (equivalent to Chem 331, 332), college-level biology).

Pharmacognosy—undergraduate degree in pharmacy, chemistry, biology, or some other related program, e.g., environmental chemistry or chemical ecology.

Pharmacology—undergraduate degree in pharmacy, toxicology, chemistry, biological science, psychology, or a related field.

Pharmacy Administration—Application deadline: February 1. Applicants must have a B.S. degree in pharmacy, a B.S. degree in pharmaceutical sciences, or higher. (A degree in a discipline related to marketing, management, or economics may also be considered for admission upon demonstration of a commitment to pursuing a career in the field of pharmacy or the pharmaceutical industry.) College transcripts with a minimum of a B average (3.0 on a 4.0 scale) are required. Applicants must take and submit the scores from either the GRE or the GMAT. International applicants also must take the TOEFL examination and score at least 600 (paper-based test). Three letters of recommendation, an interview, a statement of purpose, and/or written responses to career questions also are used to evaluate candidates.

Additional Information: See the School of Pharmacy's Web site for full information about each emphasis area: www.pharmacy.olemiss.edu.

Course Requirements: Requirements for each emphasis area are given in the respective program description sections. Each emphasis area requires students to complete a minimum of 24 semester hours of course work and 6 hours of thesis.

M.S., Emphasis in Environmental Toxicology

Description: The M.S. in pharmaceutical sciences with emphasis in environmental toxicology prepares a graduate to perform research and solve problems related to environmental health issues. Graduates are likely to find careers in academics, industry, or government service.

Course Requirements: The M.S. with emphasis in environmental toxicology requires a minimum of 24 hours of graduate course work and 6 credit hours of thesis. The following core curriculum is required:

Phcl 547-Introduction to Environmental Toxicology (2 hours)

Bisc 504-Biometry (3 hours)

Phcl 675-Principles of Pharmacology and Toxicology I (4 hours)

Phcl 676-Principles of Pharmacology and Toxicology II (4 hours)

Each semester, a seminar program is arranged. Master's students will present two seminars, one of which can be the student's thesis work.

Other Academic Requirements: A thesis based upon an independent research project followed by an oral defense of this project is required for students seeking the master's degree.

M.S., Emphasis in Medicinal Chemistry

Description: A M.S. in pharmaceutical sciences with emphasis in medicinal chemistry prepares a graduate to do research toward understanding the mechanism of action of drugs. In such research, a medicinal chemist strives to establish correlations between biological properties and physiochemical parameters of drugs.

Course Requirements: Requirements for the M.S. with emphasis in medicinal chemistry are to complete at least 30 hours, to include the following:

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.

Other Academic Requirements: A thesis is required.

M.S., Emphasis in Pharmaceutics

Description: The M.S. in pharmaceutical sciences with emphasis in pharmaceutics deals with the science of dosage form design and embraces all facets of the process of turning a new chemical entity into a medication that can be safely and effectively used by patients.

Course Requirements: The M.S. in pharmaceutical sciences with an emphasis in pharmaceutics requires the following courses:

1. Seminar in Current Pharmaceutical Topics (Phar 543, 544).
2. Statistics and Experimental Design (Bisc 504 or Psy 501).
3. Analytical Pharmaceutics (Phar 535).
4. Pharmacokinetics (Phar 546 or Phar 660).
5. Product Development (Phar 649).

In addition, two of the following electives are required:

1. Advanced Pharmaceutics I (Phar 641).
2. Advanced Pharmaceutics II (Phar 642).
3. Stability of Pharmaceutical Systems (Phar 644).
4. Surface Phenomena (Ch E 545 or Phar 645).
5. Advanced Pharmacokinetics (Phar 660).
6. Applied Pharmaceutics (Phar 650).

Additional courses may be required by the student's graduate adviser and/or advisory committee. If a required course is unavailable, the Department of Pharmaceutics graduate faculty may approve an alternative course for a particular student.

Other Academic Requirements: A thesis based upon experimental work in the general area of pharmaceutics is also required.

Prior to the student's thesis defense, the student must have a minimum of one completed manuscript ready for submission to a referred journal for publication.

Note: An applicant may enter the Ph.D. program directly, without having to enroll in the master's program.

M.S., Emphasis in Pharmacognosy

Description: The M.S. in pharmaceutical sciences with emphasis in pharmacognosy involves the study of bioactive natural substances found in terrestrial and marine organisms.

Course Requirements: Requirements for the M.S. with emphasis in pharmacognosy include

1. Seminar on Topics of Interest in Natural Products (Phcg 543, 643), 2 hours;
2. Natural Product Chemistry (Phcg 627, 628), 6 hours;
3. Selected Topics in Pharmacognosy (Phcg 620): Introduction to Molecular Cell Biology, 6 hours.

The master's candidate will present a minimum of 24 hours of credit in course work past the baccalaureate in addition to 6 hours in thesis (Phcg 697). The student will need to select at least two additional elective courses, at least one of which must be selected from offerings outside the department.

An M.S. candidate must present two seminars, one on a selected topic and one involving his/her thesis defense.

Other Academic Requirements: A thesis based upon experimental work in the general area of pharmacognosy is required.

M.S., Emphasis in Pharmacology or Toxicology

Description: The M.S. in pharmaceutical sciences with emphasis in pharmacology or toxicology involves the study of the interaction of drugs, chemicals, and physical agents with biological systems and their constituent parts.

Course Requirements: The M.S. in pharmaceutical sciences with emphasis in pharmacology or toxicology 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. Quantitative Methods in Psychology 1 (603) or equivalent, 3 hours;
4. General Principles of Pharmacology and Toxicology I (Phcl 675), 4 hours;
5. Physiological Chemistry (Phcl 669), 4 hours;
6. Advanced Physiology (Phcl 661), 4 hours;

7. Directed Studies in Pharmacology and Toxicology (Phcl 651), 1 hour;
8. Teaching in Pharmacology and Toxicology (Phcl 611, 612), 1 hour, 1 hour;
9. Seminar: Current Topics in Pharmacology and Toxicology (Phcl 643), 4 hours;
10. Thesis (Phcl 697), 6 hours.

Other Academic Requirements: An experimental research project and thesis in the area of pharmacology or toxicology is required.

M.S., Emphasis in Pharmacy Administration

Description: The Department of Pharmacy Administration prepares graduates to be social and behavioral scientists who apply and develop theories to understand aspects of the health-care arena and its participants. Examples of specific areas of inquiry include the marketing and economics of pharmaceuticals, patient and provider behaviors in the health-care system, management strategies within health systems, the health outcomes associated with using pharmaceuticals, and the roles of pharmacists in delivering and managing health care. This scientific discipline is particularly interested in how these areas are influenced by pharmacists and other health-care providers, pharmaceutical manufacturers, governmental entities, and pharmaceuticals.

A graduate degree in pharmacy administration affords excellent career opportunities in a variety of settings. The graduate program has maintained an exceptional track record in placing graduates. Graduates of the program have obtained positions in academia, the pharmaceutical industry, managed care organizations, professional associations, consulting and marketing research firms, government agencies, hospitals, and health-care journal publication agencies. In academia, the program has produced several chairs of pharmacy administration departments and deans of pharmacy schools nationwide. In the pharmaceutical industry, many alumni have quickly risen to senior management positions in marketing, health/pharmaceutical economics, and pharmacy affairs. Other graduates of the program have secured key positions in the federal and state governments and professional associations in pharmacy.

Admission Requirements: Application deadline: February 1. Applicants must have a B.S. degree in pharmacy, a B.S. degree in pharmaceutical sciences, or higher. (A degree in a discipline related to marketing, management, or economics also may be considered for admission upon demonstration of a commitment to pursuing a career in the field of pharmacy or the pharmaceutical industry.) College transcripts with a minimum of a B average (3.0 on a 4.0 scale) are required. Applicants must take and submit the scores from either the GRE or the GMAT. International applicants also must take the TOEFL examination and score at least 600 (paper-based test). Three letters of recommendation, an interview, a statement of purpose, and/or written responses to career questions also are used to evaluate candidates.

Program Objectives: The graduate program in pharmacy administration has the following objectives for its graduate program.

- To prepare highly qualified graduate students for careers in academia, industry, and other settings with training in management, marketing, and economics of pharmaceuticals and pharmacy practice
- To maintain highly productive teaching and research programs that facilitate the acquisition of abilities necessary to create new knowledge

- To maintain a leadership role in state and national organizations relevant to the discipline
- To provide consultative services to pharmacists, the pharmaceutical industry, and other interested entities in the areas of faculty and graduate student expertise

Graduate Course Requirements:

Required Courses—seven courses (21 credits)

Psy 603 or Edrs 501 or Soc 501 (Statistics)

Phad 579-Primary Data Techniques

Phad 688-Research Methods in Pharmacy Administration

Phad 689-Health Systems Management

Phad 693-Health Economics

Phad 683-Advanced Drug Marketing

One of the following:

Phad 674-Independent Study

Phad 692-Drug Development and Marketing

Elective Course—three courses (9 credits)

Seminar—Phad 543 and Phad 544 (2 credits)

Thesis—Phad 697 (6 credits)

Other Academic Requirements: In addition to the course requirements, each student must prepare and successfully defend a thesis prospectus, and complete and defend his or her thesis project.

Ph.D. in Pharmaceutical Sciences

Description: The Ph.D. in pharmaceutical sciences can be completed with an emphasis in environmental toxicology, medicinal chemistry, pharmaceuticals, pharmacology, pharmacognosy, or pharmacy administration.

Preliminary Requirements: To be assured of consideration for admission in the fall semester, an application must be received in full (application form, transcripts, letters of recommendation, official GRE, GMAT, and TOEFL test scores) in the Graduate School by the deadlines posted on the Graduate School's Web site (March 1 or April 1, depending on the emphasis area for admission in the fall of the same year). All applicants will be considered for financial aid; no specific application is required. Two letters of recommendation are required for each emphasis area, except as indicated below. The letters should include at least one from a faculty member in the student's major department. Admission to all emphasis areas is competitive; an applicant meeting the indicated minimum admission requirements is not assured admission. Admission requirements peculiar to each emphasis area are listed below.

Environmental Toxicology—background in pharmacy, toxicology, chemistry, biological sciences, or another program that provides a sound background in the biological and physical sciences; three letters of recommendation; personal statement.

Medicinal Chemistry—undergraduate degree in pharmacy, chemistry, or related area; 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.

Pharmaceutics—undergraduate or higher degree in pharmacy or related area; B average or better in previous course work; minimum of 600 on the paper-based TOEFL (or 100 on the Internet-based TOEFL); the following course work, if not previously taken, will be required of students: calculus through elementary differential equations, 6 semester hours of physical chemistry (equivalent to Chem 331, 332), college-level biology).

Pharmacognosy—undergraduate degree in pharmacy, chemistry, biology, or some other related program, e.g., environmental chemistry or chemical ecology.

Pharmacology—undergraduate degree in pharmacy, toxicology, chemistry, biological science, psychology, or a related field.

Pharmacy Administration—Application deadline: February 1. Applicants must have a master's degree in pharmaceutical sciences, or higher. (A degree in a discipline related to marketing, management, or economics also may be considered for admission upon demonstration of a commitment to pursuing a career in the field of pharmacy or the pharmaceutical industry.) College transcripts with a minimum of a B average (3.2 on a 4.0 scale) are required. Applicants must take and submit the scores from either the GRE or the GMAT. International applicants also must take the TOEFL examination and score at least 600 (paper-based test). Three letters of recommendation, an interview, a statement of purpose, and/or written responses to career questions also are used to evaluate candidates. If an applicant has completed a thesis, he or she is asked to provide a copy of the thesis for review. If a student has earned a nonthesis master's degree or a Pharm.D. degree, then, once admitted, the student will be required to demonstrate the ability to undertake and successfully complete an individual research project to the satisfaction of the departmental faculty (through a problems course). Students admitted from a Pharm.D. program may be required to take preparatory courses prior to taking core courses.

Additional Information: See the School of Pharmacy's Web site for full information about each emphasis area: www.pharmacy.olemiss.edu.

Course Requirements: Requirements for each emphasis area are given in the respective program description sections.

Ph.D., Emphasis in Environmental Toxicology

Description: The Ph.D. in pharmaceutical sciences with emphasis in environmental toxicology prepares a graduate to perform independent research and solve problems related to environmental health issues. Graduates are likely to find careers in academics, industry, or government service.

Course Requirements: The core requirements for the Ph.D. with emphasis in environmental toxicology are

Phcl 547-Introduction to Environmental Toxicology (2 hours)

Phcl 675-Principles of Pharmacology and Toxicology I (4 hours)

Phcl 676-Principles of Pharmacology and Toxicology II (4 hours)

Bisc 504-Biometry (3 hours)

Additional course work may include Medc 610, Phcg 620 (marine toxins, chemical ecology, and biochemical adaptations); Phcg 627-628; Phcl 581, 661, 669; Bisc 553, 632; Chem 512, 580; and Geol 532. These elective courses are determined in consultation with the student's advisory committee.

Additional Requirements: Doctoral students are also required to present a minimum of four seminars; one of these presentations can be on the student's dissertation research.

Doctoral students must complete a comprehensive examination (both written and oral components), administered by the student's advisory committee and the program's Admission, Retention, and Review Committee. Students must prepare a dissertation prospectus and prepare and orally defend a dissertation based on original, independent research.

Ph.D., Emphasis in Medicinal Chemistry

Description: A Ph.D. in pharmaceutical sciences with emphasis in medicinal chemistry prepares a graduate to do basic research toward understanding the mechanism of action of drugs. In such research, a medicinal chemist strives to establish correlations between biological properties and physiochemical parameters of drugs. The field is devoted to the discovery and rational development of new agents in the treatment of diseases.

Goals/Mission Statement: The mission of the Department of Medicinal Chemistry is to apply chemistry and the chemically related sciences to the teaching of professional pharmacy students and graduate students. The research mission of the department is the discovery, design, analysis, and the further development of potential drugs and the discovery of potential drug design targets.

Course Requirements: The requirements for the Ph.D. with emphasis in medicinal chemistry consist of a minimum of 21 graduate course hours in medicinal chemistry, 6 hours of chemistry courses, and 6 hours of elective credit. These requirements can be satisfied in the following way:

1. Advanced Medicinal Chemistry I, II (Medc 501 and Medc 502) (6 hours);
2. Drug Action and Design (DAD) courses (four out of seven) (12 hours);
3. Seminar on Current Medicinal Chemistry Topics (Medc 543 and/or Medc 544) (2 hours);
4. Chemistry courses 500/600 level (6 hours); Advanced Organic Chemistry (Chem 527, 528) is recommended;
5. Graduate-level elective courses (contingent upon research adviser approval) (6 hours); Analysis of Natural Products Drugs (Phcg 632 or 633) is recommended;
6. Problems in Medicinal Chemistry (Medc 541 or Medc 542) (1 hour).

Other Academic Requirements

Seminar Requirement • Students are required to register for either Medc 643 (fall) or Medc 644 (spring) every semester, with the exception of those semesters when the student presents a seminar and should register for either Medc 543 (fall) or Medc 544 (spring).

Cumulative Examinations • Cumulative exams will be administered monthly throughout the calendar year. Once a student has officially entered the exam process,

that student will have 18 opportunities to pass five examinations from at least four different department faculty members. He/she is required to pass a minimum of two of the first 12 exams administered.

Original Research Proposal • A student must prepare, submit, and successfully (orally) defend an original research proposal (ORP). Procedures for this requirement will be provided by the department or adviser.

Dissertation • A student must prepare and orally defend a dissertation based on original, independent research.

Ph.D., Emphasis in Pharmaceutics

Description: The Ph.D. in pharmaceutical sciences with emphasis in pharmaceutics deals with the science of dosage form design and embraces all facets of the process of turning a new chemical entity into a medication that can be safely and effectively used by patients. Pharmaceutics deals with the formulation of drugs into dosage forms such as tablets, capsules, creams, gels, ointments, transdermal and transmucosal patches, solutions, sprays, drops, injectables, and many others.

Goals/Mission Statement: The primary missions of the Department of Pharmaceutics include providing curricular content in the areas of physical pharmacy, basic pharmacokinetics, dosage forms, and drug delivery systems, and bio-pharmaceutics in both the Bachelor of Science in Pharmaceutical Sciences (B.S.P.S.) and the Doctor of Pharmacy (Pharm.D.) professional degree programs. In addition, the department's educational mission is to educate Ph.D. graduates with scientific competence in these related areas of expertise, including preformulation, formulation, pharmaceutical processing, and novel drug delivery systems. The departmental faculty also provides this same expertise as members of multidisciplinary teams, to scientific projects conducted in the National Center for Natural Product Research (NCNPR).

Course Requirements: The graduate course work requirement for the Ph.D. with emphasis in pharmaceutics includes

- Product Development (Phar 649)
- Statistics and Experimental Design (Bisc 504 or Math 597)
- Analytical Pharmaceutics (Phar 535)
- Advanced Pharmaceutics (Phar 641, 642)
- Surface Phenomena (Phar 645 or Ch E 545)
- Special Problems in the Stability of Pharmaceutical Systems (Phar 644)
- Advanced Pharmacokinetics (Phar 660)
- Seminar in Current Pharmaceutical Topics (Phar 543, 544)
- Applied Pharmaceutics (Phar 650)

Additional courses may be required by the student's research director and/or advisory committee. If a required course is unavailable, the Department of Pharmaceutics graduate faculty may approve an alternative course for a particular student.

Other Academic Requirements

Comprehensive Examination: After completion of all course work, including any additional course work required by the research director and/or dissertation committee, a student must successfully pass a comprehensive examination. If a student fails one of the sections of the exam, he or she will be allowed to retake a second exam from a given faculty member. If a student fails more than one section of

the exam, he or she will be terminated from the Ph.D. program and allowed to enter the master's program. After passing the exam, a student enters the candidacy stage.

Dissertation Prospectus and Dissertation: Doctoral students must prepare and orally defend a dissertation prospectus before their dissertation committee. Doctoral students must prepare and orally defend their dissertation, based on original and independent research, before the same committee. The general procedures and composition of the committee are governed by Graduate School policy.

Note: An applicant may enter the Ph.D. program directly, without having to enroll in the master's program.

Ph.D., Emphasis in Pharmacognosy

Description: The Ph.D. in pharmaceutical sciences with emphasis in pharmacognosy involves the study of bioactive natural substances found in terrestrial and marine organisms. "Pharmacognosy" derives from the Greek words "pharmakon" or drug, and "gnosis" or knowledge. The program prepares students for academic or research positions in universities, and industrial or government institutions.

Goals/Mission Statement: The Department of Pharmacognosy seeks to contribute to the expansion and advancement of knowledge in the pharmaceutical sciences and related areas through cutting-edge research activities, both basic and applied, and to engage in other scholarly pursuits. This includes as a major emphasis the discovery of new potential chemotherapeutic agents through a study of naturally occurring biologically active substances.

The Ph.D. program emphasizes the chemistry and biology of natural products; the mechanisms of drug actions; the isolation, purification, analysis, structure determination, biosynthesis, and synthesis of naturally occurring substances; structure-activity relationships of bioactive substances; and analytical procedures involving drugs and their metabolites.

Course Requirements: Requirements for the Ph.D. with emphasis in pharmacognosy include the following core courses:

1. Seminar on Current Topics of Interest in Natural Product Chemistry (Phcg 543, 544, 643, 644), 4 hours
2. Natural Product Chemistry (Phcg 627, 628), 6 hours
3. Selected Topics in Pharmacognosy (Phcg 620), Introduction to Molecular Cell Biology, 6 hours

A Ph.D. student will take at least four additional 500/600 level courses, at least three of which are from outside the department from the fields of pharmacology, biochemistry, medicinal chemistry, organic chemistry, botany, microbiology, marine biology, or other approved electives.

Other Academic Requirements

Seminars • Each semester, a seminar program will be arranged. Each student will present a minimum of four seminars during the period of graduate study, two on assigned topics, one on a topic of his/her choice, and his/her dissertation defense.

Comprehensive Examination • 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 after two attempts will be terminated from the doctoral program.

Original Research Proposal • Within six months of passing the oral comprehensive examination, doctoral students will submit and orally defend an original research proposal.

Dissertation • After completing all other requirements, a doctoral candidate must present and orally defend his/her dissertation, which is based on original, independent research. This defense is before the student's dissertation committee.

Ph.D., Emphasis in Pharmacology or Toxicology

Description: The Ph.D. in pharmaceutical sciences with emphasis in pharmacology or toxicology involves the study of the interaction of drugs, chemicals, and physical agents with biological systems and their constituent parts. This includes determining and understanding the mechanism of action of therapeutic and hazardous substances for the preservation and protection of health and the environment.

Goals/Mission Statement: The mission of the Department of Pharmacology is to train future scientists and educators in the fields of pharmacology and toxicology. To accomplish our mission, we provide didactic, practical, and hands-on training in all aspects of these disciplines to our students. The ultimate goals of our program are to contribute to the knowledge base of the disciplines of pharmacology and toxicology and to produce well-trained scientists who can engage in successful and productive careers in pharmacology and toxicology.

Course Requirements: The Ph.D. with emphasis in pharmacology requires the following core course work, along with 18 hours of dissertation:

Phcl 611, 612-Teaching in Pharmacology and Toxicology

Phcl 669-Physiological Chemistry

Phcl 563, 564*-Introduction to Pharmacology

Phcl 675, 676**-General Principles of Pharmacology and Toxicology, I, II

Phcl 661-Advanced Physiology

Psy 603-Quantitative Methods in Psychology I (or equivalent)

Phcl 501-Principles of Life Science Research

Phcl 651-Directed Studies in Pharmacology and Toxicology

Phcl 643-Pharmacology Seminar (to be taken each semester)

The student's adviser will assist in course selection.

*Phcl 564 is not required for toxicology track.

**Phcl 676 is not required for toxicology track.

Other Academic Requirements: Written and oral comprehensive exams precede admission to the dissertation stage. The dissertation represents the results of independent and original research. A manuscript that describes the research and that is 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.

Ph.D., Emphasis in Pharmacy Administration

Description: The Department of Pharmacy Administration prepares graduates to be social and behavioral scientists who apply and develop theories to understand aspects of the health-care arena and its participants. Examples of specific areas of inquiry include the marketing and economics of pharmaceuticals, patient and provider behaviors in the health-care system, management strategies within health systems, the health outcomes associated with using pharmaceuticals, and the roles of pharmacists in delivering and managing health care. This scientific discipline is particularly interested in how these areas are influenced by pharmacists and other health-care providers, pharmaceutical manufacturers, governmental entities, and pharmaceuticals.

A graduate degree in pharmacy administration affords excellent career opportunities in a variety of settings. The graduate program has maintained an exceptional track record in placing graduates. Graduates of the program have obtained positions in academia, the pharmaceutical industry, managed care organizations, professional associations, consulting and marketing research firms, government agencies, hospitals, and health-care journal publication agencies. In academia, the program has produced several chairs of pharmacy administration departments and deans of pharmacy schools nationwide. In the pharmaceutical industry, many alumni have quickly risen to senior management positions in marketing, health/pharmaceutical economics, and pharmacy affairs. Other graduates of the program have secured key positions in the federal and state governments and professional associations in pharmacy.

Admission Requirements: Application deadline: February 1. Applicants must have a master's degree in a pharmaceutical sciences, or higher. (A degree in a discipline related to marketing, management, or economics also may be considered for admission upon demonstration of a commitment to pursuing a career in the field of pharmacy or the pharmaceutical industry.) College transcripts with a minimum of a B average (3.2 on a 4.0 scale) are required. Applicants must take and submit the scores from either the GRE or the GMAT. International applicants also must take the TOEFL examination and score at least 600 (paper-based test). Three letters of recommendation, an interview, a statement of purpose, and/or written responses to career questions also are used to evaluate candidates. If an applicant has completed a thesis, he or she is asked to provide a copy of the thesis for review. If a student has earned a nonthesis master's degree or a Pharm.D. degree, then, once admitted, the student will be required to demonstrate the ability to undertake and successfully complete an individual research project to the satisfaction of the departmental faculty (through a problems course). Students admitted from a Pharm.D. program may be required to take preparatory courses prior to taking core courses.

Program Objectives: The graduate program in pharmacy administration has the following objectives for its graduate program:

- To prepare highly qualified graduate students for careers in academia, industry, and other settings with training in management, marketing, and economics of pharmaceuticals and pharmacy practice
- To maintain highly productive teaching and research programs that facilitate the acquisition of abilities necessary to create new knowledge
- To maintain a leadership role in state and national organizations relevant to the discipline

- To provide consultative services to pharmacists, the pharmaceutical industry, and other interested entities in the areas of faculty and graduate student expertise

Course Requirements: The Ph.D. with an emphasis in pharmacy administration offers two areas of specialization: management or marketing. The course requirements are dictated by the specialization and are described below in separate sections.

Other Academic Requirements: In addition to the course requirements, each student must pass a comprehensive examination, prepare and successfully defend a dissertation prospectus, and complete and defend his/her dissertation project, which is based on original, independent research.

Ph.D., Emphasis in Pharmacy Administration, Management Track

The management track consists of 30 hours of course work and 18 hours of dissertation credit. The course work required is as follows.

Required Block—five courses (15 credits)

Phad 680-Advanced Quantitative Analysis I

Phad 681-Advanced Quantitative Analysis II

Phad 687-Secondary Data Techniques

Phad 694-Pharmaceutical Economics

Phad 683-Advanced Drug Marketing/Phad 692-Drug Development and Marketing/
Phad 674-Independent Study (whichever is remaining from M.S. program)

Required Management Courses—four courses (12 credits)

Mgmt 672-Seminar in Global Business Strategy

Mgmt 673-Seminar in Human Resources Management

Mgmt 676-Seminar in Organizational Behavior

Mgmt 679-Seminar on the History of Management Thought

Elective Course—one course (3 credits)

600-level or 700-level course approved by the track coordinator

Dissertation—Phad 797-Dissertation (18 hours)

Note: Students entering directly into the Ph.D. program may be required to take courses in the M.S. program, depending on the background and individual needs of the student.

Ph.D., Emphasis in Pharmacy Administration, Marketing Track

Course Requirements: To complete the marketing track/specialization for the Ph.D. in pharmacy administration, a student must complete 30 hours of course work and 18 hours of dissertation. The course work includes 15 hours of Phad courses (required block) and 15 hours of marketing courses.

Required Block—five courses (15 credits)

Phad 680-Advanced Quantitative Analysis I

Phad 681-Advanced Quantitative Analysis II

Phad 687-Secondary Data Techniques

Phad 694-Pharmaceutical Economics

Phad 693-Health Economics, Phad 692-Drug Development and Marketing or Phad
674-Independent Study (whichever is remaining from M.S. program)

Marketing Courses—five courses (15 credits)
Mktg 662-Marketing Theory
Mktg 664-Measurement and Scaling
Mktg 668-Advanced Marketing Readings I
Mktg 669-Advanced Marketing Readings II
Mktg 670-Advanced Studies in Consumer Behavior

MEDICINAL CHEMISTRY — MEDC

Professor Stephen J. Cutler, chair • 417A Faser Hall
http://www.olemiss.edu/depts/pharmacy/medicinal_chemistry/

Professors Avery, Cutler, and Williamson • Associate Professors McCurdy and Rimoldi
• Assistant Professor Doerksen • Research Assistant Professor Watkins

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. DRUG ACTION AND DESIGN V: 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 CANCER AND INFECTIOUS DISEASES. Overview of anticancer, antimicrobial and antiviral chemotherapy as related to drug design, chemical syntheses, structural classes, mechanisms of pharmacological action, toxicities, resistance mechanisms, and clinical usefulness. (3).

618. DRUG ACTION AND DESIGN VI: 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. DRUG ACTION AND DESIGN VII: COMBINATORIAL CHEMISTRY—THEORY & PRACTICE. Parallel synthesis and product analysis sequel to molecular modeling and QSAR. (3).

621. THEORY OF TECHNOLOGY DEVELOPMENT. (3).

- 622. EARLY STAGES OF TECHNOLOGY DEVELOPMENT.** (3).
623. FOSTERING CREATIVE ENVIRONMENTS. (3).
625. APPLIED PROBLEMS IN MEDICINAL CHEMISTRY, POLYMER & MATERIALS SCIENCE AND TECHNOLOGY DEVELOPMENT. (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

Associate Professor Michael A. Repka, chair • 113 Faser Hall
<http://www.pharmacy.olemiss.edu/pharmaceutics/>

Professors Chambliss, M. ElSohly, and Wyandt • Associate Professors B. Avery and Repka • Assistant Professors Jo, Majumdar, and Murthy

- 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).
546. BIOPHARMACEUTICS AND PHARMACOKINETICS.
641. ADVANCED PHARMACEUTICS I. Ionic equilibria and solubility theory as applied to pharmaceutical systems. (3).
642. ADVANCED PHARMACEUTICS II. Diffusion and dissolution phenomena as applied to pharmaceutical systems. (3).
644. STABILITY OF PHARMACEUTICAL SYSTEMS. Principles of chemical and physical stability as applied to pharmaceutical systems. (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
<http://www.pharmacy.olemiss.edu/pharmacognosy/>

Professors Clark, Ferreira, Hufford, Hamann, Khan, Pasco, and Zjawiony • Associate Professors 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
<http://www.pharmacy.olemiss.edu/pharmacology/>

Professors Matsumoto, Matthews, Speth, Sufka, Verlangieri, Walker, Waters, and M. Wilson • Associate Professors Sabol and Willet • Assistant Professors Shariat-Madar and S. Wilson • Research Assistant Professor El-Alfy

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).

505. MODERN PHARMACOLOGY. Novel drugs in clinical trials. An in-depth discussion of topics of current importance in pharmacology of commonly occurring diseases are emphasized. Prerequisite: graduate standing or consent of instructor. (2).

541. PROBLEMS IN PHARMACOLOGY. Investigation of individual problems. Prerequisite: consent of instructor. (May be repeated for credit). (1-3).

547. INTRODUCTION TO ENVIRONMENTAL TOXICOLOGY. (2).

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: 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).

581. INTRODUCTION TO TOXICOLOGY. (3).

586. RECEPTORS AND CHANNELS. (3).

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. (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: consent of instructor. (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).

PHARMACY ADMINISTRATION — PHAD

Associate Professor Noel E. Wilkin, chair • 223 Faser Hall
<http://www.pharmacy.olemiss.edu/phad/>

Professors Garner, O'Quin, and Vitell • Associate Professors Alidaee, J. Bentley, Bouldin, Juergens, McCaffrey, and Wilkin • Assistant Professor Yang

541, 542. PROBLEMS IN PHARMACY ADMINISTRATION. Investigation of individual problems. Prerequisite: consent of instructor. (1-6, 1-6).

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).

ADMINISTRATION, FACULTY, AND STAFF

ADMINISTRATION

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CHRISTY M. WYANDT, B.A., Ph.D., associate dean of the Graduate School

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MERLEAN SHEPHERD, coordinator of graduate admissions
AMANDA WALKER, coordinator of recruiting
ROBIN WIEBE, assistant to the dean

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*This list includes full, associate, and assistant professors; instructors, visiting professors, and lecturers. It does not include adjunct, temporary, and emeritus faculty.

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