

UNIVERSITY OF KENTUCKY



THE GRADUATE SCHOOL BULLETIN

PART 2 - PROGRAMS, CERTIFICATES AND COURSES

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**THE GRADUATE SCHOOL  
THE GILLIS BUILDING**

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# GRADUATE DEGREE PROGRAMS

## DOCTORAL PROGRAMS

PROGRAM	DEGREE	Residence Model(s) <sup>+</sup>	Language(s) Required
Administration and Supervision			
Instruction and Administration	Doctor of Education	I, II, III	
Agricultural Economics	Doctor of Philosophy	I	
Anatomy and Neurobiology	Doctor of Philosophy	I	
Animal Sciences	Doctor of Philosophy	I, II, III	
Anthropology	Doctor of Philosophy	I	One
Biology	Doctor of Philosophy	I	
Biomedical Engineering	Doctor of Philosophy	I	
Biosystems and Agricultural Engineering	Doctor of Philosophy	I, II, III	
Business Administration	Doctor of Philosophy	I,II	
Chemical Engineering	Doctor of Philosophy	I, II, III	
Chemistry	Doctor of Philosophy	I, II, III	
Civil Engineering	Doctor of Philosophy	I, II, III	
Clinical Sciences	Doctor of Science	I	
Communication	Doctor of Philosophy	I, II, III	
Computer Science	Doctor of Philosophy	I, II, III	
Crop Science	Doctor of Philosophy	I, II, III	
Curriculum and Instruction Instruction and Administration	Doctor of Education	I, II, III	
Earth and Environmental Sciences	Doctor of Philosophy	I, II, III	
Economics	Doctor of Philosophy	I	
Educational and Counseling Psychology	Doctor of Philosophy	I, II	
Educational Leadership Studies Instruction and Administration	Doctor of Education	I, II, III	
Educational Policy Studies and Evaluation	Doctor of Philosophy	I, II	
	Doctor of Education		
Educational Sciences	Doctor of Philosophy	I	
Electrical Engineering	Doctor of Philosophy	I, II	
English	Doctor of Philosophy	I, II	One
Entomology	Doctor of Philosophy	I, II, III	
Family Studies	Doctor of Philosophy	I,II,III	
Geography	Doctor of Philosophy	I	
Gerontology	Doctor of Philosophy	I	

PROGRAM	DEGREE	Residence Model(s) <sup>+</sup>	Language(s) Required
Hispanic Studies	Doctor of Philosophy	I	Two
History	Doctor of Philosophy	I, II	One/Two**
Kinesiology and Health Promotion	Doctor of Education	I,II,III	
Exercise Science	Doctor of Philosophy	I	
Materials Science and Engineering	Doctor of Philosophy	I, II, III	
Mathematics	Doctor of Philosophy	I	One
Mechanical Engineering	Doctor of Philosophy	I, II, III	
Microbiology	Doctor of Philosophy	I	
Mining Engineering	Doctor of Philosophy	I	One
Molecular and Biomedical Pharmacology	Doctor of Philosophy	I	
Molecular and Cellular Biochemistry	Doctor of Philosophy	I	
Music	Doctor of Philosophy	I, II	
	Doctor of Musical Arts	I, II	One
Nursing	Doctor of Philosophy	I, II, III	
Nutritional Sciences	Doctor of Philosophy	I, II, III	
Pharmaceutical Sciences	Doctor of Philosophy	I	
Philosophy	Doctor of Philosophy	I, II	One
Physics and Astronomy	Doctor of Philosophy	I	
Physiology	Doctor of Philosophy	I	
Plant Pathology	Doctor of Philosophy	I, II, III	
Plant Physiology	Doctor of Philosophy	I	
Political Science	Doctor of Philosophy	I, II	One**
Psychology	Doctor of Philosophy	I	
Public Administration	Doctor of Philosophy	I	
Rehabilitation Sciences	Doctor of Philosophy	I,II,III	
Social Work	Doctor of Philosophy	I, II, III	
Sociology	Doctor of Philosophy	I, II, III	
Soil Science	Doctor of Philosophy	I, II	
Special Education	Doctor of P	I	
Statistics	Doctor of Philosophy	I	
Toxicology	Doctor of Philosophy	I	
Veterinary Science	Doctor of Philosophy	I, II, III	

\* Fulfillment of pre-qualifying residence model I, II or III is no longer required

## MASTER'S PROGRAMS

PROGRAM	DEGREE	Thesis Option*	Non-thesis Option	Language(s) Required
Accounting	Master of Science in Accounting		30	
Agricultural Economics	Master of Science	24	36	
Animal Sciences	Master of Science	24	36	
Anthropology				
General Anthropology	Master of Arts	24		
Applied Anthropology	Master of Arts		33*	
Architecture	Master of Architecture		57	
Art Education	Master of Arts	30	36	
Art History	Master of Arts	24	30	Two
Art Studio	Master of Fine Arts		60*	
Athletic Training	Master of Science		43	
Biology	Master of Science	24	30	
Biomedical Engineering	Master of Science in Biomedical Engineering	26	31	
	Professional Master of Biomedical Engineering		42*	
Biosystems and Agricultural Engineering	Master of Science in Biosystems & Agricultural Engineering	24	30	
Business Administration	Master of Business Administration		36	
Career, Technology and Leadership Education	Master of Science in Career, Technology and Leadership Education	24	30	
	Master of Science in Education	24	30	
Chemical Engineering	Master of Science in Chemical Engineering	24	30	
Chemistry	Master of Science	24	30	
Civil Engineering	Master of Science in Civil Engineering	24	30	
	Master of Civil Engineering		30*	
Classics	Master of Arts	24	30	
Clinical Sciences	Master of Science	37	38	
	Master of Science		30-35	
Communication	Master of Arts	30	30*	
Communication Disorders	Master of Science in Communication Disorders	30		
Computer Science	Master of Science	24*	30	
Crop Science	Master of Science	24		

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Crop Science	Master of Science in Agriculture	24	36	
Curriculum and Instruction				
Early Childhood Education	Master of Arts in Education	30	36	
Elementary Education	Master of Arts in Education		30	
Instructional Systems Design	Master of Science in Education	36	36	
Middle School Education	Master of Arts in Education	24	30	
	Master of Science in Education	24	30	
Reading	Master of Arts in Education		33	
Secondary Education	Master of Arts in Education		30*	
	Master of Science in Education	24	30*	
Dentistry	Master of Science	24		
Diplomacy and International Commerce	Master of Arts		30	
Earth and Environmental Sciences	Master of Science	24		
Economics	Master of Science		30	
Educational and Counseling Psychology	Master of Science in Education	30*	36*	
Educational Leadership Studies	Master of Education (School Admin)		33*	
Educational Policy Studies and Evaluation	Master of Science in Education		31*	
Electrical Engineering	Master of Science in Electrical Engineering	24	33	
Engineering	Master of Engineering		30	
English	Master of Arts	24	30*	One
Entomology	Master of Science	24	36	
Family Studies	Master of Science in Family Studies	36	36	
Forestry	Master of Science in Forestry	24		
	Master of Science in Forestry		30	
French	Master of Arts		30	One
Geography	Master of Arts	24	30	
German	Master of Arts	24	30	One
Health Administration	Master of Health Administration		44	
Hispanic Studies	Master of Arts	24	30	One

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Historic Preservation	Master of Historic Preservation		48	
History	Master of Arts	24	36	One
Hospitality and Dietetic Administration	Master of Science	30	36	
Interior Design	Master of Arts in Interior Design,	30	30	
Merchandising, Apparel and Textiles	Master of Science in Merchandising Apparel & Textiles	30	30	
Kinesiology and Health Promotion	Master of Science	30	30	
Library Science	Master of Arts	30	36	One
	Master of Science in Library Science		36	
Manufacturing Systems Engineering	Master of Science in Mfg Systems Engineering	24	33	
Materials Science and Engineering	Master of Science in Materials Science & Engineering	24	30	
Mathematics	Master of Science	30	30	
	Master of Arts	30	30	
Applied Mathematics	Master of Science		36	
Mechanical Engineering	Master of Science in Mechanical Engineering	24	30*	
Medical Sciences	Master of Science	*	*	
Mining Engineering	Master of Science in Mining Engineering	24	30	
	Master of Mining Engineering		30	
Music	Master of Music	30	30	
	Master of Arts	30		One
Nursing	Master of Science in Nursing	40	40	
Nutritional Sciences	Master of Science in Nutritional Sciences	29	35	
Pharmaceutical Sciences	Master of Science	24	30	
Philosophy	Master of Arts		30	One
Physical Therapy	Master of Science in Physical Therapy	24	30	
Physician Assistant Studies	Master of Science in Physician Assistant Studies		100	
Physics and Astronomy	Master of Science	24	30	
Plant Pathology	Master of Science	24		
Plant and Soil Science	Master of Science	24	30	
Political Science	Master of Arts	24	30	

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Psychology	Master of Arts	24		
	Master of Science	24		
Public Administration	Master of Public Administration		42	
	Master of Public Policy		40	
Public Health	Master of Public Health		34-37	
Radiation Science	Master of Science in Radiological Medical Physics		30	
	Master of Science in Health Physics		30	
Rehabilitation Counseling	Master of Rehabilitation Counseling		*	
Social Work	Master of Social Work		60*	
Sociology	Master of Arts	24	30	
Special Education	Master of Science in Education	36*	39*	
Statistics	Master of Science	29	35	
Teaching World Languages	Master of Arts	30		
Theatre Arts	Master of Arts	30	30	
Toxicology	Master of Science	24	31	
Veterinary Science	Master of Science	24		

Numbers in the Thesis and Non-thesis columns indicate the minimum number of credit hours required for the degree. Empty cells imply that particular degree option is not offered. Where asterisks are listed, consult the Director of Graduate Studies in the specific program for further information.

### SPECIALIST PROGRAMS

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Educational and Counseling Psychology	Specialist in Education		30*	
Educational Leadership Studies	Specialist in Education	39*		
Special Education	Specialist in Education		30*	

\*Individual requirements may vary according to the need of the student.



# GRADUATE DEGREE PROGRAM DESCRIPTIONS

## ACCOUNTING

### Master of Science

The Master of Science in Accounting (MSACC) degree at the University of Kentucky offers students a program of advanced study in accounting. The program provides preparation for professional positions in public accounting, industry, and other organizations. When coupled with a bachelor's degree from an accredited college or university and satisfactory completion of prerequisites of undergraduate courses in accounting, the MSACC allows students to prepare for the CPA exam while they complete their graduate courses which are offered in lock step with the CPA exam. Specifically, the program's objectives are to:

- Help students develop communication and technology skills expected in the accounting profession;
- Enhance the accounting knowledge of students entering the accounting profession;
- Enable students to develop both leadership skills and teamwork in researching accounting issues;
- Enhance students' creative problem-solving skills and ability to think logically and analytically.

### Admission Requirements

The MSACC program only has fall admission since it is a full-time day program. Applicants to the program must have an undergraduate degree from an accredited college or university and complete the Graduate Management Admission Test (GMAT). Applicants will be evaluated for admission based on their undergraduate grade point averages (GPA), both overall and in accounting, their GMAT score, and TOEFL score, if applicable. The required course prerequisites (3 credit hours each) for the MSACC program are: ACC 301 – *Intermediate Accounting I*; ACC 302 – *Intermediate Accounting II*; ACC 324 – *Accounting Information Systems*; ACC 403 – *Auditing*; ACC 407 – *Concepts of Income Taxation*; and ACC 418 – *Cost Management*. **These courses must be based on US accounting standards and codes.**

### Degree Requirements

Students must complete at least thirty semester hours in courses carrying graduate credit. The MSACC degree requirements are:

1. A minimum of 21 semester hours of accounting courses, of which at least 15 semester hours must be in courses numbered at the "600" level.
2. The required courses include: ACC 507, ACC 516, ACC 601, ACC 603, ACC 617, ACC 621, ACC 624, and three graduate level electives outside of accounting (at least two of these courses must be at the 600 level).

3. A minimum of 21 semester hours must be in courses reserved exclusively for graduate students (i.e., 600 level courses).
4. All graduate-level elective courses require approval in advance by the Director of the Master of Science Accounting program.
5. A minimum average GPA of 3.0 in all courses attempted for graduate credit after being admitted to The Graduate School.

The program generally follows a lock-step approach. Therefore, certain required courses are only offered in a fall semester; other required courses are only offered in a spring semester/first summer session. Students will generally take a required course and a graduate-level elective during the second summer session.

### **Doctor of Philosophy**

The Business Administration program offers a Ph.D. degree with a concentration in Accounting. For more information, see the [Business Administration](#) program description.

### **GRADUATE COURSES**

ACC 507	ADVANCED TOPICS IN TAXATION	(3)
ACC 508	CONTROLLERSHIP	(3)
ACC 516	ADVANCED TOPICS IN FINANCIAL REPORTING	(3)
ACC 600	INQUIRY, COMMUNICATION, AND LEADERSHIP IN ACCOUNTING	(3)
ACC 601	RESEARCH IN ACCOUNTING THEORY	(3)
ACC 603	ATTEST FUNCTION	(3)
ACC 608	ADVANCED MANAGERIAL ACCOUNTING	(3)
ACC 610	NOT-FOR-PROFIT AND REGULATORY ACCOUNTING	(3)
ACC 617	SELECTED TOPICS IN TAXATION	(3)
ACC 619	INDEPENDENT STUDY IN ACCOUNTING	(1-3)
ACC 621	UNDERSTANDING FINANCIAL STATEMENTS	(3)
ACC 624	ENTERPRISE INFORMATION AND CONTROL SYSTEMS	(3)
ACC 627	CORPORATE TAXATION	(3)
ACC 628	FINANCIAL/MANAGERIAL ACCOUNTING (MAY NOT BE TAKEN BY MSACC STUDENTS)	(3)
ACC 637	TAXATION OF FLOW-THROUGH ENTITIES	(3)
ACC 647	MULTIJURISDICTIONAL TAXATION	(3)
ACC 700	TOPICAL SEMINAR IN ACCOUNTING RESEARCH (SUBTITLE REQUIRED)	(1-3)
ACC 795	INDEPENDENT STUDY IN ACCOUNTING	(1-6)

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## AGRICULTURAL ECONOMICS

The Department of Agricultural Economics provides programs leading to the degrees of Master of Science and the Doctor of Philosophy. Graduate Faculty in the department provide areas of emphasis in agricultural policy, price analysis, agricultural marketing, agribusiness, farm management, domestic and international economic development, and resource and production economics. Students must complete a core of courses in agricultural economics, economics and statistics.

Students holding degrees in agricultural economics are employed by academic institutions, local, state, and federal agencies that deal with agriculture, natural resources and economic development; private firms in the agricultural and business sectors; and agencies and governments of foreign countries. These agricultural economists conduct research, develop extension services, teach classes, and serve as managers and administrators in various types of firms and agencies.

### **Admission Requirements**

Students entering the M.S. program are expected to have at least one course in each of the following areas: intermediate microeconomics, intermediate macroeconomics, calculus, and statistics. An undergraduate degree in economics is advantageous, as is a good background in mathematics. There are no minimum GPA or GRE requirements beyond those of the Graduate School, but such information, along with letters of recommendation, is used qualitatively in the admission decision.

Students entering the Ph.D. program are expected to have the following courses: at least a two-course calculus sequence, M.S. level microeconomic theory, M.S. level macroeconomic theory, and statistics theory. Some of these courses may be taken during the student's first semester. A Master's degree in a relevant discipline is generally required for entry into the Ph.D. program. In exceptional cases a student may be admitted directly to the Ph.D. program with only a Bachelor's degree. There are no minimum GPA or GRE requirements beyond the Graduate School's, but such information, along with letters of recommendation, is used qualitatively in the admission decision.

### **Degree Requirements**

The master's program is offered in either Plan A or Plan B. The thesis option (Plan A) requires a minimum of 24 hours of graduate credit, a research thesis and an oral final exam. Plan B requires a minimum of 36 hours of graduate credit and an oral final exam. In addition to the course work requirements, students in the Ph.D. program are required to take a comprehensive examination in microeconomics administered by the Department of Economics. Students also must complete a qualifying examination on the application of economic analysis to agriculture and related fields within the Department of Agricultural Economics. The ability to conduct

original research in agricultural economics, documented through the completion of a dissertation, is required.

Graduate students have considerable flexibility to structure their program with respect to course work and research topics consistent with individual interests. Each student has a major professor and an advisory committee to assist in course work selection and in the thesis and dissertation research. A graduate handbook is available that provides information regarding program content, degree options and available financial assistance. Send request to:

Director of Graduate Studies  
Department of Agricultural Economics  
400 Charles E. Barnhart Building  
University of Kentucky  
Lexington, KY 40506-0276  
[aecdgs@lsv.uky.edu](mailto:aecdgs@lsv.uky.edu)  
[www.uky.edu/AG/AgEcon](http://www.uky.edu/AG/AgEcon)

## GRADUATE COURSES

AEC 441G	AGRICULTURAL FINANCIAL MANAGEMENT	(3)
AEC 445G	INTRODUCTION TO RESOURCE AND ENVIRONMENTAL ECONOMICS	(3)
AEC 503	PRICE THEORY AND APPLICATIONS IN AGRICULTURAL ECONOMICS	(3)
AEC 510	INTERNATIONAL TRADE AND AGRICULTURAL MARKETING	(3)
AEC 531	AGRICULTURAL PRICE ANALYSIS	(3)
AEC 532	AGRICULTURAL AND FOOD POLICY	(3)
AEC 545	RESOURCE AND ENVIRONMENTAL ECONOMICS	(3)
AEC 580	SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS	(1-3)
AEC 590	INTRODUCTION TO QUANTITATIVE ECONOMICS I (SAME AS ECO 590)	(3)
AEC 606	ADVANCED AGRICULTURAL MARKETING	(3)
AEC 610	INTERNATIONAL TRADE IN AGRICULTURAL PRODUCTS	(3)
AEC 620	ADVANCED PRODUCTION ECONOMICS I	(3)
AEC 624	ADVANCED QUANTITATIVE METHODS IN AGRICULTURAL ECONOMICS	(3)
AEC 626	AGRICULTURE AND ECONOMIC DEVELOPMENT (SAME AS ECO 674)	(3)
AEC 627	PROJECT ANALYSIS FOR RURAL DEVELOPMENT	(3)
AEC 640	ADVANCED AGRICULTURAL POLICY	(3)
AEC 645	NATURAL RESOURCE ECONOMICS	(3)
AEC 646	INTERTEMPORAL ALLOCATION OF NATURAL RESOURCES	(3)
AEC 653	LOCAL ECONOMIC DEVELOPMENT (SAME AS PA 653)	(3)
AEC 661	PROGRAMMING MODELS IN AGRICULTURAL ECONOMICS	(3)
AEC 662	QUANTITATIVE METHODS IN RENEWABLE RESOURCE MANAGEMENT (SAME AS FOR 662)	(3)
AEC 691	STRUCTURE OF U.S. AGRICULTURE (SAME AS SOC 691)	(3)

AEC 748	MASTER'S THESIS RESEARCH	(0)
AEC 749	DISSERTATION RESEARCH	(0)
AEC 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
AEC 767	DISSERTATION RESIDENCY CREDIT	(2)
AEC 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
AEC 780	SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS	(1-3)
AEC 790	RESIDENCE WORK IN AGRICULTURAL ECONOMICS	(3-9)
AEC 796	SEMINAR: (SUBTITLE REQUIRED)	(3)

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## ANATOMY AND NEUROBIOLOGY

Graduate study in anatomy and neurobiology is designed to prepare candidates for research careers in academics, industry, and government laboratories. Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience, and when possible, personal interviews. Students should have completed an undergraduate degree in biology, biochemistry, chemistry, engineering, mathematics, neurosciences, physics, pharmacy or psychology. Some students who have already completed an M.D. or D.M.D. degree may be interested in obtaining specific training in anatomy and neurobiology in order to complete their professional education. For traditional students with only an undergraduate degree, undergraduate courses in organic chemistry, physical chemistry, calculus, physics, and the biological sciences are highly recommended.

Students will have the opportunity to join faculty research programs across a spectrum of topics including: neuroendocrinology and reproductive biology, development and aging in the nervous system, neurodegeneration and regeneration, and neurochemistry. The program of study is tailored to the individual background and career goals of the student and stresses an interdepartmental approach both in the selection of courses and in the pursuit of research. Students are expected to participate in graduate seminars, journal clubs, research seminars; to interact with visiting scholars; and to present the results of their research at local and national meetings. Financial aid is available for highly qualified students.

### **Admission Requirements**

Admission to the Ph.D. program in Anatomy and Neurobiology is through the Integrated Biomedical Sciences (IBS) Curriculum. Inquiries regarding admission should be directed to the Director, Integrated Biomedical Sciences Curriculum, University of Kentucky College of Medicine. For information about the Ph.D. program in Anatomy and Neurobiology, contact the Director of Graduate Studies, Department of Anatomy and Neurobiology. Information may also be obtained from the department Web site: [www.mc.uky.edu/neurobiology/](http://www.mc.uky.edu/neurobiology/).

## GRADUATE COURSES

ANA 503	INDEPENDENT WORK IN ANATOMY.	(3)
ANA 511	INTRODUCTION TO HUMAN ANATOMY.	(5)
ANA 512	MICROSCOPY AND ULTRASTRUCTURE.	(4)
ANA 516	SELECTED TOPICS IN ADVANCED NEUROSCIENCE.	(3)
ANA 530	COMBINED HISTOLOGY AND SPECIAL ORAL MICROANATOMY.	(5)
ANA 534	DENTAL GROSS ANATOMY AND EMBRYOLOGY.	(5)
ANA 538	DENTAL NEUROANATOMY.	(2)
ANA 600	SEMINAR IN ANATOMY.	(1)
ANA 605	NEUROBIOLOGY OF CNS INJURY AND REPAIR. (Same as PGY 605.)	(3)
ANA 609	EDUCATIONAL STRATEGIES IN THE ANATOMICAL SCIENCES.	(3)
ANA 611	REGIONAL HUMAN ANATOMY.	(5)
ANA 612	BIOLOGY OF AGING. (Same as BIO/GRN/PGY 612.)	(3)
ANA 618	MOLECULAR NEUROBIOLOGY. (Same as BIO/MI/PGY 618.)	(4)
ANA 625	INTRODUCTION TO FUNCTIONAL MRI.	(1)
ANA 629	TECHNIQUES OF ANATOMICAL RESEARCH.	(2)
ANA 631	ADVANCED HUMAN ANATOMY.	(3-5)
ANA 633	ADVANCED DEVELOPMENTAL ANATOMY.	(2-5)
ANA 636	ADVANCED NEUROANATOMY.	(3-5)
ANA 638	DEVELOPMENTAL NEUROBIOLOGY. (Same as BIO/PGY/PSY 638.)	(3)
ANA 660	BIOLOGY OF REPRODUCTION. (Same as ASC 660 and PGY 660).	(3)
ANA 662	ULTRASTRUCTURAL ANATOMY.	(2-5)
ANA 710	AGING OF THE NERVOUS SYSTEM. (Same as GRN/PGY/PHA 710.)	(3)
ANA 748	MASTER'S THESIS RESEARCH.	(0)
ANA 749	DISSERTATION RESEARCH.	(0)
ANA 767	DISSERTATION RESIDENCY CREDIT.	(2)
ANA 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE.	(1-6)
ANA 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE.	(0-12)
ANA 780	SPECIAL TOPICS IN NEUROBIOLOGY.	(1-3)
ANA 790	RESEARCH IN ANATOMY.	(1-12)

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## ANIMAL AND FOOD SCIENCES

The degrees of Master of Science (Plan A and Plan B) and Doctor of Philosophy are available in Animal and Food Sciences.

### Admission Requirements

The minimum requirements for admission to the graduate program in Animal and Food Sciences conform to the admission standards of the Graduate School. Applicants to the Master's program must have completed a four-year degree at an accredited institution of higher education, must have achieved at least a 2.75 GPA for all undergraduate courses, and must submit scores from the verbal, quantitative, and analytical portions of the Graduate Record Exam (GRE). Applicants to the Ph.D. program, in addition to the above requirements, must have completed or be completing a Master's Degree or equivalent and must have achieved a 3.0 GPA for all graduate courses. In addition, all applicants must submit to the Director of Graduate Studies in Animal and Food Sciences three letters of recommendation and a completed Personal Data Record form (obtained from the Director of Graduate Studies).

### Degree Requirements

Programs in Animal Sciences are divided into the disciplinary areas of animal nutrition, physiology of reproduction and food science. Special interests in beef or dairy cattle, horses, poultry, sheep, swine and companion animals may be pursued within many of these areas. Programs in food science offer specialization in dairy technology, food chemistry, food microbiology, food safety, meat biochemistry, and meat processing.

Candidates for the Ph.D. degree are required to declare a minor outside the department. On approval of the student's advisory committee, a minimum of 12 credits in not more than two departments may be substituted for the minor.

## GRADUATE COURSES

ASC 404G	SHEEP SCIENCE	(4)
ASC 408G	SWINE SCIENCE	(3)
ASC 410G	EQUINE SCIENCES	(3)
ASC 420G	DAIRY CATTLE SCIENCE	(3)
ASC 462G	ARTIFICIAL INSEMINATION AND FERTILITY OF FARM ANIMALS	(2)
ASC 564	MILK SECRETION	(3)
ASC 601	MAMMALIAN ENDOCRINOLOGY (SAME AS PGY 601)	(3)
ASC 602	MICRONUTRIENT METABOLISM (SAME AS NS 602)	(4)

ASC 630	ADVANCED MEAT SCIENCE (SAME AS FSC 630)	(4)
ASC	660 BIOLOGY OF REPRODUCTION (SAME AS PGY/ANA 660)	(3)
ASC 664	ADVANCED ANIMAL BREEDING	(3)
ASC 680	LABORATORY METHODS IN NUTRITIONAL SCIENCES (SAME AS NS 680)	(4)
ASC 681	ENERGY METABOLISM	(2)
ASC 682	MICROBIAL ECOLOGY OF DIGESTION	(4)
ASC 683	PROTEIN METABOLISM	(2)
ASC 684	ADVANCED RUMINANT NUTRITION	(3)
ASC 685	MINERAL METABOLISM (SAME AS NFS 685)	(2)
ASC 686	ADVANCED NONRUMINANT NUTRITION	(3)
ASC 687	VITAMIN METABOLISM	(2)
ASC 688	EQUINE NUTRITION	(2)
ASC 689	PHYSIOLOGY OF NUTRIENT DIGESTION AND ABSORPTION	(3)
ASC 748	MASTER'S THESIS RESEARCH	(0)
ASC 749	DISSERTATION RESEARCH	(0)
ASC 767	DISSERTATION RESIDENCY CREDIT	(2)
ASC 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ASC 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
ASC 771	ANIMAL SCIENCE SEMINAR	(1)
ASC 780	SPECIAL PROBLEMS IN ANIMAL DERIVED FOODS (SAME AS FSC 780)	(1-4)
ASC 781	SPECIAL PROBLEMS IN GENETICS AND ANIMAL BREEDING	(1-4)
ASC 782	SPECIAL PROBLEMS IN ANIMAL NUTRITION	(1-4)
ASC 783	SPECIAL PROBLEMS IN REPRODUCTIVE PHYSIOLOGY (SUBTITLE REQUIRED)	(1-4)
ASC 790	RESEARCH IN ANIMAL DERIVED FOODS (SAME AS FSC 790)	(1-6)
ASC 791	RESEARCH IN GENETICS AND ANIMAL BREEDING	(1-6)
ASC 792	RESEARCH IN ANIMAL NUTRITION	(1-6)
ASC 793	RESEARCH IN REPRODUCTIVE PHYSIOLOGY (SUBTITLE REQUIRED)	(1-6)
FSC 434G	FOOD CHEMISTRY	(4)
FSC 530	FOOD MICROBIOLOGY	(5)
FSC 535	FOOD ANALYSIS	(4)
FSC 536	ADVANCED FOOD TECHNOLOGY	(4)
FSC 538	FOOD FERMENTATION AND THERMAL PROCESSING	(4)
FSC 540	FOOD SANITATION	(3)
FSC 630	ADVANCED MEAT SCIENCE (SAME AS ASC 630)	(4)
FSC 632	FOODBORNE DISEASE AGENTS	(3)
FSC 636	FOOD PACKAGING	(2)
FSC 638	FOOD PROTEINS	(3)
FSC 640	FOOD LIPIDS	(3)



FSC 780	SPECIAL PROBLEMS IN ANIMAL DERIVED FOODS (SAME AS ASC 780)	(1-4)
FSC 790	RESEARCH IN ANIMAL DERIVED FOODS (SAME AS ASC 790)	(1-6)

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## ANTHROPOLOGY

The Department of Anthropology offers graduate programs leading to the Master of Arts (Plan A and Plan B) and the Doctor of Philosophy degrees. The degree programs, which share a core curriculum provide education leading to the general understanding of anthropological theory and knowledge, research methods, and a specialized area of concentration. Areas of potential specialization include economy, ecology and change, biocultural anthropology, medical anthropology, and archaeology, across both basic and applied dimensions.

Students may be admitted into one of three programs. Admission preference is given to students whose intention is to obtain the Ph.D. (whether or not they already hold an MA). Students must fulfill all requirements of the Graduate School (see Graduate Bulletin).

Upon entry into the program, students progress towards the PhD either by completing the MA first or with a faculty approved by-pass of the M.A. Students entering with master's degrees in anthropology or other fields may enter the Ph.D. program directly, following a review of their previous experiences. Students entering with master's degrees may be required to take the Core and Methods courses designated under the Master's Program. In lieu of the core curriculum and thesis, these students may present evidence of alternative course work and the design and completion of a research project similar in scale to a thesis or practicum.

Requirements in the Ph.D. program consist of 1) a core course in Research Design (ANT 662), 2) an area of concentration consisting of 12 credit hours (applied anthropology students must take ANT 735), 3) a regional focus consisting of 6 credit hours at the 400G-700 level, 4) three 700-level seminars outside the area of concentration (does not include independent study courses), 5) successful completion of the doctoral qualifying examination, 6) a dissertation based on original research carried out by the student, and 7) a final oral defense of the dissertation.

Reading knowledge of one foreign language is required for the Ph.D. Because language skill is an important component of research in anthropology, a student's advisory committee may require additional training, experience, and evaluation of a Ph.D. student's language ability as part of the academic program. It is assumed that this will apply to any student who is working in an area where English is not the language.

Requirements for the M.A. program consist of 1) core seminars (ANT 601 and either ANT 610 or ANT 650); 2) a research methods sequence (ANT 660 or ANT 651); and 3) an area of

concentration. There is no foreign language requirement for the M.A. unless required by the student's advisory committee. Plan A students must complete a thesis. Plan B students complete a practicum or additional course work. (Plan B option is not available for archaeology.) An oral final examination is required for both Plan A and Plan B.

Anthropology faculty members have research experience in the following areas: South and Southeast Asia, Africa, Europe, Latin America, and North America, particularly in the rural U.S. and Appalachia. Members of the department participate in interdisciplinary research in the University's Center for Rural Health, the Sanders-Brown Center on Aging, the Gerontology Program, the College of Agriculture, the College of Medicine, and the College of Education. The Department of Behavioral Science, College of Medicine, includes anthropologists on its faculty, and students with interests in medical anthropology are encouraged to take behavioral science courses.

### Admission Requirements

Department standards for admission to graduate work in anthropology include an undergraduate grade point average of B or better, satisfactory Graduate Record Examination scores, completion of a separate departmental application form, and three letters of recommendation. Write the Director of Graduate Studies, Department of Anthropology, for additional information on departmental requirements and opportunities for financial assistance.

### GRADUATE COURSES

ANT 428G	CONTEMPORARY CULTURES AND SOCIETIES IN SOUTHEAST ASIA	(3)
ANT 431G	CULTURES AND SOCIETIES OF SUB-SAHARAN AFRICA (SAME AS AAS 431G)	(3)
ANT 470G	REGIONAL AMERICAN ETHNOGRAPHY	(3)
ANT 515	PHONOLOGICAL ANALYSIS (SAME AS ENG/LIN 515)	(3)
ANT 516	GRAMMATICAL ANALYSIS (SAME AS ENG/LIN 516)	(3)
ANT 525	APPLIED ANTHROPOLOGY	(3)
ANT 526	PSYCHOLOGICAL ANTHROPOLOGY	(3)
ANT 527	CHILDREN AND FAMILY IN APPALACHIA (SAME AS FAM 550)	(3)
ANT 532	PRIVATE INTERESTS IN THE PUBLIC DOMAIN: THE COMPARATIVE STUDY OF POLITICS	(3)
ANT 534	THE SOUTHERN APPALACHIANS: A SOCIOLOGICAL INTER-PRETATION (SAME AS SOC 534)	(3)
ANT 538	BEYOND ECONOMICS, BEYOND GROWTH: ANTHROPOLOGY'S CRITIQUE OF AN ANTISOCIAL SCIENCE	(3)
ANT 541	ARCHAEOLOGICAL METHOD AND THEORY	(3)
ANT 543	CULTURAL RESOURCE MANAGEMENT	(3)
ANT 545	HISTORICAL ARCHAEOLOGY	(3)
ANT 550	SYMBOLS AND CULTURE	(3)

ANT 551	BIOARCHAEOLOGY	(3)
ANT 555	EASTERN NORTH AMERICAN ARCHAEOLOGY	(3)
ANT 580	ADVANCED TOPICS IN ANTHROPOLOGY	(3)
ANT 581	INDEPENDENT WORK IN ANTHROPOLOGY	(1-4)
ANT 582	SENIOR INTEGRATIVE SEMINAR	(3)
ANT 585	FIELD LABORATORY IN ARCHAEOLOGICAL RESEARCH	(3-6)
ANT 600	PRACTICUM IN TEACHING ANTHROPOLOGY	(1)
ANT 601	THEORIES AND CONCEPTS IN ANTHROPOLOGY	(3)
ANT 602	SEMINAR IN CULTURE DYNAMICS	(3)
ANT 603	HUMAN BIOLOGY IN CONTEXT OF SOCIOCULTURAL CHANGE	(3)
ANT 604	SOCIAL ORGANIZATION	(3)
ANT 607	FOOD RELATED BEHAVIORS (SAME AS NFS/NS/BSC 607)	(3)
ANT 620	TOPICS AND METHODS OF EVALUATION (SAME AS EDP/EPE 620/SOC 622)	(3)
ANT 621	ADVANCED TOPICS AND METHODS OF EVALUATION (SAME AS EDP/EPE 621)	(3)
ANT 637	SOCIOCULTURAL DIMENSIONS OF ECONOMIC DEVELOPMENT (SAME AS SOC 637)	(3)
ANT 639	AGING IN CROSS-CULTURAL PERSPECTIVE	(3)
ANT 640	SCIENCE, AGRICULTURE, AND DEVELOPMENT (SAME AS SOC 640)	(3)
ANT 641	GENDER ISSUES IN DEVELOPMENT (SAME AS SOC 641)	(3)
ANT 645	ANTHROPOLOGY AND EPIDEMIOLOGY (SAME AS BSC 645)	(3)
ANT 646	GLOBAL HEALTH: PEOPLE, INSTITUTIONS AND CHANGE	(3)
ANT 650	THEORY IN ARCHAEOLOGY	(3)
ANT 651	ARCHAEOLOGICAL DATA ANALYSIS	(3)
ANT 652	DEMOGRAPHIC ARCHAEOLOGY	(3)
ANT 653	PREHISTORIC ECONOMICS	(3)
ANT 654	ARCHAEOLOGY OF POLITICAL SYSTEMS	(3)
ANT 660	ETHNOGRAPHIC RESEARCH METHODS	(3)
ANT 661	ETHNOGRAPHIC DATA ANALYSIS	(3)
ANT 662	RESEARCH DESIGN	(3)
ANT 691	CULTURAL RESOURCE MANAGEMENT CLERKSHIP	(1-3)
ANT 725	SEMINAR IN APPLIED ANTHROPOLOGY	(3)
ANT 726	AMERICAN MATERIAL CULTURE (SAME AS ARC 726)	(3)
ANT 731	SEMINAR IN SOCIAL AND POLITICAL DYNAMICS	(3)
ANT 732	SEMINAR IN ECOLOGICAL ANTHROPOLOGY	(3)
ANT 733	SEMINAR IN SYMBOLS AND MEANING	(3)
ANT 734	SEMINAR IN ECONOMIC ANTHROPOLOGY	(3)
ANT 735	SEMINAR IN PRACTICE AND ACTION	(3)
ANT 736	CULTURE, ENVIRONMENT AND DEVELOPMENT (SAME AS SOC 737)	(3)
ANT 737	GENDER ANTHROPOLOGY	(3)
ANT 748	MASTER'S THESIS RESEARCH	(0)

ANT 749	DISSERTATION RESEARCH	(0)
ANT 750	GRADUATE FIELD STUDY IN ANTHROPOLOGY	(1-6)
ANT 765	ADVANCED SEMINAR IN MEDICAL ANTHROPOLOGY (SAME AS BSC 765)	(3)
ANT 766	GENDER, ETHNICITY AND HEALTH	(3)
ANT 767	DISSERTATION RESIDENCY CREDIT	(2)
ANT 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ANT 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
ANT 770	TOPICAL SEMINAR: (SUBTITLE REQUIRED)	(3)
ANT 774	FOOD AND FOOD SECURITY IN A CHANGING WORLD (SAME AS BSC 774)	(3)
ANT 775	CULTURE AND POLITICS OF REPRODUCTION	(3)
ANT 776	SEMINAR IN DEPENDENCY BEHAVIOR (SAME AS BSC/SOC/PSY 776)	(3)
ANT 790	RESEARCH PROBLEMS IN ANTHROPOLOGY	(1-6)

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## ARCHITECTURE

The Master of Architecture is a first-professional graduate degree, accredited by the National Architecture Accrediting Board (NAAB). This two-year degree comprises the second part of a sequential "4+2" curriculum, in which a student obtains a four-year (non-professional) Bachelor of Arts in Architecture and concludes with the two-year, first-professional Masters of Architecture degree. Students who receive this degree are eligible to seek professional registration as an architect.

### Degree Requirements

To obtain the Master of Architecture degree, students must complete 57 credit hours of graduate work as described in the curriculum below. Every student must complete a Master's Project in his or her area of concentration. Requirements for this degree are governed by and satisfy the accreditation requirements of the National Architecture Accrediting Board.

### Master of Architecture (2-year program) Curriculum

ARC 533	Structures II	(3)
ARC 641	Professional Practice	(3)
ARC 658	Design Studio VIII	(6)
ARC 511-515	Advanced History and Theory Seminar	(3)
ARC 631	Building Systems Integration	(3)
ARC 659	Design Studio IX	(6)
ARC 750	Design Studio X: Comprehensive Project	(6)
ARC 709, 719, 729, 759, 769, etc.	Master's Project in Chosen Concentration	(9)

Electives in Chosen Concentration (18)

**TOTAL** (57)

Areas of Concentration in the Master of Architecture degree program include but are not limited to: Building Design and Technology, Town Planning, Digital Visualization, Historic Preservation, History, Theory, and Criticism.

### **Admission Requirements**

Applicants for admission to the Master of Architecture degree program must hold a Bachelor of Arts in Architecture or a Bachelor of Architecture degree from a NAAB-accredited institution. Admission to the program is contingent on acceptance by the Graduate School at the University of Kentucky. Applicants are required to submit a portfolio, a personal essay on graduate expectations, transcripts, and GRE scores. Students who do not hold a Bachelor of Arts in Architecture or Bachelor of Architecture degree from the University of Kentucky must submit three letters of recommendation as well. Admission to the program is based on a review of the submitted materials

### **Advanced Standing**

Students with a Bachelor of Architecture from a NAAB-accredited architecture program may be admitted to the graduate program with advanced standing. In the case of transfer credit, the School of Architecture Admissions Committee reserves the right to require supplemental course work in areas it deems appropriate given the student's background and previous development. A student who is admitted with advanced standing is required to complete at least 30 credit hours of graduate work to receive the Masters of Architecture degree. The minimum curriculum for a student admitted with advanced standing is as follows:

Advanced Design Studio (6)  
Research and Methods Seminar (3)  
Seminar in Chosen Concentration (3)  
Electives in Chosen Concentration (9)  
Master's Project (9)

Students admitted to the Masters of Architecture degree program with advanced standing will engage primarily in scholarship and research related to specific areas of professional concentration. Graduate students will work with faculty advisors to create a course of study within these concentrations appropriate for the student's particular academic objectives. The School of Architecture offers courses in the following areas of concentration:

Building Design & Technology	Town Design
Digital Visualization	Historic Preservation

These concentrations will develop and evolve according to faculty and student interest, research, and contemporary theory and practice. Course work will consist of a combination of required courses and seminars within the School of Design and electives chosen by the student from a variety of cross-disciplinary offerings. Working closely with faculty advisors the student will develop an appropriate plan of graduate study.

## GRADUATE COURSES

ARC 511	HISTORY AND THEORY SEMINAR: PRE-20TH CENTURY	(3)
ARC 512	HISTORY AND THEORY SEMINAR: MODERN (SUBTITLE REQUIRED)	(3)
ARC 513	HISTORY AND THEORY SEMINAR: CONTEMPORARY (SUBTITLE REQUIRED)	(3)
ARC 514	HISTORY AND THEORY SEMINAR: CRITICISM AND THEORY (SUBTITLE REQUIRED)	(3)
ARC 515	HISTORY AND THEORY SEMINAR: URBAN FORMS (SUBTITLE REQUIRED)	(3)
ARC 533	STRUCTURAL DESIGN AND ANALYSIS II	(3)
ARC 534	ADVANCED STUDIES IN STRUCTURAL SYSTEMS	(3)
ARC 589	AMERICAN LANDSCAPES	(3)
ARC 599	TOPICS IN ARCHITECTURE	(3)
ARC 631	BUILDING SYSTEMS INTEGRATION	(3)
ARC 632	SPECIAL TOPICS IN ENVIRONMENTAL CONTROLS	(3)
ARC 634	ARCHITECTURAL DETAILING	(3)
ARC 641	PROFESSIONAL PRACTICE	(3)
ARC 642	PROFESSIONAL INTERNSHIP	(3)
ARC 658	DESIGN STUDIO VIII	(6)
ARC 659	DESIGN STUDIO IX	(6)
ARC 699	TOPICS IN ARCHITECTURE	(3)
ARC 707	DIGITAL MEDIA: HISTORY AND THEORY	(3)
ARC 709	MASTER'S PROJECT IN DIGITAL VISUALIZATION	(9)
ARC 719	MASTER'S PROJECT IN HISTORY/THEORY/CRITICISM	(9)
ARC 729	MASTER'S PROJECT IN HISTORIC PRESERVATION	(9)
ARC 735	PROJECT DELIVERY	(3)
ARC 736	BUILDING CODES AND DESIGN	(3)
ARC 738	CONSTRUCTION SPECIFICATIONS	(3)
ARC 743	ADVANCED PROFESSIONAL PRACTICE	(3)
ARC 748	MASTER'S PROJECT RESEARCH	(3)
ARC 750	DESIGN STUDIO X: COMPREHENSIVE PROJECT	(6)
ARC 759	MASTER'S PROJECT IN BUILDING DESIGN	(9)
ARC 761	SPECIAL PROBLEMS IN TOWN DESIGN	(3)
ARC 769	MASTER'S PROJECT IN TOWN DESIGN	(9)
ARC 799	TOPICS IN ARCHITECTURE	(3)

## **ART**

The Department of Art offers graduate course work in three areas: Art Studio, Art History and Art Education. Both the Art History area and the Art Education area confer the Master of Arts degree with an area of specialization in each. Studio degree recipients are awarded the Master of Fine Arts.

### **Master of Arts - Art Education**

#### **Admission Requirements**

Students admitted to the graduate program in art education are expected to have completed course work equivalent to an undergraduate major in Art Education (in no case less than 18 hours in Art Education and Education, 12 hours in Art History, and 18 hours in Art Studio). Prospective students who do not meet these requirements should seek the counsel of the Program Faculty Committee to make up deficits prior to acceptance into the program. In addition, candidates must submit for review by the Program Faculty Committee, a portfolio of recent studio work (slides) and professional writing and other evidence of professional attainment, along with a 300-500 word statement of interest and objectives. The deadline for submitting materials to the Graduate School and to the Art Department is January 1 for applicants wishing to start the program in the Fall Semester and November 1 for those wishing to start the program in the Spring Semester.

#### **Degree Requirements**

Work toward the master's degree is pursued under Plan A or Plan B. Successful candidates for the Master of Arts (Plan A) with an area of specialization in art education are to satisfactorily complete: (1) thesis preparation demonstrating substantial research or theoretical inquiry in Art Education; (2) a finished thesis and an oral/written examination; (3) 30 credit hours of graduate course work to be divided as follows: (a) 9 - 12 graduate credit hours in art education; (b) 9 - 12 graduate credit hours in Art History or Art Studio; (c) the remaining nine graduate credit hours may be taken in related course work in the College of Fine Arts, the College of Education or elsewhere in the University, as well as in the Department of Art.

Under Plan B, candidates are to satisfactorily complete 36 credit hours of graduate course work. At least 24 of the credit hours should be taken in the Department of Art and are to be divided as follows: (1) 12 - 15 graduate credit hours in Art Education and (2) 9 - 12 graduate credit hours in Art History or Art Studio. The remaining 12 graduate credit hours may be taken in related course work in the College of Fine Arts, the College of Education, or elsewhere in the University, as well as in the Department of Art. During the final semester, students must design and complete an independent scholarly project registering for A-E 695 under the supervision of their major professor with final approval from their master's committee.

In accordance with the Graduate Faculty rules, a final comprehension examination is required in both Plan A and Plan B.

### **Master of Arts - Art History**

The Master of Arts in Art History prepares students with the course work, language skills, and research experience needed for further graduate study or work in a museum or educational setting. The curriculum is structured to provide both breadth and depth of inquiry through a variety of approaches to Art History. We recommend that courses be broadly selected to take full advantage of the multiple approaches, expertise, and insights of the Art History faculty.

#### **Admission Requirements**

Experience suggests that applicants from a wide variety of educational backgrounds may earn a MA degree in Art History. It is recommended that those without an undergraduate art history major consult with the Art History graduate advisor before applying. Depending on one's prior preparation, some students may be required to take selected preparatory courses that will not count toward the graduate degree requirements.

#### **Application Procedures and Deadlines**

The Graduate School, which is the administrative unit for all graduate students, and the Art History graduate program, which is responsible for the academic curriculum, require different application materials.

Application for admission to the Graduate School requires:

- completed application form for the Graduate School (on-line application form available at [www.gradschool.uky.edu](http://www.gradschool.uky.edu)).
- one official transcript sent *by each institution* of study previously attended.
- official GRE scores.
- application fee.

Application materials for the Art History graduate program should be sent to the Graduate Advisor for Art History (Art Department, 207 Fine Arts Bldg., University of Kentucky, Lexington, Kentucky 40506-0022), and include:

- brief résumé.
- personal statement which explains your interest in art history graduate study, experience, and plans.
- sample of research, such as an undergraduate research paper.
- one official transcript sent *by each institution* of study previously attended.
- two letters of recommendation.



Application materials must be received no later than January 1<sup>st</sup> for the fall semester and November 1<sup>st</sup> for spring semester admittance. Students wishing to apply for one of Art History's two teaching assistantships should provide the Graduate Advisor for Art History with an additional letter to indicating their interest and credentials for an assistantship by January 1<sup>st</sup>.

## **Degree Requirements**

**Plan A - Thesis Option:** Candidates who plan to continue study at the doctoral level should select Plan A. This option emphasizes art historical research, problem solving, and communication skills. Specific requirements include:

- 1) minimum of 30 credit hours of graduate course work.\*
- 2) foreign language reading competency in German and one other language (French often recommended). \*\*
- 3) satisfactory completion and oral defense of a thesis.

\* Six of the minimum 30 required credit hours may be taken in related areas such as anthropology, historic preservation, history, literature, philosophy, studio art, or women's studies.

\*\* The foreign language competency requirement may be satisfied by any of the means established by the Graduate School.

**Plan B - Non-thesis Option:** Plan B emphasizes course work to deepen the candidate's foundation in art historical knowledge, theory, and methods. Candidates who plan careers in visual arts fields that do not require a Ph.D. – professional placements in galleries, museums, art organizations, arts administration, etc. -- may want to select this option. Specific requirements include:

- 1) minimum of 30 credit hours of graduate course work.\*
- 2) foreign language reading competency in German and one other language.\*\*
- 3) satisfactory completion of final comprehensive exam.

\* Nine of the minimum 30 required credit hours may be taken in related areas such as anthropology, historic preservation, history, literature, philosophy, studio art, or women's studies.

\*\* The foreign language competency requirement may be satisfied by any of the means established by the Graduate School.

## **Master of Fine Arts - Art Studio**

### **Admission Requirements**

Applicants who seek admission to the Master of Fine Arts (M.F.A.) degree program should submit a portfolio of recent studio work in the form of at least 20 35-mm slides, a slide key, a

letter of intent and three letters of recommendation directly to the Department of Art. Application forms for admission, GRE scores, and transcripts should be sent directly to the Graduate School. The deadline for all materials is February 1. In no case will this requirement be waived. Undergraduate art work must be substantially equal in quality, scope, and number of hours to the undergraduate major at the University of Kentucky.

The M.F.A. degree will be awarded on the completion of 60 hours of graduate course work. Of these, thirty hours must be at or above the 600 level and forty hours must be in regular courses (not independent study). In addition, the 60 credit hours will include 30 to 36 credit hours in Art Studio courses (including Graduate Studio Seminar and Studio Thesis Project), 6 to 12 credit hours in Art History and/or Art Education (a total of 24 credit hours of undergraduate and graduate Art History study is required), and up to 18 credit hours in related graduate courses which may be taken outside the Department of Art in the College of Fine Arts or elsewhere in the University.

Students must also complete successfully a final one-person M.F.A. exhibition of studio work and a visual documentation of that work together with an explanatory essay which is to be filed with the department prior to the exhibition. A total of 6 credits of A-S 767 (Studio Thesis Project) is required for the preparation of the exhibition and essay. Work toward the one-person exhibition will begin at a time determined by the department.

The student will designate a major area with the advice of the director of graduate studies at the outset of graduate work and will carry at least 12 hours in that area under the guidance of one faculty member selected as a major professor. A foreign language is not required, and the M.F.A. degree is offered only according to Plan B.

Candidates for the M.F.A. degree who hold an M.A. degree in studio work from another school will be required to complete a year's residence and 18 credit hours of graduate work at the University of Kentucky, including two semesters of Graduate Studio Seminar and all other requirements for the degree. Total hours toward the M.F.A. degree must equal 60 credit hours of graduate work.

## GRADUATE COURSES

A-E 515	INTRODUCTION TO ART THERAPY	(3)
A-E 525	THE ELDERLY AND THE ARTS	(3)
A-E 538	ADVANCED ARTS AND CRAFTS IN THE ELEMENTARY SCHOOL	(3)
A-E 545	TOPICAL STUDIES IN ART EDUCATION (SUBTITLE REQUIRED)	(3)
A-E 576	ART IN MIDDLE SCHOOLS	(3)
A-E 577	ART IN SECONDARY SCHOOLS	(3)
A-E 578	ART IN ELEMENTARY SCHOOLS	(3)
A-E 579	SEMINAR IN ART EDUCATION	(2)

A-E 645	TOPICAL RESEARCH IN ART EDUCATION (SUBTITLE REQUIRED)	(3)
A-E 670	SCHOOL AND COMMUNITY ART	(3)
A-E 675	AESTHETICS AND DESIGN	(3)
A-E 695	INDEPENDENT WORK: ART EDUCATION	(1-3)
A-E 748	MASTER'S THESIS RESEARCH	(0)
A-H 415G	TOPICAL STUDIES IN ART HISTORY (SUBTITLE REQUIRED)	(3)
A-H 501	MUSEUM STUDIES I: INTRODUCTION	(3)
A-H 502	MUSEUM STUDIES II: INTERNSHIP	(3)
A-H 503	ART HISTORY THROUGH THE ART OBJECT (SUBTITLE REQUIRED)	(3)
A-H 525	STUDIES IN GENRES AND MEDIA (SUBTITLE REQUIRED)	(3)
A-H 526	ART AND THE ARTIST IN SOCIETY (SUBTITLE REQUIRED)	(3)
A-H 527	ART WITHIN ITS INTERDISCIPLINARY FRAMEWORK (SUBTITLE REQUIRED)	(3)
A-H 528	TOPICAL SEMINAR IN ART HISTORY (SUBTITLE REQUIRED)	(3)
A-H 555	METHODS IN ART HISTORY	(3)
A-H 592	AESTHETICS (SAME AS PHI 592)	(3)
A-H 598	COORDINATE STUDY	(3)
A-H 603	THE ART OBJECT (SUBTITLE REQUIRED)	(3)
A-H 625	PROBLEMS IN GENRES AND MEDIA (SUBTITLE REQUIRED)	(3)
A-H 626	THE ARTIST IN SOCIETY (SUBTITLE REQUIRED)	(3)
A-H 627	INTERDISCIPLINARY APPROACHES TO ART HISTORY (SUBTITLE REQUIRED)	(3)
A-H 628	ART HISTORY TOPICAL SEMINAR (SUBTITLE REQUIRED)	(3)
A-H 738	MASTER'S SEMINAR	(3)
A-H 748	MASTER'S THESIS RESEARCH	(0)
A-H 780	INDEPENDENT WORK: ART HISTORY	(1-3)
A-S 510	PAINTING III	(3)
A-S 511	PAINTING IV	(3)
A-S 520	PRINTMAKING III	(3)
A-S 521	PRINTMAKING IV	(3)
A-S 530	ADVANCED DRAWING	(3)
A-S 540	GRAPHIC DESIGN: PUBLICATION DESIGN	(3)
A-S 541	GRAPHIC DESIGN: ADVANCED DESIGN	(3)
A-S 550	FIBER III	(3)
A-S 551	FIBER IV	(3)
A-S 560	SCULPTURE III	(3)
A-S 561	SCULPTURE IV	(3)

A-S 570	CERAMICS III	(3)
A-S 571	CERAMICS IV	(3)
A-S 580	PHOTOGRAPHY III	(3)
A-S 581	PHOTOGRAPHY IV	(3)
A-S 584	COLOR PHOTOGRAPHY II	(3)
A-S 586	NONSILVER PHOTOGRAPHY II	(3)
A-S 596	WORKSHOP	(1-6)
A-S 610	PAINTING V	(3)
A-S 611	PAINTING VI	(3)
A-S 620	PRINTMAKING V	(3)
A-S 621	PRINTMAKING VI	(3)
A-S 630	GRADUATE DRAWING	(3)
A-S 650	FIBER V	(3)
A-S 651	FIBER VI	(3)
A-S 660	SCULPTURE V	(3)
A-S 661	SCULPTURE VI	(3)
A-S 670	CERAMICS V	(3)
A-S 671	CERAMICS VI	(3)
A-S 680	PHOTOGRAPHY V	(3)
A-S 681	PHOTOGRAPHY VI	(3)
A-S 710	PROBLEMS IN PAINTING	(3)
A-S 720	PROBLEMS IN PRINTMAKING	(3)
A-S 730	PROBLEMS IN DRAWING	(3)
A-S 740	PROBLEMS IN FIBER	(3)
A-S 750	PROBLEMS IN SCULPTURE	(3)
A-S 767	M.F.A. STUDIO THESIS PROJECT	(1-6)
A-S 770	PROBLEMS IN CERAMICS	(3)
A-S 779	PROBLEMS IN PHOTOGRAPHY	(3)
A-S 780	PROBLEMS IN DESIGN	(3)
A-S 793	GRADUATE STUDIO SEMINAR	(1)
A-S 795	INDEPENDENT RESEARCH	(1-3)
ART 748	MASTER'S THESIS RESEARCH	(0)
ART 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)

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## ATHLETIC TRAINING

The master's degree in athletic training is designed to accommodate both NATA certified athletic trainers and NATA "certification eligible" athletic trainers. Course work and clinical experiences are designed to develop skills necessary to conduct research and increase proficiency in injury prevention, treatment, and rehabilitation. Graduates are prepared to become critical consumers of research and accepted clinical practices, advanced health care providers, and leaders in the clinical educational, and research endeavors of the profession.

## Admission Requirements

Students interested in applying to the program can find additional information at the following site: [http://www.mc.uky.edu/athletic\\_training/prospect.htm](http://www.mc.uky.edu/athletic_training/prospect.htm). Applicants must meet the minimum requirements of The Graduate School, as well as the following requirements of the athletic training program: satisfactory scores on the Graduate Record Examination (GRE), a minimum undergraduate grade point average of 2.70 on a 4.00 grading scale, a baccalaureate degree in athletic training from a school accredited by a nationally recognized organization, two references, and an interview. Final admission recommendations are made on a competitive basis. Students must be eligible for current license to practice in Kentucky. Admission to the post-professional athletic training program is competitive and is based on availability of space and adequate faculty support.

For additional information, contact:

Director of Graduate Studies  
Division of Athletic Training  
University of Kentucky  
900 South Limestone Street  
Lexington, KY 40546-0200

## GRADUATE COURSES

AT 500	INTEGRATIVE CARE FOR HEALTH SCIENCES	(1-3)
AT 660	DIRECTED STUDY IN ATHLETIC TRAINING.	(1-3)
AT 670	SCIENTIFIC INQUIRY IN ATHLETIC TRAINING I	(2)
AT 671	SCIENTIFIC INQUIRY IN ATHLETIC TRAINING II	(2)
AT 672	SCIENTIFIC INQUIRY IN ATHLETIC TRAINING III	(2)
AT 673	SCIENTIFIC INQUIRY IN ATHLETIC TRAINING IV	(2)
AT 680	SPECIAL TOPICS IN ATHLETIC TRAINING (SUBTITLE REQUIRED)	(1-3)
AT 685	PRINCIPLES AND APPLICATION OF KINESIOLOGICAL EMG	(3)
AT 690	ORTHOPAEDIC EVALUATION AND REHABILITATION OF THE UPPER EXTREMITY	(4)
AT 692	ORTHOPAEDIC EVALUATION OF THE SPINE	(3)
AT 695	ORTHOPAEDIC EVALUATION AND REHABILITATION OF THE LOWER EXTREMITY	(4)
AT 700	MUSCLE MECHANICS	(3)

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## BEHAVIORAL SCIENCE

*\*Behavioral Science is not a Degree Program*

The Department of Behavioral Science in the College of Medicine offers a certificate of study in Medical Behavioral Science for doctoral students in sociology, anthropology, psychology, other behavioral science disciplines, and nursing. The certificate has three objectives:

1. Provide students with a multi-disciplinary approach incorporating their basic discipline with other social and behavioral sciences with identification of areas of convergence and interrelation in content, theories and methods.
2. Orient students to health and medical settings, including an enculturation to the attitudes, values, professional interrelationships and educational objectives of health personnel and organizations and the nature of behavioral science research in these areas.
3. Train students in research to equip them with basic skills and approaches to research design, data acquisition, and data analysis, as well as manuscript and research grant preparation in medical behavioral science through collaboration with ongoing research projects.

Students interested in pursuing the certificate should consult with the Director of Graduate Studies for requirements. The certificate is partially supported by a training grant from the National Institute of Mental Health, which provides pre- and postdoctoral trainee stipends. A limited number of departmental assistantships are also available to qualified students.

## GRADUATE COURSES

BSC 527	SOCIETY AND HEALTH (SAME AS SOC 527)	(3)
BSC 529	SURVEY OF MEDICAL ANTHROPOLOGY	(3)
BSC 607	FOOD RELATED BEHAVIORS (SAME AS NFS/ANT/NS 607)	(3)
BSC 620	ORIENTATION TO MEDICAL BEHAVIORAL SCIENCE (SAME AS SPH 841)	(1)
BSC 626	SURVEY OF HEALTH PSYCHOLOGY (SAME AS PSY 626)	(3)
BSC 645	ANTHROPOLOGY AND EPIDEMIOLOGY (SAME AS ANT 645)	(3)
BSC 745	RESEARCH METHODS IN MEDICAL BEHAVIORAL SCIENCE	(3)
BSC 765	ADVANCED SEMINAR IN MEDICAL ANTHROPOLOGY (SAME AS BSC 765)	(3)
BSC 766	CONCEPTS IN MEDICAL SOCIOLOGY (SAME AS SOC 766)	(3)
BSC 770	PSYCHOSOCIAL ISSUES IN HEALTH AND AGING	(3)
BSC 772	TOPICAL SEMINAR IN MEDICAL BEHAVIORAL SCIENCE	(1-3)
BSC 773	PSYCHOSOCIAL ONCOLOGY	(3)

BSC 774	FOOD AND FOOD SECURITY IN A CHANGING WORLD (SAME AS ANT 774)	(3)
BSC 775	HUMAN RESPONSE TO STRESS	(3)
BSC 776	SEMINAR IN DEPENDENCY BEHAVIOR (SAME AS SOC/ANT/PSY 776)	(3)
BSC 777	SEMINAR IN MENTAL ILLNESS CONCEPTS, RESEARCH AND POLICY (SAME AS SOC 777)	(3)
BSC 779	BEHAVIORAL FACTORS IN DEATH AND DYING (3)	
BSC 781	HEALTH RELATED BEHAVIORS: MODELS AND APPLICATIONS	(3)
BSC 782	WOMEN HEALTH AND AGING (SAME AS GRN 782)	(3)
BSC 785	COMPARATIVE HEALTH CARE SYSTEMS (SAME AS SOC 785)	(3)
BSC 790	RESEARCH IN MEDICAL BEHAVIORAL SCIENCE	(1-6)

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## BIOLOGY

### Overview

The Biology Graduate Program offers Doctor of Philosophy and Masters of Science degrees in Biology, but doctoral training is strongly emphasized. Master's training is not a prerequisite for admission into our doctoral program. Applicants are selected for admission based on their overall academic record and on their expressed interest in our graduate program training areas or the research of individual faculty members.

### Training

Graduate students are trained through a combination of formal coursework and research experience. Research training consists of work on a research project under the guidance of one of our faculty members. The specific research project is chosen in consultation with the faculty mentor and typically is closely related to the research interests of that lab. Coursework depends on the area of specialization and is determined with input from the faculty mentor and student's advisory committee. All students must complete a set of common requirements for the Biology Graduate Program, including seminar courses, research, a qualifying exam (for Ph.D. candidates), and defense. Additional coursework is dependent upon which training program students select. The training programs are Environmental and Evolutionary Biology (EEB), Molecular and Cellular Biology (MCB), and Tailored Training (TT).

### Environmental and Evolutionary Biology Training Program

The Environmental and Evolutionary Biology group supports education and research on the interactions between organisms and their environment from an evolutionary (historical)

perspective. This includes the study of evolutionary processes, the adaptations of individual organisms (including many aspects of behavior such as survival and reproductive value, developmental processes, and physiological and neurobiological mechanisms), predator-prey and competitive interactions, and community and ecosystem relationships. Faculty members conduct research exploring both basic underlying principles and specific applied consequences of ecological interactions. The group's core philosophy is that major advances in understanding how organisms evolve and function in changing ecosystems are achieved by interdisciplinary communication, which stimulates new collaborations involving diverse conceptual and methodological approaches. Students achieve this through coursework, topical seminars, weekly research seminars, and research projects guided by their major advisor and thesis committee.

### **Molecular and Cellular Biology Training Program**

The faculty and students of the Molecular and Cellular Biology Training Program seek an understanding of fundamental biological processes such as gene expression, cell proliferation, cell signaling, neural function, aging, and behavior. We use cellular, genetic, physiological, and molecular techniques to analyze diverse biological systems including viruses, fungi, cultured cells, and complex animals. The faculty and students interact closely within the Molecular and Cellular Biology group to maintain a stimulating research atmosphere. Our faculty and students also interact with colleagues in the Colleges of Medicine, Agriculture, Pharmacy, Engineering, and Design. Entering students rotate in individual laboratories, usually selecting a thesis laboratory near the end of the first year. Students participate in group research and literature seminars as well as formal course work, which is selected to meet each student's needs. The program prepares students for biology research careers in academic, industrial or governmental settings.

### **Tailored Training**

The Tailored Training program is the option that provides the greatest curricular flexibility. The principal difference between Tailored Training and training in the MCB and EEB programs is that there are no set course requirements, other than the minimum requirements set by the Biology Graduate Program. The mentor and advisory committee work together with the student to customize a curriculum that best suits the needs, interests, and goals of the student. This may be particularly advantageous for students whose primary interests encompass areas outside of or across the other training programs. The curriculum is unique to each student, but not isolating. The student is encouraged to participate in relevant seminars, journal clubs, or other activities attended by students in the MCB and EEB training programs or in other University graduate training programs. Students admitted through the Tailored Training option enter the Biology Graduate Program directly into the lab of their research mentor. Applicants interested in admission through this mechanism should contact the faculty member with whom they wish to train and also indicate their lab of choice in the Biology application. Faculty members offering Tailored Training will indicate this option on their web pages.



## Financial Support

Full financial support is offered to students accepted for graduate admission. Support may include teaching assistantships and fellowships provided by the university and department, research assistantships offered by faculty mentors, interdisciplinary traineeships and fellowships or extramural research fellowships to individual students.

## Admission Requirements

Anyone with a bachelor's degree from an accredited college or university may apply for admission to the Biology Graduate Program. Applicants are generally expected to have an undergraduate grade point average of at least 3.0 (out of 4.0), a combined verbal and quantitative Graduate Record Examination score of at least 1100, and (for non-native English speakers) a TOEFL score of at least 550 on paper based test or 213 on CBT or 79 on Internet-based test (iBT). Our GRE institution code is 1837, Department Code is 0206.

Prerequisite college-level coursework includes one year of physics, two years of chemistry, one semester of calculus, one year of general biology, and upper-level courses providing a working knowledge of contemporary biology.

Application forms and detailed information about the Biology Graduate Program can be found at <http://as.uky.edu/Biology/gradprog.htm> . Inquires should be directed to:

Staff Coordinator  
Biology Graduate Program  
101 Morgan Building  
University of Kentucky  
Lexington, KY 40506-0225  
859.257.2729 or 1.800.313.2465  
E-mail [bgp@uky.edu](mailto:bgp@uky.edu)

## GRADUATE COURSES

BIO 401G	SPECIAL TOPICS IN BIOLOGY FOR ELEMENTARY, MIDDLE SCHOOL AND HIGH SCHOOL TEACHERS	(1-4)
BIO 430G	PLANT PHYSIOLOGY	(3)
BIO 452G	LABORATORY IN ECOLOGY	(2)
BIO 494G	IMMUNOBIOLOGY (SAME AS MI 494G)	(3)
BIO 502	PRINCIPLES OF SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY (SAME AS PGY 502)	(5)
BIO 507	BIOLOGY OF SLEEP AND CIRCADIAN RHYTHMS	(3)
BIO 508	EVOLUTION	(3)
BIO 510	RECOMBINANT DNA TECHNIQUES LABORATORY	(4)

BIO 520	BIOINFORMATICS (SAME AS INF 520)	(3)
BIO 529	DEVELOPMENTAL BIOLOGY	(3)
BIO 530	BIOGEOGRAPHY AND CONSERVATION (SAME AS GEO 530)	(3)
BIO 535	COMPARATIVE NEUROBIOLOGY AND BEHAVIOR (SAME AS PGY 535)	(3)
BIO 542	HISTOLOGY	(5)
BIO 550	COMPARATIVE PHYSIOLOGY	(3)
BIO 551	PLANT AUTECOLOGY	(4)
BIO 555	VERTEBRATE ZOOLOGY	(5)
BIO 559	ORNITHOLOGY	(4)
BIO 560	ENVIRONMENTAL PHYSIOLOGY AND TOXICOLOGY (SAME AS TOX 560)	(4)
BIO 561	MEDICAL ENTOMOLOGY (SAME AS ENT 561)	(4)
BIO 564	INSECT TAXONOMY (SAME AS ENT 564)	(4)
BIO 567	APPLICATIONS OF GENETICS (SAME AS ENT 567)	(4)
BIO 568	INSECT BEHAVIOR (SAME AS ENT 568)	(3)
BIO 570	INVERTEBRATE ZOOLOGY	(4)
BIO 573	MYCOLOGY	(4)
BIO 575	PLANT ANATOMY AND MORPHOLOGY	(4)
BIO 582	VIROLOGY	(3)
BIO 595	IMMUNOBIOLOGY (SAME AS MI 595)	(2)
BIO 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS (SAME AS BCH/MI/PLS/PPA 601)	(1)
BIO 605	EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS ENT/FOR 605)	(2)
BIO 606	CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS ENT/FOR 606)	(3)
BIO 607	ADVANCED EVOLUTION (SAME AS ENT/FOR 607)	(2)
BIO 608	BEHAVIORAL ECOLOGY AND LIFE HISTORIES (SAME AS ENT/FOR 608)	(2)
BIO 609	POPULATION AND COMMUNITY ECOLOGY (SAME AS ENT/FOR 609)	(2)
BIO 611	BIOPATHOLOGY (SAME AS MI 611)	(3)
BIO 612	BIOLOGY OF AGING (SAME AS ANA/GRN/PGY 612)	(3)
BIO 615	MOLECULAR BIOLOGY (SAME AS MI/BCH 615)	(3)
BIO 618	MOLECULAR NEUROBIOLOGY (SAME AS MI/ANA/PGY 618)	(4)
BIO 620	PLANT MOLECULAR BIOLOGY (SAME AS PLS 620)	(3)
BIO 621	TOPICS IN MODERN BIOLOGY (SUBTITLE REQUIRED)	(1-3)

BIO 622	PHYSIOLOGY OF PLANTS I (SAME AS PLS/FOR 622)	(3)
BIO 623	PHYSIOLOGY OF PLANTS II (SAME AS PLS/FOR 623)	(3)
BIO 625	INSECT-PLANT RELATIONSHIPS (SAME AS ENT 625)	(3)
BIO 632	ADVANCED CELL BIOLOGY I	(3)
BIO 633	ADVANCED CELL BIOLOGY II	(3)
BIO 635	INSECT PHYSIOLOGY AND INTERNAL MORPHOLOGY (SAME AS ENT 635)	(4)
BIO 638	DEVELOPMENTAL NEUROBIOLOGY (SAME AS ANA/PGY/PSY 638)	(3)
BIO 650	ANIMAL PHYSIOLOGY LABORATORY (SAME AS PGY 650)	(2)
BIO 665	INSECT ECOLOGY (SAME AS ENT 665)	(3)
BIO 684	PHYLOGENETIC SYSTEMATICS (SAME AS ENT 684)	(3)
BIO 685	ADVANCED IMMUNOBIOLOGY (SAME AS MI 685)	(3)
BIO 707	CONTEMPORARY TOPICS IN IMMUNOLOGY	(2)
BIO 720	MICROBIAL STRUCTURE AND FUNCTION (SAME AS MI/OBI 720)	(4)
BIO 740	MAMMALIAN RADIATION BIOLOGY (SAME AS RM 740)	(2)
BIO 748	MASTER'S THESIS RESEARCH	(0)
BIO 749	DISSERTATION RESEARCH	(0)
BIO 767	DISSERTATION RESIDENCY CREDIT	(2)
BIO 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
BIO 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
BIO 770	SEMINAR IN BIOLOGY (SUBTITLE REQUIRED)	(1)
BIO 772	SEMINAR IN MICROBIOLOGY (SAME AS MI 772)	(0-1)
BIO 773	SEMINAR IN PLANT PHYSIOLOGY (SAME AS PLS 773)	(1)
BIO 782	ADVANCED VIROLOGY (SAME AS VS 782)	(3)
BIO 790	MENTORING UNDERGRADUATE RESEARCH IN BIOLOGY	(1)
BIO 795	RESEARCH IN BIOLOGY	(1-9)
BIO 798	RESEARCH IN MICROBIOLOGY (SAME AS MI 798)	(1-9)

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## BIOMEDICAL ENGINEERING

The Graduate Center for Biomedical Engineering offers master's and doctoral degrees in Biomedical Engineering. This graduate program emphasizes the application of engineering principles to the areas of medicine and biology and covers the broad aspects of mechanics, materials, fluids, signal processing, systems analysis, instrumentation, physiology, cellular processes, and laboratory experimentation. Students in the program are provided with educational and research opportunities through the facilities and faculty of the Center and its ideal geographic location and close ties with other units of the University, ranging from engineering to basic science to clinical departments.

Areas of research include cardiac arrhythmia, cardiopulmonary mechanics and controls, electromagnetic stimulation of tissue magnetic resonance imaging, orthopedic biomaterials and bone tissue engineering, orthopedic biomechanics, and respiratory dynamics. The Center is located in the Wenner-Gren Research Laboratory that provides the framework for multidisciplinary research. Faculty and staff of the Center collaborate with investigators from other units of the University, including Anatomy & Neurobiology, Biochemistry, Biology, Cardiovascular Medicine, Cardiothoracic Surgery, Center for Applied Energy Research, Chemical Engineering, Chemistry, Electrical Engineering, Mathematics, Mechanical Engineering, Neonatology, Nephrology, Neurosurgery, Oral Surgery, Orthopaedic Surgery, Otolaryngology, Pediatric Cardiology, Periodontics, Pharmacy, Physiology, and Plastic Surgery. Center faculty and staff provide opportunities and support for graduate students, medical residents, and selected undergraduates. Graduates of the program enter careers in research institutes, academia, hospitals, and the biomedical industry.

### Admission Requirements

Entering students are expected to have a baccalaureate degree in engineering. Some course work in the biological sciences is desirable but not required. Applicants with degrees purely in the physical or biological sciences may be required to complete select course work in the undergraduate engineering curriculum before being admitted to the graduate program. Admission to the biomedical engineering graduate programs normally requires a GPA of at least 3.0/4.0 for all graduate and undergraduate work and Graduate Record Examination scores of at least  $\geq 650$  (Quantitative),  $\geq 500$  (Verbal) and  $\geq 4.0$  (Analytical). Additional application materials to be submitted to the Center include a statement describing your reasons for wanting to pursue graduate education in Biomedical Engineering and letters of recommendations from (3) three faculty members who are familiar with your academic record. There is no specific form that is required for these letters. Satisfying the above requirements does not guarantee admission to the biomedical engineering graduate program.

## Master of Science

The Master of Science degree provides students with a combination of experiences in basic research, design, development, and practical applications. The M.S. degree requires successful completion of the core curriculum (26 credit hours) plus an acceptable thesis. In special cases, a non-thesis option consisting of 31 credit hours is available for students with significant previous research or design experience or those who are con-currently employed in a biomedical engineering related industry. Enrollment in the non-thesis option requires approval of the Director of Graduate Studies and must be requested within the student's first 9 credit hours of graduate course work.

### Core M.S. Curriculum

BME 530	Biomedical Instrumentation	(3)
BME 605	Biomedical Signal Processing	(3)
BME 661	Biomaterials Science and Engineering	(3)
BME 6XX	Biomechanics Elective	(3)
BME XXX	BME Technical Elective	(3)
BME 772	Seminar	(0)
BME 774	Graduate BME Seminar	(1)
PGY 412G	Principles of Human Physiology	(4)
Math Elective		(3)
Technical Elective		(3)

## Professional Master of Biomedical Engineering

The Professional Master of Biomedical Engineering degree seeks to develop a unique combination of managerial, technical and leadership skills for those who will direct the future course of biomedical technology. The P.B.M.E. degree requires successful completion of 42 credits, including the capstone Advanced Study Project, and a summer internship.

### Core P.B.M.E. Curriculum

BME XXX	BME Technical Electives	(9)
BME 642	Navigational Guides for Biomedical Product Designs	(2)
BME 766	Advanced Study Project	(3)
BME 772	Seminar	(0)
BME 777	Advanced Study Project	(3)
HA 601	Healthcare System Overview	(3)
HA 602	Strategic Planning and Management of Healthcare Organizations	(3)
HA 621	Quantitative Methods of Research	(3)
HA 637	Health Finance	(3)

MKT 600	Marketing Management	(3)
PA 623	Decision Analysis	(3)
PA 642	Public Organ Theory and Behavior	(3)
PGY 412G	Principles of Human Physiology	(4)

### **Doctor of Philosophy**

The Doctor of Philosophy is a research degree granted on the basis of broad knowledge of engineering applications in biology and medicine and an in-depth study in a specific area leading to a dissertation reflecting original and independent work by the candidate. Applicants to the Ph.D. program are generally expected to have a master's degree. Under special circumstances, exceptional students may bypass the M.S. and be admitted directly to the Ph.D. program upon approval of the biomedical engineering faculty. Courses for advanced study are determined in consultation with an advisory committee and will be selected from the areas of engineering, mathematics, life sciences, and chemistry.

To earn a Ph.D. degree, students must:

1. Meet the requirements of the Graduate School.
2. Successfully complete PGY 502.
3. Pass the Qualifying Examination. This exam, consisting of written and oral components, is designed and administered by the student's Doctoral Advisory Committee.
4. Present and satisfactorily defend a dissertation documenting independent and comprehensive scholarship.

Further information about the graduate programs may be obtained by writing to the Director of Graduate Studies, Center for Biomedical Engineering, Wenner-Gren Research Lab, University of Kentucky, Lexington, KY 40506-0070, by e-mail at [cbmedgs@uky.edu](mailto:cbmedgs@uky.edu), or by visiting our Web site at <http://www.cbme.uky.edu/index.htm>.

### **GRADUATE COURSES**

BME 481G	TOPICS IN BIOMEDICAL ENGINEERING (subtitle reflects specialization)	(3)
BME 501	FOUNDATIONS OF BIOMEDICAL ENGINEERING	(3)
BME 530	BIOMEDICAL INSTRUMENTATION	(3)
BME 579	NEURAL ENGINEERING: MERGING ENGINEERING WITH NEUROSCIENCE (3) (SAME AS EE 579)	
BME 605	BIOMEDICAL SIGNAL PROCESSING I	(3)
BME 610	BIOMEDICAL CONTROL SYSTEMS I	(3)
BME 615	BIOMEDICAL SIGNAL PROCESSING II	(3)
BME 620	BIOMEDICAL CONTROL SYSTEMS II	(3)
BME 625	ANALYSIS OF NONLINEAR BIOMEDICAL SYSTEMS	(3)
BME 630	MAGNETIC RESONANCE IN BIOMEDICINE	(3)
BME 635	MAGNETIC RESONANCE INSTRUMENTATION AND MEASUREMENT	(3)

BME 641	PRACTICES OF BIOMEDICAL ENGINEERING	(3)
BME 642	NAVIGATIONAL GUIDES FOR BIOMEDICAL PRODUCT DEVELOPMENT	(3)
BME 661	BIOMATERIALS SCIENCE AND ENGINEERING	(3)
BME 662	TISSUE-IMPLANT INTERFACE	(3)
BME 670	BIOMECHANICS I	(3)
BME 672	MUSCULOSKELETAL BIOMECHANICS	(3)
BME 680	ADVANCED TOPICS IN BIOMECHANICS	(3)
BME 682	ADVANCED TOPICS IN ORTHOPAEDIC BIOMECHANICS	(3)
BME 685	BIOFLUID MECHANICS	(3)
BME 690	RESEARCH IN BIOMEDICAL ENGINEERING	(1-3)
	(subtitle reflects specialization)	
BME 699	SPECIAL TOPICS IN BIOMEDICAL ENGINEERING	(1-3)
	(subtitle reflects specialization)	
BME 748	MASTER'S THESIS RESEARCH	(0)
BME 749	DISSERTATION RESEARCH	(0)
BME 766	MANAGEMENT OF TECHNOLOGY	(3)
BME 767	DISSERTATION RESIDENCY CREDIT	(2)
BME 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
BME 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
BME 772	SEMINAR	(0)
BME 774	GRADUATE BME SEMINAR	(0-1)
BME 781	SPECIAL PROBLEMS IN BIOMEDICAL ENGINEERING	(1-3)

## **BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

The Biosystems and Agricultural Engineering Department offers programs leading to the M.S. in Biosystems and Agricultural Engineering (Plan A and Plan B available) and the Ph.D. degree.

### **Admission Requirements**

Admission into the M.S. graduate program of the Biosystems and Agricultural Engineering Department requires the concurrence of the Department Graduate Committee, and the Director of Graduate Studies, and the Department Chair and the availability of an advisor for the student. The Biosystems and Agricultural Engineering Graduate Committee reviews the applicant's three letters of recommendation, resume, statement of professional objective and transcripts with special emphasis given to the science and mathematics area. The department requires a minimum grade point average of 2.8 and a GRE score of at least 1500. An engineering B.S. degree from an ABET-accredited engineering program (or international equivalent) is generally required, however, non-engineering students may be admitted by agreeing to take additional undergraduate courses specified by the graduate committee. An advisor for a student is required prior to admittance into the program. Exceptions to these requirements are considered on a case-by-case basis and require approval of the Department Chair.

Admission into the Ph.D. graduate program of the Biosystems and Agricultural Engineering Department requires the concurrence of the Department Graduate Committee, the Director of Graduate Studies, and the Department Chair, and the availability of an advisor for the student. The Biosystems and Agricultural Engineering Graduate Committee reviews the applicant's previous graduate record, three letters of recommendation, resume, statement of professional objective, and transcripts with special emphasis given to the science and mathematics area. The department requires a minimum grade point average of 3.2 on all previous graduate work and a GRE score of at least 1500. An advisor for a student is required prior to admittance into the program. Exceptions to these requirements are considered on a case-by-case basis and require approval of the Department Chair. Ph.D. students are admitted into Candidacy after they have successfully completed the Qualifying Exam.

### **Degree Requirements**

The biosystems and agricultural engineering graduate program has as its objectives the development of:

1. The ability to plan and conduct research and design involving the application of engineering science to biological and agricultural systems.
2. The understanding of the mathematical, physical, and biological sciences to permit the reading and understanding of the present and future literature in these and related fields.
3. The skills required to use precision instruments, techniques and computers in research and design.
4. The ability to make sound engineering and management decisions.
5. The ability to teach college level courses in biosystems and agricultural engineering, particularly at the doctoral level.

In the attainment of the above objectives the graduate student will combine courses in biosystems engineering, the physical sciences, other engineering fields, and the biological sciences in developing a program of study. The advanced degrees, however, are primarily research degrees awarded for significant creative research accomplishment, not for the completion of a specified number of courses. Therefore, the program concentrates on a strong thesis or dissertation problem completed under the supervision of the graduate faculty of the department. Strong course support is essential if the thesis or dissertation problem is to be properly undertaken and completed. The design-oriented, non-thesis option is also available for the master's degree.

### **GRADUATE COURSES**

BAE 435G	WASTE MANAGEMENT FOR BIOSYSTEMS	(3)
BAE 438G	FUNDAMENTALS OF GROUNDWATER HYDROLOGY (SAME AS CE 460)	(3)
BAE 502	MODELING OF BIOLOGICAL SYSTEMS	(3)
BAE 513	SOIL DYNAMICS IN TILLAGE AND TRACTION	(3)



BAE 515	FLUID POWER SYSTEMS	(3)
BAE 517	OFF-ROAD VEHICLE DESIGN	(3)
BAE 532	INTRODUCTION TO STREAM RESTORATION	(3)
BAE 536	FLUVIAL HYDRAULICS (SAME AS CE 546)	(3)
BAE 537	IRRIGATION AND DRAINAGE ENGINEERING	(3)
BAE 538 GIS	APPLICATIONS FOR WATER RESOURCES	(3)
BAE 545	ENGINEERING HYDRAULICS (SAME AS CE 549)	(3)
BAE 549	FOOD AND BIOPROCESS ENGINEERING	(3)
BAE 556	SOLID AND HAZARDOUS WASTE MANAGEMENT (SAME AS CE 556)	(3)
BAE 569	WATER RESOURCES SYSTEM DESIGN (SAME AS CE 569)	(4)
BAE 580	HEATING, VENTILATING AND AIR CONDITIONING (SAME AS ME 580)	(3)
BAE 581	PHYSICS OF PLANT AND ANIMAL ENVIRONMENTS	(3)
BAE 599	TOPICS IN AGRICULTURAL ENGINEERING	(2-3)
BAE 618	ADVANCED PLANT, SOIL, AND MACHINERY RELATIONSHIPS	(3)
BAE 625	TOPICS IN ADVANCED ENVIRONMENT CONTROL AND ANALYSIS (SUBTITLE REQUIRED)	(3)
BAE 638	GROUNDWATER HYDROLOGY (SAME AS CE 660)	(3)
BAE 642	OPEN CHANNEL FLOW (SAME AS CE 642)	(3)
BAE 648	ENERGY AND MASS TRANSFER IN AGRICULTURAL PROCESSING	(3)
BAE 653	WATER QUALITY IN SURFACE WATERS (SAME AS CE 653)	(3)
BAE 658	INSTRUMENTATION FOR ENGINEERING RESEARCH	(3)
BAE 660	SIMILITUDE IN ENGINEERING	(3)
BAE 665	WATER RESOURCES SYSTEMS (SAME AS CE 665)	(3)
BAE 667	STORMWATER MODELING (SAME AS CE 667)	(3)
BAE 748	MASTER'S THESIS RESEARCH	(0)
BAE 749	DISSERTATION RESEARCH	(0)
BAE 750	SPECIAL PROBLEMS IN AGRICULTURAL ENGINEERING	(1-3)
BAE 767	DISSERTATION RESIDENCY CREDIT	(2)
BAE 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
BAE 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
BAE 775	SEMINAR	(0)
BAE 795	THESIS	(0)
AEN 463G	AGRICULTURAL SAFETY AND HEALTH	(3)
AEN 647	SYSTEM OPTIMIZATION I (SAME AS ME 647)	(3)
AEN 680	BIOCHEMICAL ENGINEERING (SAME AS CME 680)	(3)

EGR 537	NUMERICAL ANALYSIS (SAME AS CS/MA 537)	(3)
EGR 599	TOPICS IN ENGINEERING (SUBTITLE REQUIRED)	(1-3)
EGR 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS ME 611)	(3)
EGR 621	FINITE ELEMENT ANALYSIS IN ENGINEERING	(3)

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## **BUSINESS ADMINISTRATION**

The College of Business and Economics offers the Master of Business Administration and the Doctor of Philosophy degrees. Faculty participating in the M.B.A. and Ph.D. programs are members of the School of Accountancy, the School of Management (Decision Science and Information Systems, Finance, Management, Marketing) and the Department of Economics. A description of the graduate programs and graduate faculty in Accounting and in Economics can be found in those sections of this Bulletin.

### **Master of Business Administration**

Our 11-Month M.B.A. program is designed to enhance our first-rate teaching with real-world experience. Partnering with esteemed faculty and successful businesses, our students are walking away with an M.B.A. degree that has prepared them for the real-world business challenges they will face. The core 11-Month program contains three hands-on modules. A full 23 weeks of the program, these modules provided students the opportunity to work side-by-side with corporate firms through new product development, supply chain management and mergers and acquisitions.

Our part-time, evening program is designed for the working individual seeking to improve their business acumen. Modeled by the more traditional learning environment, evening students will study with first-rate professors who are leaders in their fields. In as little as two years, a student in the evening M.B.A. program will graduate with an advanced degree designed to sharpen their skill set.

### **Admission Requirements**

1. The 11-Month M.B.A. program does not require prerequisite courses. Required course prerequisites for the Evening M.B.A. Program are two Principles of Accounting courses (one in financial accounting and one in managerial accounting), and two Principles of Economics courses (one in micro economics and one in macro economics). All courses should be equivalent to at least 3 semester hours.

The prerequisites may be satisfied by:

- a) passing the required prerequisite courses (ACC 201 and ACC 202, ECO 201 and ECO 202) at the University of Kentucky,
- b) passing similar courses at another accredited university,
- c) passing college-level proficiency (CLEP) examinations, or
- d) successfully completing correspondence courses.

2. In addition to satisfying required course prerequisites, applicants should possess a four-year undergraduate degree (or its equivalent) with a minimum cumulative grade point average (GPA) of 2.75/4.00.

3. The Graduate Management Admission Test (GMAT) is a requirement, and international students (with the exception of those who hold a degree from a U.S. institution of higher education) must present a Test of English as a Foreign Language (TOEFL) with an overall minimum score of 550 written or 213 computer.

4. All international students who are not permanent residents of the U.S. must present a Test of Written English (TWE) with a score of 4.5 or higher.

5. No student will be admitted to the Evening M.B.A. Program before completion of all prerequisites and the GMAT.

### **Degree Requirements**

1. The 11-Month M.B.A. program consists of 44 credit hours while the Evening M.B.A. program of study requires 36 semester credit hours of work.

### **One Year Program**

M.B.A. 600	Rapid Immersion in Accounting	(3)
M.B.A. 601	Rapid Immersion in Decision Making	(3)
M.B.A. 602	Rapid Immersion in Leadership	(2)
M.B.A. 603	Markets-Structure and Dynamics	(1)
M.B.A. 604	Business Processes and Functions	(3)
M.B.A. 605	Organizational Structures and Strategies	(1)
M.B.A. 606	Business Simulation	(1)
M.B.A. 610	New Product Development	(9)
M.B.A. 611	Supply Chain Management	(9)
M.B.A. 612	Mergers and Acquisitions	(5)
M.B.A. 630	Advanced Skill Enhancement	(1)
M.B.A. 640	Culmination Week	(1)

### Five Hours from the Following List:

M.B.A. 620	Risk Management	(2)
M.B.A. 621	New Venture Finance	(1)

M.B.A. 622	International Marketing	(2)
M.B.A. 624	Entrepreneurial Marketing	(2)
M.B.A. 625	Sales Management	(1)
M.B.A. 626	E-Commerce	(2)
M.B.A. 627	Global Knowledge Management	(1)
M.B.A. 628	Technology Management	(2)

### **Evening M.B.A. Degree**

ACC 628	Financial/Managerial Accounting	(3)
ECO 610	Managerial Economics	(3)
MGT 611	Organizational Behavior	(3)
FIN 600	Corporate Financial Policy	(3)
DIS 651	Quantitative Analysis for Decisions	(3)
MKT 600	Marketing Management	(3)
DIS 612	Supply Chain Management	(3)
MGT 610	Global Business Management	(3)
DIS 620	Management Information Systems in Decision Making	(3)
MKT 611	New Product Development	(3)
MGT 612	Structured Problem Solving in Business	(3)
MGT 699	Business Policy and Strategy II	(3)
<b>TOTAL</b>		<b><u>36</u></b>

2. Minimum average of grade B in all courses attempted for graduate credit after being admitted to the Graduate School. Students receiving two grades of C below a B average or one grade of E will be subject to dismissal from the M.B.A. program.

### **B.S. in Engineering/M.B.A.**

An opportunity to study for an M.B.A. degree while pursuing a Bachelor of Science in Engineering degree is offered to eligible students admitted to the College of Engineering.

### **J.D./M.B.A. Option**

The College of Business and Economics and the College of Law offer the opportunity to obtain the Master of Business Administration (M.B.A.) and Juris Doctor (J.D.) degrees in a dual degree program. Because both schools recognize that some aspects of business and law are compatible and interrelated, students can usually obtain both degrees in less time than if the degrees were pursued separately. As a result, students gain marketable skills and specialized employment opportunities in less time than might otherwise be required. Students interested in the J.D./M.B.A. program must apply to both the College of Law and the Graduate School.

## **M.D./M.B.A. and Pharm.D./M.B.A.**

Through agreements with the College of Medicine and the College of Pharmacy, the Gatton College admits eligible students to pursue the M.B.A. degree jointly with the M.D. or Pharm.D. degrees. Students interested in these programs must apply to the College of Medicine or the College of Pharmacy as appropriate and also to the Graduate School and the Gatton College M.B.A. program.

### **Application for Admission**

Students who wish to apply for admission to the M.B.A. program in the Gatton College of Business and Economics should submit an online application to the Graduate School <http://www.research.uky.edu/gs/gsappplication.html> and the Gatton M.B.A. program [www.gattonmba.uky.edu](http://www.gattonmba.uky.edu).

## **Doctor of Philosophy**

The mission of the doctoral program is to prepare students for successful academic careers. To accomplish this mission, the program prepares graduates to comprehend and evaluate research, to perform research which advances knowledge and to provide effective instruction, all within a business-related discipline. Specifically, the program is designed to provide:

- a) An understanding of the philosophies and basic methodological issues of academic inquiry.
- b) An understanding of the theoretical foundations and state-of-the-art research methods in a specific discipline.
- c) The ability to design and execute substantive research projects.

### **Admission Requirements**

1. Background Training in Business and Business Related Areas. The Ph.D. is designed to provide specialization beyond the master's level. The educational background of each candidate will be reviewed by the faculty in the student's major area to identify any deficiencies. In most cases, an M.B.A. (M.S. in Accounting) from an AACSB accredited institution provides the necessary background.
2. Applicants with previous graduate credits are evaluated generally according to the following rules, but each case is individually examined by the faculty of the appropriate business department. A minimal grade point average of 3.2/4.0 is required on all previous graduate credits. Also, students without GMAT scores must take the exam before admission, reporting no less than a minimal score of 500.

## Degree Requirements

- |  |                              |         |
|--|------------------------------|---------|
| 1. Core Requirements   |                              | (18-19) |
| A) BA 762  | Research Methodology         | (3)     |
| B) Theoretical Foundations – Six hours selected by the student from among: |                              |         |
| MGT 700  | Administrative Science       | (3)     |
| ECO 601  | Microeconomic Theory         | (3)     |
| ECO 602  | Macroeconomic Theory         | (3)     |
| MGT 751  | Management Science II        | (3)     |
| PSY 624  | Social Psychology            | (3)     |
| C) Research Tools – Nine hours selected by the student from among:         |                              |         |
| Six Hours  | Statistics Sequence          | (6)     |
| Research Tools Elective  |                              | (3)     |
| D) BA 700  | Teaching Methods in Business | (1)*    |

\*Students who serve as teaching assistants are required to enroll in BA-700, Teaching Methods in Business, for one additional credit hour.

### 2. Major Field Requirements:

The major field will consist of at least 21 hours of graduate credit course work including at least 12 credit hours of 700 level courses exclusive of the core. Currently available major fields include:

Accounting	Decision Science and Management Information Systems
Finance	Marketing
Strategic Management	Organizational Behavior and Human Resource Management

All course work must be approved by the Director of Graduate Studies.

3. Written and oral comprehensive examinations are required in the major field.

4. The dissertation will be based on original research on a significant topic. The dissertation will be defended in an oral examination.

5. Minimum average of grade of B for graduate credit and in all courses after being admitted to the Graduate School. Students obtaining two grades of C below a B average will be subject to dismissal from the program.

For application forms and information, visit the Gatton College Web site [www.gatton.uky.edu/prospectivestudent.html](http://www.gatton.uky.edu/prospectivestudent.html) , call 859.257.3592, or write to

The Office of the Associate Dean  
Administration and Academic Affairs  
Gatton College of Business and Economics  
University of Kentucky  
Lexington, KY 40506-0034

## GRADUATE COURSES

ACC 700	TOPICAL SEMINAR IN ACCOUNTING RESEARCH (SUBTITLE REQUIRED)	(1-3)
ACC 795	INDEPENDENT STUDY IN ACCOUNTING	(1-6)
BA 601	TOTAL QUALITY MANAGEMENT	(3)
BA 610	GLOBAL BUSINESS MANAGEMENT	(3)
BA 700	TEACHING METHODS IN BUSINESS (SAME AS ECO 700)	(1)
BA 749	DISSERTATION RESEARCH	(0)
BA 762	RESEARCH METHODOLOGY	(3)
BA 767	DISSERTATION RESIDENCY CREDIT	(2)
BA 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
BA 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
DIS 506	PRODUCTIVITY AND QUALITY CONTROL	(3)
DIS 520	ADVANCED BUSINESS DATA PROCESSING AND INFORMATION	(3)
DIS 600	PRODUCTION MANAGEMENT	(3)
DIS 611	THE MANAGEMENT OF COMPUTER INTEGRATED MANUFACTURING	(3)
DIS 620	MANAGEMENT INFORMATION SYSTEMS IN DECISION MAKING	(3)
DIS 621	BUSINESS EXPERT SYSTEMS	(3)
DIS 622	BUSINESS DATA SYSTEM ANALYSIS AND DESIGN	(3)
DIS 623	BUSINESS DECISION SUPPORT SYSTEMS	(3)
DIS 624	MANAGEMENT OF INFORMATION RESOURCES (SAME AS MGT 624)	(3)
DIS 651	QUANTITATIVE ANALYSIS IN BUSINESS DECISION MAKING	(3)
DIS 700	TOPICS IN OPERATIONS MANAGEMENT	(3)
DIS 720	MANAGEMENT INFORMATION SYSTEMS THEORY	(3)
DIS 752	TOPICS IN OPTIMIZATION	(3)
DIS 753	SEMINAR IN MANAGEMENT SCIENCE	(3-6)
DIS 780	STUDIES IN DECISION SCIENCE AND INFORMATION SYSTEMS	(3)
DIS 790	SPECIAL TOPICS IN MANAGEMENT DECISION SYSTEMS (SUBTITLE REQUIRED)	(3)
FIN 585	BANK MANAGEMENT	(3)
FIN 600	CORPORATE FINANCIAL POLICY	(3)
FIN 623	INTERNATIONAL FINANCIAL MANAGEMENT	(3)
FIN 637	HEALTH FINANCE (SAME AS PA/HA/HSM 637)	(3)
FIN 645	CORPORATE INVESTMENT AND FINANCING POLICY	(3)
FIN 647	WORKING CAPITAL POLICY	(3)
FIN 650	INVESTMENTS	(3)
FIN 664	REAL ESTATE FINANCE	(3)
FIN 680	MONEY, INTEREST AND CAPITAL	(3)
FIN 691	ADVANCED TOPICS IN FINANCE (SUBTITLE REQUIRED)	(1-3)
FIN 695	INDIVIDUAL WORK IN FINANCE	(1-6)
FIN 700	SEMINAR IN FINANCIAL THEORY	(3)
FIN 701	SEMINAR IN FINANCIAL THEORY II	(3)

FIN 745	SEMINAR IN MANAGERIAL FINANCE	(3)
FIN 750	SEMINAR IN INVESTMENT THEORY (3)	
FIN 763	RESEARCH, DESIGN AND ANALYSIS (SAME AS MGT/MKT 763)	(3)
FIN 780	SEMINAR IN FINANCIAL INSTITUTIONS	(3)
FIN 791	SEMINAR IN FINANCE (SUBTITLE REQUIRED)	(1-3)
FIN 795	INDEPENDENT WORK IN FINANCE	(1-6)
MGT 608	COMPARATIVE INTERNATIONAL MANAGEMENT	(3)
MGT 611	ORGANIZATIONAL BEHAVIOR (SAME AS MFS 611)	(3)
MGT 620	PERSONNEL AND INDUSTRIAL RELATIONS	(3)
MGT 624	MANAGEMENT OF INFORMATION RESOURCES (SAME AS DIS 624)	(3)
MGT 640	LEGAL AND REGULATORY ENVIRONMENT	(3)
MGT 695	INDIVIDUAL WORK IN MANAGEMENT	(1-6)
MGT 697	TOP MANAGEMENT LEADERSHIP IN THE CONTEMPORARY BUSINESS ENVIRONMENT	(3)
MGT 699	BUSINESS POLICY AND STRATEGY II	(3)
MGT 700	ADMINISTRATIVE SCIENCE	(3)
MGT 711	ORGANIZATIONS AND EXTERNAL SYSTEMS	(3)
MGT 712	ORGANIZATIONS AND INDIVIDUAL BEHAVIOR	(3)
MGT 713	SEMINAR IN ADVANCED ORGANIZATION THEORY	(3)
MGT 714	SEMINAR IN MANAGEMENT THEORY AND POLICY	(3)
MGT 763	RESEARCH, DESIGN AND ANALYSIS (SAME AS MKT/FIN 763)	(3)
MGT 780	SPECIAL TOPICS IN MANAGEMENT (SUBTITLE REQUIRED)	(3)
MGT 781	INDEPENDENT WORK IN MANAGEMENT	(1-6)
MKT 600	MARKETING MANAGEMENT	(3)
MKT 601	MARKETING RESEARCH	(3)
MKT 621	PRODUCT MANAGEMENT	(3)
MKT 622	SALES MANAGEMENT	(3)
MKT 623	MARKETING IN SERVICE AND NONPROFIT ORGANIZATIONS	(3)
MKT 624	INTERNATIONAL MARKETING MANAGEMENT	(3)
MKT 695	INDIVIDUAL WORK IN MARKETING	(1-6)
MKT 700	SEMINAR IN MARKETING MANAGEMENT	(3)
MKT 710	SEMINAR IN CONSUMER BEHAVIOR	(3)
MKT 720	SEMINAR IN MARKETING THEORY	(3)
MKT 763	RESEARCH, DESIGN AND ANALYSIS (SAME AS MGT/FIN 763)	(3)
MKT 771	SEMINAR IN BUSINESS ADMINISTRATION	(3)
MKT 781	INDEPENDENT WORK IN MARKETING	(1-6)

NOTE: See also course listings under the Accounting and the Economics programs in this Bulletin.



## **CAREER, TECHNOLOGY AND LEADERSHIP EDUCATION (Formerly Vocational Education)**

The Department of Community and Leadership Development offers the Master of Science degree in Career, Technical and Leadership Education. This degree includes both a Career and Technical Education (CTE) option and a Community and Leadership Development (CLD) option. In either option, students have considerable flexibility in planning a program that meets individual needs.

### **Career and Technical Education**

Formerly known as Vocational Education, the Career and Technical Education option focuses on developing excellent teaching skills. The program prepares students for professional certification at the rank II level. (Initial certification also is available in this option.) Students not interested in certification may design a program to meet their unique education interests. Conducted jointly with faculty from the Department of Family Studies, CTE allows students to concentrate in either Agricultural or Family and Consumer Sciences Education. The CTE option is designed for educators, both formal and non-formal. Public school teachers, extension agents and other agricultural educators are welcome in the graduate program. Faculty focus on innovative teaching and research to prepare future and current public school teachers and other professional educators in agriculture for successful careers.

Limited assistantships are available for students wishing to pursue an M.S. degree full-time. The assistantship covers tuition (not fees), health insurance and includes a monthly stipend for fall and spring semesters. It is best that you apply for an assistantship the Fall semester before you would like the assistantship. Official assistantship offers can only be made to students who have been admitted into the program. Students can have assistantship support for up to two years - after the first year, the student is evaluated and the second year of support is granted based upon satisfactory or better performance.

### **Community and Leadership Development**

The Community and Leadership Development option accommodates a wide variety of individuals from diverse settings such as administration, nonprofit organizations, communications, public service, adult education, and Cooperative Extension. CLD is designed to help emerging and established leaders develop the fundamental skills needed to solve community problems and work effectively for community change.

The Community and Leadership Development Option requires the following core courses:

CLD 665	Program Development and Evaluation	(3)
CLD 675	Community Development and Leadership Communications	(3)
CLD 680	Community Development Theory and Practice	(3)

CLD 682	Applied Research Methods in Community Development and Leadership	(4)
CLD 750	Practicum in Community and Leadership Development	(3)

Students will then complete an additional 14 hours of graduate course work in a supporting specialty area. Students will work with their graduate committee to identify the courses which best suit their professional interests.

### **Program Plans and Requirements**

Students in both the Career and Technical Education and the Community and Leadership Development options choose either a thesis plan (Plan A) which requires the students to conduct research and write and defend a thesis or a non-thesis plan (Plan B). In addition to the thesis, Plan A requires at least 24 hours of course work with a cumulative standing of 3.0 or better. Plan B requires at least 30 semester hours of course work with cumulative standing of 3.0 or better and completion of a major position paper and/or portfolio and a comprehensive exam. The Career and Technical Education option requires 12 hours in Agricultural Education or Family and Consumer Sciences Education courses for the thesis plan and 15 hours for the non-thesis plan. If teacher certification is sought, additional requirements must be met.

### **Funding**

The Department of Community and Leadership Development has a limited number of graduate assistantships to support qualified students in the Career, Technical and Leadership Education program. Those students who do not receive funding upon entry into the program are eligible for consideration in subsequent years. Decisions about funding are made in annual evaluations of student performance. Students must make systematic progress toward their degree to ensure continued funding for the second year of study. Students will not receive more than two years of departmental support.

### **Admission**

The University of Kentucky is committed to a policy of providing educational opportunities to all qualified students regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, marital status, age, veteran status or physical or mental disability.

Admission to the graduate program in Career, Technical and Leadership Education is based on a combination of the following factors: undergraduate GPA, letters of reference, GRE scores, fit between applicant's professional experience and goals and the program's focus and resources, and, in some cases, a personal interview. To receive full consideration, the application deadline is April 1 for fall semester admission to the program and October 1 for spring semester admission.

## What is the Graduate Admissions Committee looking for?

There is much debate about the utility of standardized indicators in predicting success in a graduate or professional program. We believe that a minimum GRE score of 450 on the verbal section and 500 on the quantitative section are important indicators that you have the basic skills essential for success in our graduate program. Similarly, we believe that a cumulative undergraduate GPA of 2.75 represents another indicator of your capacity to succeed in our graduate program.

A GRE score or an undergraduate GPA below these thresholds will lead to a closer examination of all application materials. In these cases, it is the responsibility of the applicant to demonstrate that they have the knowledge and skills to be successful in the graduate program despite their GRE score or their undergraduate GPA. For example, an applicant might note that they had achieved a 3.2 in the last 60 hours of their undergraduate program.

In the absence of both adequate GRE and undergraduate GPA scores, if admission is granted, it is a provisional admission pending successful completion of 2 courses (500 level or higher) in the graduate program for which admission is being sought with a grade of "B" in each course. Potential students should send the following materials to the University of Kentucky Graduate Admissions Office:

- Application for Admission to The Graduate School
- Application fee
- Official transcripts of academic work completed at all colleges and universities attended since high school
- Official GRE Scores
- Official TOEFL scores if international student

After The Graduate School determines that the minimum requirements for admission have been satisfied, application materials are sent to the Career, Technical and Leadership Education program for a final decision on admission.

In addition to the materials sent to The Graduate School, potential students should obtain a departmental application on-line at and then complete it and return it to:

Director of Graduate Studies  
Career, Technical and Leadership Education  
Department of Community and Leadership Development  
500 Garrigus Building  
University of Kentucky  
Lexington, KY 40546-0215

For more information about graduate study in Career, Technical and Leadership Education, write to the above address, phone 859.257.7581 or e-mail: [dgsclld@uky.edu](mailto:dgsclld@uky.edu) .

## GRADUATE COURSES

CLD 650	APPLIED COMMUNITY COMMUNICATIONS	(3)
CLD 665	PROGRAM DEVELOPMENT AND EVALUATION	(3)
CLD 675	COMMUNITY DEVELOPMENT AND LEADERSHIP COMMUNICATIONS	(3)
CLD 680	COMMUNITY DEVELOPMENT THEORY AND PRACTICE	(3)
CLD 682	RESEARCH METHODS IN COMMUNITY DEVELOPMENT AND LEADERSHIP	(4)
CLD 748	MASTER'S THESIS RESEARCH	(0)
CLD 750	PRACTICUM IN COMMUNITY AND LEADERSHIP DEVELOPMENT	(3)
CLD 768	RESIDENCE CREDIT FOR THE MASTER'S	(1-6)
CLD 780	SPECIAL PROBLEMS IN COMMUNITY AND LEADERSHIP DEVELOPMENT	(1-6)
CLD 790	RESEARCH IN COMMUNITY AND LEADERSHIP DEVELOPMENT	(1-6)
AED 501	PRACTICUM IN VOCATIONAL EDUCATION (SAME AS HEE 501)	(1-12)
AED 535	PRINCIPLES AND PHILOSOPHY OF VOCATIONAL EDUCATION (SAME AS HEE 535)	(3)
AED 580	METHODS OF TEACHING VOCATIONAL EDUCATION I (SAME AS HEE 580)	(3)
AED 586	METHODS IN TEACHING VOCATIONAL EDUCATION II (SAME AS HEE 586)	(3)
AED 590	PROBLEMS IN VOCATIONAL EDUCATION (SAME AS HEE 590)	(3)
AED 670	ADVANCED METHODS IN TEACHING VOCATIONAL EDUCATION (SAME AS HEE 670)	(3)
AED 671	YOUTH ORGANIZATIONS IN VOCATIONAL EDUCATION (SAME AS HEE 671)	(3)
AED 678	SELECTING TEACHING MATERIALS (SAME AS HEE 678)	(3)
AED 679	ADULT EDUCATION IN VOCATIONAL EDUCATION (SAME AS HEE 679)	(3)
AED 684	CURRENT TRENDS IN VOCATIONAL EDUCATION (SAME AS HEE 684)	(3)
AED 686	EVALUATION IN VOCATIONAL EDUCATION (SAME AS HEE 686)	(3)
AED 693	SUPERVISION IN VOCATIONAL EDUCATION (SAME AS HEE 693)	(3)
AED 694	THE ADMINISTRATION OF VOCATIONAL EDUCATION (SAME AS HEE 694/EDA 694)	(3)
AED 695	SPECIAL PROBLEMS IN VOCATIONAL EDUCATION (SAME AS HEE 695)	(3)
AED 748	MASTER'S THESIS RESEARCH (SAME AS HEE 748)	(0)
AED 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE (SAME AS HEE 768)	(1-6)
AED 779	SEMINAR IN VOCATIONAL EDUCATION (SAME AS HEE 779)	(1-3)

AED 789	INDEPENDENT WORK IN VOCATIONAL EDUCATION (SAME AS HEE 789)	(1-3)
AED 799	RESEARCH IN VOCATIONAL EDUCATION (SAME AS HEE 799)	(1-3)
EDV 516	PROBLEMS OF THE COORDINATOR IN VOCATIONAL EDUCATION	(2-3)
EDV 517	DETERMINING TEACHING CONTENT IN MARKETING AND DISTRIBUTIVE EDUCATION	(2-3)
EDV 528	TECHNIQUES OF TEACHING MARKETING AND DISTRIBUTIVE EDUCATION	(2-3)
EDV 749	DISSERTATION RESEARCH	(0)
EDV 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)

## CHEMICAL ENGINEERING

The Department of Chemical and Materials Engineering offers programs leading to the M.S. and Ph.D. degrees in Chemical Engineering, with research specialization in the following areas:

Aerosol Chemistry and Physics	Biocellular Engineering
Biomaterials	Drug Delivery
Energy Technology	Environmental Engineering
Fuel Science and Fuel Cells	Materials Synthesis and Nanomaterials
Membrane Science and Technology	Polymer Science and Engineering
Supercritical Fluids Processing	Transport Phenomena

### Admission Requirements

Admission to the M.S. and Ph.D. degree programs is on a competitive basis, and financial assistance is available through teaching and research assistantships, as well as a limited number of fellowships. Applicants should have a minimum grade point average of 3.0/4.0 on all undergraduate work, and should hold a Bachelor of Science degree in Chemical Engineering or its equivalent. Meeting the minimum requirements does not guarantee admission, as acceptance is on a competitive and space-available basis. Students with undergraduate majors not in chemical engineering (for example, chemistry or physics) may be eligible for direct admission into the M.S. or Ph.D. graduate programs; these individuals are expected to complete a program of selected undergraduate core courses during their first year of study.

### Master of Science

The M.S. degree in Chemical Engineering requires 24 hours of course work, plus completion of an acceptable thesis (Plan A). This course work includes the chemical engineering graduate core, which is comprised of CME 505, CME 620, CME 630, CME 650, and a graduate-level mathematics elective. In certain exceptional cases (as determined by the faculty), a non-thesis

M.S. may be undertaken (Plan B). The non-thesis option requires 30 hours of course work which includes the chemical engineering core, as well as 3 hours of CME 780 (Special Problems in Chemical Engineering). The non-thesis option is only available to those students with prior research or industrial experience. For both Plan A and Plan B, at least half of all graduate course work must be at the 600 level or above.

### **Doctor of Philosophy**

The Ph.D. degree is a research degree granted on the basis of broad knowledge of chemical engineering and specialized study in a specific area of interest. The student must conduct original and significant research and must submit and defend a dissertation based on that research. Course work requirements include the chemical engineering graduate core, and additional courses so as to fulfill the pre-candidacy residency requirements set forth by the Graduate School; the plan of study is developed by the student in consultation with the research advisor and the Director of Graduate Studies. Advancement to doctoral candidacy is contingent upon successful completion of both the written and oral portions of the Qualifying Examination. The written portion addresses three fundamental areas of the chemical engineering discipline: Kinetics and Reactor Design, Thermodynamics, and Transport. The oral portion consists of a presentation and defense of the student's proposed dissertation research; a prospectus prepared by the student must be submitted to the doctoral advisory committee prior to the examination. There is no language requirement for the M.S. or Ph.D. degrees in Chemical Engineering.

A wide selection of research topics is available under the direction of the Chemical Engineering faculty. Recent graduate-level elective courses include Biochemical Engineering, Biomedical Micro & Nanotechnology, Chemical Engineering Statistical Methods, Computational Materials Science, Drug Delivery, Energy Systems, Interfacial Engineering, Membrane Science and Technology, and Polymer Processing.

For more information on degree requirements, financial aid, and research opportunities please contact the Director of Graduate Studies.

### **GRADUATE COURSES**

CME 404G	POLYMERIC MATERIALS (SAME AS MSE 404G)	(3)
CME 505	ANALYSIS OF CHEMICAL ENGINEERING PROBLEMS	(3)
CME 515	AIR POLLUTION CONTROL	(3)
CME 550	CHEMICAL REACTOR DESIGN	(3)
CME 554	CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS (SAME AS ME/MFS/MSE 554)	(3)
CME 556	INTRODUCTION TO COMPOSITE MATERIALS (SAME AS ME/MSE 556)	(3)

CME 580	DESIGN OF RATE AND EQUILIBRIUM PROCESSES FOR WATER POLLUTION CONTROL	(3)
CME 599	TOPICS IN CHEMICAL ENGINEERING	(3)
CME 620	EQUILIBRIUM THERMODYNAMICS	(3)
CME 622	PHYSICS OF POLYMERS (SAME AS MSE 622)	(3)
CME 630	TRANSPORT I	(3)
CME 650	ADVANCED CHEMICAL REACTOR DESIGN	(3)
CME 680	BIOCHEMICAL ENGINEERING (SAME AS BAE 680)	(3)
CME 748	MASTER'S THESIS RESEARCH	(0)
CME 749	DISSERTATION RESEARCH	(0)
CME 767	DISSERTATION RESIDENCY CREDIT	(2)
CME 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
CME 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
CME 771	SEMINAR	(0)
CME 779	MEMBRANE SCIENCES COLLOQUIUM (SAME AS BCH/CHE/PHA/PHR 779)	(1)
CME 780	SPECIAL PROBLEMS IN CHEMICAL ENGINEERING	(1-3)
CME 790	RESEARCH IN CHEMICAL ENGINEERING	(1-9)

## CHEMISTRY

The Department of Chemistry offers the Master of Science and the Doctor of Philosophy degrees. Plan A or B may be used to satisfy the requirements for the M.S. degree. Areas of specialization in chemistry are analytical, biological, inorganic, organic, physical, and radionuclear. All candidates for the Ph.D. degree are required to serve as a teaching assistant for one semester.

### Admission Requirements

The only specific departmental requirement for admission to the Graduate Program in Chemistry is an undergraduate degree in chemistry or its equivalent. The Chemistry Department asks applicants to submit three letters of recommendation, and considerable weight in each admission decision is given to these written evaluations from the applicant's instructors and mentors. Otherwise, the criteria for admission are those set by the Graduate School. For persons applying for admission to the Graduate Program in Chemistry, Teaching Assistantships are only offered to Ph.D. aspirants. While enrolled students may choose or be required to obtain a Master's Degree, this is not a normal or necessary intermediate stage on the path to a Ph. D. Entering applicants targeting a Master's Degree are generally not offered financial support. An effort is made to match applicant interests with available research programs. Applicants for whom exceptions to the above-stated policies seem warranted are subject to special consideration by the Graduate Recruitment Committee.

A satisfactory reading knowledge of a modern foreign language is recommended for the M.S. and the Ph.D. degrees, but not required. As part of the course requirements for both the M.S. and the Ph.D. degrees, all students must normally take four "core" courses. The student selects one course which best meets career objectives in each of four of the five areas of chemistry (analytical, biological, inorganic, organic, and physical) from a pair of such courses: CHE 524 or 626, CHE 550 or 552, CHE 510 or 514, CHE 535 or 538, CHE 547 or 548, respectively.

All new graduate students must take proficiency examinations in analytical, biological, inorganic, organic, and physical chemistry. The results of these examinations are used as a guide in establishing the student's program of courses. Students who do very well on any particular examination may bypass the core course in that area. Students are required to take a core course in each of the two areas where their proficiency exam scores are lowest.

### **Master of Science**

**Plan A (Thesis):** All Graduate School requirements must be met. In addition to four "core" courses, advanced or specialty courses relevant to a student's career objectives are taken to total a minimum of 24 credits. Successful defense of a thesis describing original research of a caliber that could result in publication in refereed scientific journals is required of all M.S. Plan A students.

**Plan B (Non-Thesis):** Students in the Department of Chemistry may satisfy the requirements for an M.S. degree by using Plan B, a coursework M.S. Students wishing to follow this plan shall present for the approval of the Graduate Program Committee a program of courses that satisfies the Committee and meets all Graduate School requirements. This program of courses must meet distribution requirements within four of the five areas of chemistry and include 6 or more credits of courses outside of Chemistry that are relevant to the student's career goals.

### **Doctor of Philosophy**

Doctoral degrees are earned in the Department of Chemistry after a student has carried out productive and independent research on a problem that is of significant chemical interest. It is expected that the results of the dissertation work will be published in refereed scientific journals. All Graduate School requirements must be met. Subject to approval of the student's Advisory Committee, course work for the Ph.D. degree shall normally include four "core" courses and 8 credits of advanced or specialty courses. At least 3 credit hours must be in courses outside of the student's main area of interest.

The Qualifying Examination consists of a written and an oral part. The written component of the Qualifying Examination consists of a series of cumulative examinations designed to test the application of fundamental principles and reasoning to literature or research problems. Scores of 3, 2, 1, or 0 can be obtained on each examination. Eight examinations per year in the areas of Analytical, Inorganic, Biological, Organic, and Physical Chemistry and four examinations per



year in Radionuclear Chemistry are given. A Ph.D. student normally must attain a minimum of eight points within two years in order to take the oral part of the Qualifying Examination. For further information on any degree program in Chemistry, contact the Director of Graduate Studies at [chemgrad@uky.edu](mailto:chemgrad@uky.edu).

## GRADUATE COURSES

CHE 440G	PHYSICAL CHEMISTRY I	(4)
CHE 441G	PHYSICAL CHEMISTRY LABORATORY	(2)
CHE 442G	PHYSICAL CHEMISTRY II	(3)
CHE 446G	PHYSICAL CHEMISTRY FOR ENGINEERS	(3)
CHE 450G	PRACTICAL INORGANIC CHEMISTRY	(4)
CHE 510	ADVANCED INORGANIC CHEMISTRY	(3)
CHE 514	DESCRIPTIVE INORGANIC CHEMISTRY	(3)
CHE 520	RADIOCHEMISTRY	(3)
CHE 521	RADIOCHEMISTRY LABORATORY	(1-2)
CHE 522	INSTRUMENTAL ANALYSIS	(4)
CHE 524	CHEMICAL INSTRUMENTATION	(4)
CHE 526	CHEMICAL SEPARATIONS	(2)
CHE 532	SPECTROMETRIC IDENTIFICATION OF ORGANIC COMPOUNDS	(2)
CHE 533	QUALITATIVE ORGANIC ANALYSIS LABORATORY	(2)
CHE 535	SYNTHETIC ORGANIC CHEMISTRY	(3)
CHE 538	PRINCIPLES OF ORGANIC CHEMISTRY	(3)
CHE 547	PRINCIPLES OF PHYSICAL CHEMISTRY I	(3)
CHE 548	PRINCIPLES OF PHYSICAL CHEMISTRY II	(3)
CHE 550	BIOLOGICAL CHEMISTRY I	(3)
CHE 552	BIOLOGICAL CHEMISTRY II	(3)
CHE 553	CHEMISTRY AND MOLECULAR BIOTECHNOLOGY	(3)
CHE 555	HOMONUCLEAR NMR	(3)
CHE 558	HORMONE RECEPTORS AND CELL SIGNALS	(3)
CHE 559	INTERMOLECULAR FORCES: FROM MOLECULES TO MATERIALS	(3)
CHE 565	ENVIRONMENTAL CHEMISTRY	(3)
CHE 572	COMMUNICATION IN CHEMISTRY	(1)
CHE 580	TOPICS IN CHEMISTRY	(1-3)
CHE 610	CHEMISTRY OF THE TRANSITION METALS	(3)
CHE 612	INORGANIC CHEMISTRY OF THE NON-METALS	(3)
CHE 614	ORGANOTRANSITION METAL CHEMISTRY	(3)
CHE 616	NUCLEAR CHEMISTRY	(3)
CHE 620	ELECTROCHEMICAL METHODS OF ANALYSIS	(3)
CHE 623	CHEMICAL EQUILIBRIUM AND DATA ANALYSIS	(3)
CHE 625	OPTICAL METHODS OF ANALYSIS	(3)
CHE 626	ADVANCED ANALYTICAL CHEMISTRY	(3)
CHE 633	PHYSICAL ORGANIC CHEMISTRY	(3)
CHE 643	SPECTROSCOPY AND PHOTOPHYSICS	(3)
CHE 646	CHEMICAL KINETICS	(3)
CHE 710	TOPICS IN INORGANIC CHEMISTRY	(2-4)
CHE 736	TOPICS IN ORGANIC CHEMISTRY	(2-4)

CHE 746	TOPICS IN PHYSICAL CHEMISTRY	(2-4)
CHE 748	MASTER'S THESIS RESEARCH	(0)
CHE 749	DISSERTATION RESEARCH	(0)
CHE 767	DISSERTATION RESIDENCY CREDIT	(2)
CHE 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
CHE 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
CHE 772	SEMINAR IN CHEMISTRY INSTRUCTION	(1)
CHE 776	GRADUATE SEMINAR	(1)
CHE 779	MEMBRANE SCIENCES COLLOQUIUM (SAME AS CME/PHR/BCH/PHA 779)	(1)
CHE 780	INDIVIDUAL WORK IN CHEMISTRY	(1-5)
CHE 790	RESEARCH IN CHEMISTRY	(1-12)

## CIVIL ENGINEERING

The Department of Civil Engineering offers the Master of Science in Civil Engineering (Plan A and Plan B available), Master of Civil Engineering (Plan B), and Ph.D. with specialization in the following areas:

Civil Engineering Materials	Construction Engineering and Management
Environmental Engineering	Geotechnical Engineering
Hydraulics Engineering	Structural Engineering
Transportation Engineering	Water Resources Engineering

These areas utilize courses from other departments and such inter-departmental programs are encouraged. Mechanical Engineering, Chemical Engineering, Agricultural Engineering, Mining Engineering, Mathematics, Computer Science, Geology, Biology, and Chemistry are some of the departments whose offerings contribute to the programs in Civil Engineering.

For the Master of Science in Civil Engineering (M.S.C.E.) degree Plan A, 24 credit hours of course work and a thesis are required to fulfill degree requirements. For the Master of Science in Civil Engineering (M.S.C.E.) degree Plan B, a minimum of 30 credit hours of graduate work are required, including at least 3 credit hours of independent work. The requirement for independent work may be satisfied by either taking an approved curriculum of courses which contain integral independent study components totaling a minimum of 3 credit hours, or by completing at least three credit hours of CE 790 and/or CE 791.

Students who wish to complete the independent work requirement by choosing from an approved curriculum of courses containing integral independent study components, shall present a plan of study which satisfies this requirement, and all other Graduate School requirements, to the Director of Graduate Studies for approval before the completion of 12

credit hours of graduate course work. Preferably this should occur no later than the end of the first semester of graduate residence.

The requirement for all independent work must be satisfied under the direction of one faculty member (for students choosing a CE 790 and/or CE 791), or several faculty members (for students following an approved curriculum of courses), who will assign, monitor, and evaluate the student's work as part of the specific course. Written reports will usually represent the work product to be evaluated.

All students must pass a Final Examination as specified by the rules of the Graduate School. The contents and style of the examination, and the evaluation of the student's performance, are the responsibility of a Graduate Faculty committee appointed by the Dean of the Graduate School. The Ph.D. degree has no formal course requirement, but students must pass the Qualifying Examination before entering candidacy. There is no language requirement for the M.C.E., M.S.C.E. and Ph.D. degrees in Civil Engineering.

### **Admission Requirements**

In addition to satisfying general Graduate School and College of Engineering admissions requirements (a GPA of 2.8/4.0 on all undergraduate work is normally required), applicants for admission to the M.C.E., M.S.C.E., and Ph.D. degree programs in Civil Engineering must have been awarded a Bachelor of Science degree from an engineering program accredited by the Accrediting Board for Engineering and Technology (ABET). This requirement may be waived for applicants who have been awarded bachelor's degrees other than in engineering or from unaccredited engineering programs (including those offered by foreign institutions) if the applicant has received an acceptable score on the Advanced Engineering Test of the Graduate Record Examination (GRE).

Students with undergraduate majors not in engineering must also take a certain number of undergraduate remedial courses. Neither the M.C.E, the M.S.C.E. degree nor the Ph.D. degree in Civil Engineering will be conferred unless the candidates have successfully completed, during their undergraduate and/or graduate careers, at least one basic course in at least four of the following seven areas: civil engineering materials, fluid mechanics, geotechnical engineering, surveying, structural or solid mechanics, transportation engineering, and water quality engineering.

It is also required that a minimum GRE score of 1000 and 1100 (combination of verbal and quantitative sections) be obtained by Master's and Ph.D. degree applicants respectively. Scores on the analytical portion are also considered. Foreign applicants whose native language is other than English must take the Test of English as a Foreign Language (TOEFL) and score at least 550 on the written version or the equivalent on the computer or internet-based versions before they can be admitted.

The Department of Civil Engineering has many well-equipped laboratories with active research programs in most areas. The research programs provide financial assistance for graduate students. In addition, financial assistance is available through teaching assistantships and a limited number of traineeships, fellowships and scholarships.

Information about the graduate program in Civil Engineering can be obtained by writing the Director of Graduate Studies, Department of Civil Engineering.

### GRADUATE COURSES

CE 461G	HYDROLOGY	(3)
CE 471G	SOIL MECHANICS	(4)
CE 486G	REINFORCED CONCRETE STRUCTURES	(3)
CE 487G	STEEL STRUCTURES	(3)
CE 503	CONSTRUCTION ESTIMATING	(3)
CE 505	CONSTRUCTION PROJECT PLANNING AND MANAGEMENT	(3)
CE 506	THE ENGINEER, THE LAW, AND THE ENVIRONMENT	(3)
CE 517	BOUNDARY LOCATION PRINCIPLES	(3)
CE 518	ADVANCED SURVEYING	(3)
CE 521	ENGINEERING ECONOMY	(3)
CE 525	CIVIL ENGINEERING APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS	(3)
CE 531	TRANSPORTATION FACILITIES DESIGN AND OPERATIONS	(3)
CE 533	RAILROAD FACILITIES DESIGN AND ANALYSIS	(3)
CE 534	PAVEMENT DESIGN, CONSTRUCTION AND MANAGEMENT	(3)
CE 539	TRANSPORTATION SYSTEMS DESIGN	(4)
CE 546	FLUVIAL HYDRAULICS (SAME AS BAE 536)	(3)
CE 549	ENGINEERING HYDRAULICS (SAME AS BAE 545)	(3)
CE 555	MICROBIAL ASPECTS OF ENVIRONMENTAL ENGINEERING	(3)
CE 556	SOLID AND HAZARDOUS WASTE MANAGEMENT (SAME AS BAE 556)	(3)
CE 560	GROUNDWATER MODELING	(3)
CE 569	WATER RESOURCES SYSTEM DESIGN (SAME AS BAE 569)	(4)
CE 579	GEOTECHNICAL ENGINEERING	(3)
CE 580	ASPHALT MIX DESIGN AND CONSTRUCTION	(3)
CE 581	CIVIL ENGINEERING MATERIALS II	(3)
CE 582	ADVANCED STRUCTURAL MECHANICS	(3)
CE 583	SUSPENSION BRIDGES	(3)
CE 584	DESIGN OF TIMBER AND MASONRY STRUCTURES	(3)
CE 585	CIVIL ENGINEERING FAILURES	(3)
CE 586	PRESTRESSED CONCRETE	(3)
CE 589	DESIGN OF STRUCTURAL SYSTEMS	(3)
CE 599	TOPICS IN CIVIL ENGINEERING (SUBTITLE REQUIRED)	(1-4)

CE 601	CONSTRUCTION EQUIPMENT	(3)
CE 602	CONSTRUCTION PROJECT MANAGEMENT	(3)
CE 605	NEW ENGINEERING ENTERPRISES	(3)
CE 631	URBAN TRANSPORTATION PLANNING (SAME AS GEO 643)	(3)
CE 633	AIR TRANSPORT ENGINEERING	(3)
CE 634	TRAFFIC CHARACTERISTICS	(3)
CE 635	HIGHWAY SAFETY	(3)
CE 641	MECHANICS OF LIQUID FLOW IN PIPES	(3)
CE 642	OPEN CHANNEL FLOW (SAME AS BAE 642)	(3)
CE 651	FUNDAMENTALS OF WATER QUALITY CONTROL I	(3)
CE 652	FUNDAMENTALS OF WATER QUALITY CONTROL II	(3)
CE 653	WATER QUALITY IN SURFACE WATERS (SAME AS BAE 653)	(3)
CE 654	PRINCIPLES OF WATER AND WASTEWATER TREATMENT PROCESSES	(3)
CE 655	WATER SANITATION AND HEALTH	(3)
CE 660	GROUNDWATER HYDROLOGY (SAME AS BAE 638)	(3)
CE 662	STOCHASTIC HYDROLOGY	(3)
CE 665	WATER RESOURCES SYSTEMS (SAME AS BAE 665)	(3)
CE 667	STORMWATER MODELING (SAME AS BAE 667)	(3)
CE 671	ADVANCED SOIL MECHANICS	(3)
CE 676	GROUNDWATER AND SEEPAGE	(3)
CE 679	GEOTECHNICAL EARTHQUAKE ENGINEERING	(3)
CE 681	ADVANCED CIVIL ENGINEERING MATERIALS	(3)
CE 682	ADVANCED STRUCTURAL ANALYSIS	(3)
CE 684	SLAB AND FOLDED PLATE STRUCTURES	(3)
CE 686	ADVANCED REINFORCED CONCRETE THEORY	(3)
CE 687	ADVANCED METAL STRUCTURES	(3)
CE 699	TOPICS IN CIVIL ENGINEERING (SUBTITLE REQUIRED)	(1-4)
CE 709	COMPUTER APPLICATIONS IN CONSTRUCTION	(3)
CE 748	MASTER'S THESIS RESEARCH	(0)
CE 749	DISSERTATION RESEARCH	(0)
CE 767	DISSERTATION RESIDENCY CREDIT	(2)
CE 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
CE 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
CE 772	EXPERIMENTAL METHODS IN SOIL MECHANICS	(3)
CE 779	ADVANCED GEOTECHNICAL ENGINEERING	(3)
CE 782	DYNAMICS OF STRUCTURES	(3)
CE 783	STRUCTURAL FINITE ELEMENT ANALYSIS	(3)
CE 784	SHELL STRUCTURES	(3)
CE 790	SPECIAL RESEARCH PROBLEMS IN CIVIL ENGINEERING	(1-6)
CE 791	SPECIAL DESIGN PROBLEMS IN CIVIL ENGINEERING	(1-6)

EGR 537	NUMERICAL ANALYSIS (SAME AS CS/MA 537)	(3)
EGR 599	TOPICS IN ENGINEERING (SUBTITLE REQUIRED)	(1-3)
EGR 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS ME 611)	(3)
EGR 621	FINITE ELEMENT ANALYSIS IN ENGINEERING	(3)

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## CLASSICS

The Department of Modern and Classical Languages, Literatures and Cultures offers the M.A. degree in Classics under both Plan A (thesis) and Plan B (non-thesis) options.

Each student will normally elect either Latin literature, Greek literature, or a combination of the two as an area of concentration. A program of courses will be selected from the list below with the advice of the Director of Graduate Studies. Appropriate courses in other areas of graduate study outside of the Department may be added with the approval of the Director of Graduate Studies. Individualized course programs are arranged for students who are preparing for secondary school teaching or who have additional interests in fields other than Classics. Normally the M.A. program is completed in two years of full-time study.

For additional information and details about graduate study in the Department, contact the Director of Graduate Studies.

### Admission Requirements

The requirements for admission to the program in Classics are (a) a combined score of 1000 on any two of the three parts of the Graduate Record Examination and (b) an undergraduate grade point average of 3.0 or above on a 4.0 scale. The Director of Graduate Studies may admit students with lower GRE scores or an undergraduate grade point average below 3.0 if, on the basis of a student's last two years of work, classics grades, or general academic competence, he or she believes the student capable of successful graduate work.

The Department also requires from each applicant a two- or three-paragraph statement describing his or her reasons for seeking a master's degree, and three letters of reference from former professors or teachers. There is no special form to be filled out for letters of reference. All of these materials should be sent via e-mail by Feb. 1 to the Director of Graduate Studies, [classics@lsv.uky.edu](mailto:classics@lsv.uky.edu), or by regular mail to:

Director of Graduate Studies  
 Department of Modern and Classical Languages, Literatures and Cultures  
 POT 1055, University of Kentucky, Lexington, KY 40506-0027

## GRADUATE COURSES

CLA 426G	CLASSICAL DRAMA: TRAGEDY AND COMEDY IN GREECE AND ROME	(3)
CLA 450G	SPECIAL TOPICS IN CLASSICAL LITERATURE IN TRANSLATION (SUBTITLE REQUIRED)	(3)
CLA 509	ROMAN LAW (SAME AS HIS 509)	(3)
CLA 511	STUDIES IN ROMAN PHILOLOGY	(3)
CLA 512	STUDIES IN ROMAN PHILOLOGY	(3)
CLA 522	ROMAN REPUBLICAN PROSE (SUBTITLE REQUIRED)	(3)
CLA 523	ROMAN REPUBLICAN POETRY (SUBTITLE REQUIRED)	(3)
CLA 526	ROMAN IMPERIAL PROSE (SUBTITLE REQUIRED)	(3)
CLA 527	ROMAN IMPERIAL POETRY (SUBTITLE REQUIRED)	(3)
CLA 552	GREEK EPIC AND LYRIC POETRY	(3)
CLA 553	GREEK PHILOSOPHICAL LITERATURE	(3)
CLA 556	GREEK DRAMATIC LITERATURE	(3)
CLA 557	GREEK HISTORICAL LITERATURE	(3)
CLA 561	STUDIES IN GREEK PHILOLOGY	(3)
CLA 580	INDEPENDENT WORK IN CLASSICS	(3)
CLA 601	STUDIES IN GREEK LITERATURE I (SUBTITLE REQUIRED)	(3)
CLA 602	STUDIES IN GREEK LITERATURE II (SUBTITLE REQUIRED)	(3)
CLA 603	STUDIES IN LATIN LITERATURE OF THE REPUBLIC (SUBTITLE REQUIRED)	(3)
CLA 604	STUDIES IN LATIN LITERATURE OF THE EMPIRE (SUBTITLE REQUIRED)	(3)
CLA 611	LATIN OF THE LATER ROMAN EMPIRE AND EARLY MIDDLE AGES	(3)
CLA 612	LATIN FROM THE LATER MIDDLE AGES TO THE MODERN WORLD	(3)
CLA 695	INDEPENDENT WORK	(3)
CLA 748	MASTER'S THESIS RESEARCH	(0)
CLA 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
CLA 790	RESEARCH IN THE TEACHING OF CLASSICAL LANGUAGES	(3)

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## CLINICAL SCIENCES

The Division of Clinical and Reproductive Sciences offers a Master of Science degree in Clinical Sciences with tracks in Reproductive Laboratory Science (RLS) and Hematology/Transplantation Science and a Graduate Certificate in Reproductive Laboratory

Science. **The track in hematology/transplantation science has been placed on hiatus until further notice.** The Master of Science in Clinical Sciences/RLS track, coupled with acceptable experience, prepares the graduate for supervisory and advanced technical positions in assisted reproductive technology (ART) and related fields in research, industry, and marketing. The Graduate Certificate in Reproductive Laboratory Science prepares graduates for entry level technologist positions in assisted reproduction.

### **Admission Requirements**

Admission to the master's program is competitive and is based upon academic background, professional recommendations, performance on the verbal, quantitative and analytical portions of the Graduate Record Examination (GRE), experience and when possible personal interviews. Students should have completed a bachelor's degree in science or clinical laboratory sciences with a minimum grade point average of 2.75 on 4.0 scale and a minimum of 3.0 on a 4.0 scale for all graduate work completed. Three professional letters of recommendation and the ability to meet the Technical Standards established by the College of Health Science and the Clinical Sciences Graduate Program are also required.

Students will have the opportunity to learn and study with a faculty assembled to deliver this program. Subject areas include lecture and laboratory courses and clinical practica in embryology and assisted reproductive techniques, reproductive immunology and microbiology, andrology, cryobiology and research in reproduction. The curriculum also includes didactic instruction, laboratory management, reproductive policy, ethics and legal issues. Students are expected to participate in graduate seminars, journal clubs, and research seminars; to interact with visiting scholars, both domestic and international; and to present the results of their research at local, national and international conferences.

Admission to the graduate certificate program requires a bachelor's degree in science or clinical laboratory science with acceptable laboratory experience. Applicants must meet all Graduate School admission requirements for post-baccalaureate status. Three professional letters of recommendation and the ability to meet the Technical Standards established by the College of Health Science and the Clinical Sciences Graduate Program are also required.

### **Master of Science Program Description**

The Master's degree in Clinical Sciences/RLS track is a clinically focused curriculum consisting of 31-39 hours of didactic and laboratory work followed by five credit hours of clinical practica in assisted reproductive technology (ART). A minimum of 31 credit hours is required for the RLS track and includes 11-16 credit hours in math and science followed by 19-21 hours in RLS courses specific for the discipline. All students must complete a research course and clinical practica in andrology and assisted reproductive technology (ART). Selected courses are offered via distributive learning.



## M.S. GRADUATE COURSES

### REQUIRED MATH AND SCIENCE COURSES

CSC 600	HUMAN PATHOPHYSIOLOGY	(4)
CSC 570	BASIC STATISTICAL ANALYSIS	(4)
	SELECTED SCIENCES COURSES	(3-6)

### REPRODUCTIVE LABORATORY SCIENCE COURSES

CSC 528	LABORATORY TECHNIQUES FOR NON-CLS STUDENTS	(2)
CSC 615	REPRODUCTIVE LABORATORY SCIENCE	(1)
CSC 616	ANDROLOGY	(1)
CSC 617	REPRODUCTIVE MICROBIOLOGY AND IMMUNOLOGY	(1)
CSC 618	LABORATORIES IN ANDROLOGY, REPRODUCTIVE MICROBIOLOGY AND IMMUNOLOGY	(1)
CSC 621	EMBRYOLOGY/ASSISTED REPRODUCTIVE TECHNOLOGY	(3)
CSC 624	GAMETE AND EMBRYO CRYOPRESERVATION	(2)
CSC 625	POLICY, MANAGEMENT, ETHICAL AND LEGAL ISSUES IN ASSISTED REPRODUCTION	(2)
CSC 626	ANDROLOGY CLINICAL PRACTICUM	(2)
CSC 627	ART CLINICAL PRACTICUM	(3)
CSC 628	RLS SEMINAR	(1)
CSC 630	RLS RESEARCH	(1-5)

### Graduate Certificate in Reproductive Laboratory Science Program Description

The Graduate Certificate in Reproductive Laboratory Science (RLS) is a 13-15 hour curriculum that includes two credit hours of clinical practica in assisted reproductive technology (ART) affiliate laboratories. The RLS Graduate Certificate, which may be completed in approximately 9-12 months of study. Selected courses are offered via distributive learning.

### RLS GRADUATE CERTIFICATE COURSES

#### REPRODUCTIVE LABORATORY SCIENCE COURSES

CSC 528	LABORATORY TECHNIQUES FOR NON-CLS STUDENTS	(2)
CSC 615	REPRODUCTIVE LABORATORY SCIENCE	(1)
CSC 616	ANDROLOGY	(1)
CSC 617	REPRODUCTIVE MICROBIOLOGY AND IMMUNOLOGY	(1)
CSC 618	LABORATORIES IN ANDROLOGY, REPRODUCTIVE MICROBIOLOGY AND IMMUNOLOGY	(1)
CSC 621	EMBRYOLOGY/ASSISTED REPRODUCTIVE TECHNOLOGY	(3)
CSC 624	GAMETE AND EMBRYO CRYOPRESERVATION	(2)
CSC 625	POLICY, MANAGEMENT, ETHICAL AND LEGAL ISSUES IN ASSISTED REPRODUCTION	(2)

CSC 626	ANDROLOGY CLINICAL PRACTICUM	(1)
CSC 627	ART CLINICAL PRACTICUM	(2)

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## COMMUNICATION

Communication offers programs leading to the Master of Arts (either Plan A (Thesis option) or Plan B (non-thesis option)) and Doctor of Philosophy degrees. The primary areas of emphasis include communication processes, effects and functions within interpersonal, mediated and mass contexts. Applied areas include health communication, and communication and information systems.

The program offers special opportunities for students to apply communication theory and research in health contexts. Students pursuing work in health communication are encouraged to develop interdisciplinary programs involving the Department of Behavioral Science, the College of Medicine, as well as the Colleges of Dentistry, Health Sciences, Pharmacy, and Nursing. Communication also participates in interdisciplinary research programs with the Center for Prevention Research, the Sanders-Brown Center for Aging, and a variety of other health-related departments and institutes.

The program is designed to serve the needs of students whose goals may include teaching and academic research, professional research, or communication careers in the media or other organizations. Students with no previous course work in a communication area may be required to take undergraduate work without graduate credit.

### Admission Requirements

The following are the admission requirements for individuals applying for admission to either the Master's program or the Doctoral program in Communication. Students with an undergraduate degree from a fully accredited institution of higher learning and a grade point average of 3.0 on a 4.0 scale are admissible to the graduate program. Students with degrees in areas not directly related to communication are encouraged to apply. They may be required to take 3 to 12 hours of undergraduate course work. In some cases, successful professional experience in a communication field will be considered in admitting students to the program.

All student applicants must submit scores on the Graduate Record Examination. The GRE is required. Students whose native language is not English must also submit a score of at least 550 (or 213 on the computer version) of the Test of English as a Foreign Language (TOEFL). Applicants must also submit (1) two official copies of transcripts of all work taken at the college level, (2) at least three letters of recommendation focusing on their academic abilities, (3) a Graduate School application and the application fee, and (4) a two- to three- page application

essay indicating why they want to pursue a graduate degree and their reasons for applying to the program.

The Admissions and Financial Aid Committee will review only completed admission files on or before **the second Monday in January** of each year. Applications must have their completed file on record with the Associate Dean for the Graduate Programs in Communication by the deadline. New graduate students are permitted to enroll only during the fall semester. Exceptions will be made only because of circumstances beyond the control of the applicant.

This deadline does not apply to: (1) UK undergraduate students in the College of Communications and Information Studies applying as University Scholars, who may be admitted for summer, fall or spring semesters, and (2) current students in the M.A. Program in Communication or the M.L.S. or M.S.L.S.

### **Master of Arts**

All students are required to complete 30 credit hours to complete the Master of Arts degree. Students will be required to take 12 **core** credit hours consisting of Communication Theory (CJT 651), and Communication Research Methods (CJT 665), plus Statistics 570 (or its equivalent as determined by the Associate Dean for Graduate Studies). In addition, all students will be required to take either CJT 631 or CJT 645.

Students may choose from either the Plan A (Thesis option) or Plan B (non-thesis) options to complete their Masters degree requirements.

**Plan A:** Students choosing Plan A (Thesis option) will take a minimum of 24 credit hours of actual course work, plus write a thesis (Note: the six thesis credits must be taken under CJT 768 - Residence Credit for the Master's degree). All students will also complete an **oral** examination in defense of the thesis.

**Plan B:** Students choosing Plan B (non-thesis) option, will take a minimum of 30 hours of course work, followed by a **written** and **oral** examination over the student's program.

At least 21 credit hours of the minimum requirements for the master's degree must be from offerings within the College of Communications and Information studies (both Plan A and Plan B). Plan A students may include six hours of CJT 768 in the 21 hours, since the thesis involves work in an area of communication. Also, at least 21 credit hours of the minimum requirements must be in courses at the 600 and 700 levels (both Plan A and Plan B). Plan A students may include six hours of CJT 768 in the 21 hours. No more than three credit yours in Plan A and 6 credit hours in Plan B (of the minimum requirements) may be earned in directed study, directed reading, or internship courses (e.g., CJT 696, CJT 700, CJT 781, and CJT 790).

Students without previous course work in communication may be required to take undergraduate work that does not count toward graduate credit. The applicant is expected to have had at least twelve hours of appropriate undergraduate work in communication. Should the graduate faculty believe that there is a deficiency in the applicant's undergraduate studies; it may require the deficiency to be removed by enrollment in specific undergraduate courses. Courses taken to remove a deficiency can not be counted towards the master's degree.

Individuals without significant practical experience are strongly encouraged to take CJT 696 - Internship in Communication, which could include opportunities to work with external agencies and funded projects, both within and outside the university. Emphases within the program include communication and information systems, health communication, interpersonal communication, and mass communication.

### **Doctor of Philosophy**

The Ph.D. program emphasizes communication as a social science. Graduates are prepared for university positions and careers in government, the media and other organizations as researchers, consultants and policy makers. Students must demonstrate general knowledge of communication, as well as competence in a core area of specialization. Current core areas include communication and information systems, health communication, interpersonal communication, and mass communication.

Students must demonstrate a thorough grasp of communication theory and research methods and must take course work in a cognate area outside of Communication. Proficiency in a foreign language is not required for successful completion of the Ph.D. in Communication. A student's advisory committee may, however, stipulate certain graduate-level courses in another language for the student's program that are consistent with the objectives of the student's program. The required curriculum is as follows:

#### Fall Semester: Year 1

CJT 651	Communication Theory
CJT 664	Qualitative Methods in Communication Research
STA 570	(or other advanced statistics course)

#### Spring Semester: Year 1

CJT 631	Proseminar in Interpersonal Communication	<b>OR</b>
CJT 645	Proseminar in Mass Communication	
CJT 665	Quantitative Methods in Communication Research	

#### Fall Semester: Year 2

CJT 751	Advanced Topics in Communication Theory Construction
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All students are also required to complete at least 3 credit hours of CJT 790 (Research Problems in Communication) by the last semester of course work.

The Associate Dean for Graduate Studies, in consultation with the Graduate Review committee, can waive any of the above requirements for a student who has previously taken the same or equivalent course at UK or another university for graduate credit.

Each student works with a major professor and an advisory committee to plan course work and complete the dissertation. The committee also administers the qualifying examination and the final oral examination. The qualifying examination consists of a written and oral examination over general communication theory, the core area of specialization, research methods/statistics and the cognate area.

Standards for admission to the doctoral program are similar to those of the Graduate School, including satisfactory scores on the verbal, quantitative and analytical portions of the Graduate Record Examination (GRE). For additional information about program requirements and opportunities for financial assistance, write to the Associate Dean for Graduate Studies, College of Communications and Information Studies.

## GRADUATE COURSES

CJT 608	MASS COMMUNICATIONS AND SOCIETY	(3)
CJT 615	PROSEMINAR IN COMMUNICATION AND INFORMATION SYSTEMS	(3)
CJT 619	PROSEMINAR IN INTERNATIONAL/INTERCULTURAL COMMUNICATION	(3)
CJT 625	PROSEMINAR IN ORGANIZATIONAL COMMUNICATION	(3)
CJT 630	PROSEMINAR IN MASS MEDIA LAW AND PUBLIC POLICY	(3)
CJT 631	PROSEMINAR IN INTERPERSONAL COMMUNICATION	(3)
CJT 637	INFORMATION TECHNOLOGY	(3)
CJT 638	INTERNET TECHNOLOGIES AND INFORMATION SERVICES	(3)
CJT 640	HEALTH SCIENCES LIBRARIES	(3)
CJT 645	PRESEMINAR IN MASS COMMUNICATION THEORY	(3)
CJT 650	COMMUNICATION, LANGUAGE AND CULTURE	(3)
CJT 651	COMMUNICATION THEORY	(3)
CJT 664	QUALITATIVE METHODS IN COMMUNICATION RESEARCH	(3)
CJT 665	QUANTITATIVE METHODS IN COMMUNICATION RESEARCH	(3)
CJT 668	INFORMATION SYSTEMS DESIGN	(3)
CJT 671	PROSEMINAR IN HEALTH COMMUNICATION	(3)
CJT 682	COMMUNICATION AND PERSUASION	(3)
CJT 684	PROSEMINAR IN INSTRUCTIONAL COMMUNICATION	(3)
CJT 685	SEMINAR: PREPARING FUTURE FACULTY FOR THE MULTICULTURAL CLASSROOM	(1)
CJT 686	PRACTICUM IN PREPARING FUTURE FACULTY	(1)
CJT 690	SPECIAL TOPICS IN LIBRARY AND INFORMATION SCIENCE	(3)
CJT 696	INTERNSHIP IN COMMUNICATION	(3)
CJT 700	DIRECTED READING IN COMMUNICATION	(1-3)

CJT 719	SEMINAR IN INTERNATIONAL/INTERCULTURAL COMMUNICATION (SUBTITLE REQUIRED)	(3)
CJT 725	SEMINAR IN ORGANIZATIONAL COMMUNICATION (SUBTITLE REQUIRED)	(3)
CJT 730	SEMINAR IN MASS MEDIA AND PUBLIC POLICY (SUBTITLE REQUIRED)	(3)
CJT 731	SEMINAR IN INTERPERSONAL COMMUNICATION (SUBTITLE REQUIRED)	(3)
CJT 748	MASTER'S THESIS RESEARCH	(0)
CJT 749	DISSERTATION RESEARCH	(0)
CJT 751	ADVANCED TOPICS IN COMMUNICATION THEORY CONSTRUCTION (SUBTITLE REQUIRED)	(3)
CJT 765	ADVANCED SEMINAR IN COMMUNICATION RESEARCH METHODS	(3)
CJT 767	DISSERTATION RESIDENCY CREDIT	(2)
CJT 768	RESIDENCE CREDIT FOR THE MASTER' DEGREE	(1-6)
CJT 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
CJT 771	SEMINAR IN HEALTH COMMUNICATION	(3)
CJT 775	SEMINAR IN HEALTH COMMUNICATION CAMPAIGNS	(3)
CJT 780	SPECIAL TOPICS IN COMMUNICATION (SUBTITLE REQUIRED)	(3)
CJT 781	DIRECTED STUDY IN COMMUNICATION	(1-6)
CJT 790	RESEARCH PROBLEMS IN COMMUNICATION	(1-6)

With the consent of the instructor and the Associate Dean of Graduate Studies, students may also choose up to two additional 500 level courses from the list below to include in their program of study.

COM 525	ORGANIZATIONAL COMMUNICATION	(3)
COM 555	CYBERSPACE AND COMMUNICATION (SAME AS TEL 555)	(3)
COM 571	HEALTH COMMUNICATION	(3)
COM 581	STUDIES IN SMALL GROUP COMMUNICATION CONTEXTS	(3)
COM 584	TEACHING OF SPEECH COMMUNICATION	(3)
COM 591	SPECIAL TOPICS IN COMMUNICATION (SUBTITLE REQUIRED)	(1)
ISC 541	CRITICAL TOPICS IN INTEGRATED STRATEGIC COMMUNICATION (SUBTITLE REQUIRED)	(3)
ISC 543	REGULATION OF STRATEGIC COMMUNICATION	(3)
JOU 531	MEDIA LAW AND ETHICS	(3)
JOU 532	ETHICS OF JOURNALISM AND MASS COMMUNICATION	(3)
JOU 535	HISTORY OF JOURNALISM	(3)
TEL 504	MEDIA ORGANIZATIONS	(3)
TEL 510	MEDIA ECONOMICS	(3)
TEL 520	SOCIAL EFFECTS OF THE MASS MEDIA	(3)
TEL 525	THEORY OF MULTIMEDIA	(3)
TEL 530	PRO-SEMINAR IN TELECOMMUNICATIONS	(3)

TEL 555	CYBERSPACE AND COMMUNICATION (SAME AS COM 555)	(3)
TEL 590	ADVANCED TELECOMMUNICATIONS TOPICAL SEMINAR (SUBTITLE REQUIRED)	(3)

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## COMMUNICATION DISORDERS

The Division of Communication Disorders at the University of Kentucky offers a two-year master's degree program in speech-language pathology. The Program is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. Students who complete the program will typically meet the academic and clinical training requirements for the American Speech-Language-Hearing Association's (ASHA) Certificate of Clinical Competence in Speech-Language Pathology and for licensure in Kentucky and in most states with licensure requirements. Students seeking to fulfill ASHA certification requirements and those desiring certification for school employment should consult the Director of Graduate Studies.

The length of a student's program depends upon the certification options selected, the student's educational background, and the number of credits completed each semester. Students with an undergraduate major in communication disorders will typically complete the program in two years of full-time study. Students entering without an undergraduate major in communication disorders will need three years of course work including prerequisite courses to complete the program. Additional information regarding prerequisite coursework is available from the Director of Graduate Studies.

During the first full year of the graduate program, students typically complete course work and clinical practicum at the UK Communications Disorders Clinic. During the second year, students may be assigned to clinical externship rotations in a variety of clinical settings, including the Lexington Veterans' Affairs Medical Center, agencies providing services to children (e.g., public schools, preschools, clinics), and agencies in one of Kentucky's Area Health Education Centers (AHECs). Successful completion of a comprehensive examination or thesis is required for all degree candidates.

### Admission Requirements

Students who are admitted to the Program typically have at least a 3.0 undergraduate GPA. To be considered for admission, students must also submit Graduate Record Examination scores (verbal, quantitative and analytical). *Note: Admission to this program is for the second summer session only for students with an undergraduate degree in communication disorders.* Students without an undergraduate degree in communication disorders start their graduate program in the fall

semester. Admission deadline for domestic applicants is February 1. Admission deadline for international applicants is October 31 prior to the summer term applied for.

### **Degree Requirements**

The graduate curriculum for the M.S. in Communication Disorders is a 30 credit hour degree. Students select 30 hours from the following list of courses in Communication Disorders:

CD 621	Alternative & Augmentative Communication	(3)
CD 647	Lang. Disorders in Dev. Young Individuals	(3)
CD 648	Lang. Disorders in School-Age Populations	(3)
CD 661	Phonological Development & Disorders	(3)
CD 670	Voice Disorders	(3)
CD 674	Disorders of Fluency	(3)
CD 677	Aphasia & Related Disorders	(3)
CD 701	Research Methods in Communication Disorders	(3)
CD 710	Cognitive Communication Disorders	(3)
CD 744	Adult Swallowing and Motor Speech Disorders	(3)
CD 745	Pediatric Swallowing and Motor Speech Disorders	(3)
CD 748	Master's Thesis Research (Optional)	(0)
CD 768	Residence Credit for the Master's Degree (Optional)	(6)

The curriculum offers 33 hours of didactic courses (from which a student may select 30 hours).

If a student wishes to receive the M.S. degree and also wishes to fulfill the American-Speech-Language-Hearing Association certification requirements, the student will be required to complete:

- 33 semester hours of didactic coursework in Communication Disorders
- 3 semester hours of clinical orientation (CD 654)
- 2 semester hours of clinical practicum supervised by UK CD Faculty (CD 657)
- 1 semester hour of a graduate level elective
- 21-30 semester hours of clinical rotations (CD 659)
- A thesis option or pass comprehensive examinations

For additional information, contact:

Director of Graduate Studies  
Division of Communication Disorders  
University of Kentucky  
900 South Limestone Street  
Lexington, KY 40504-0200



## GRADUATE COURSES

CD 520	INTRODUCTION TO MANUAL COMMUNICATION	(2)
CD 521	NON-SPEECH COMMUNICATION	(3)
CD 571	NEURAL BASES OF SPEECH, LANGUAGE, AND HEARING	(3)
CD 591	AURAL REHABILITATION	(3)
CD 610	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS CLS/PT/RAS 610)	(1)
CD 621	ALTERNATIVE AND AUGMENTATIVE COMMUNICATION	(3)
CD 647	LANGUAGE DISORDERS IN DEVELOPMENTALLY YOUNG INDIVIDUALS	(3)
CD 648	LANGUAGE DISORDERS IN SCHOOL-AGE POPULATIONS	(3)
CD 654	CLINICAL ORIENTATION IN COMMUNICATION DISORDERS	(3)
CD 655	ADVANCED DIAGNOSTIC PROCEDURES IN SPEECH-LANGUAGE PATHOLOGY	(3)
CD 657	CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY	(1-3)
CD 659	CLINICAL ROTATION IN SPEECH-LANGUAGE PATHOLOGY	(3-6)
CD 670	VOICE DISORDERS	(3)
CD 671	APPLIED PHONOLOGY: DEVELOPMENT AND DISORDERS	(3)
CD 674	DISORDERS OF FLUENCY (3)	(3)
CD 701	RESEARCH METHODOLOGY IN COMMUNICATION DISORDERS	(3)
CD 706	ADVANCED AUDIOLOGICAL ISSUES IN PEDIATRICS	(3)
CD 708	ADVANCED AUDIOLOGICAL ISSUES IN GERIATRICS	(3)
CD 744	ADULT SWALLOWING AND MOTOR SPEECH DISORDERS	(3)
CD 745	PEDIATRIC SWALLOWING AND MOTOR SPEECH DISORDERS	(3)
CD 747	SEMINAR IN LANGUAGE DEVELOPMENT IN CHILDREN	(3)
CD 748	MASTER'S THESIS RESEARCH	(0)
CD 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
CD 772	ADVANCED SEMINAR IN APHASIA	(3)
CD 773	SEMINAR IN MOTOR SPEECH DISORDERS	(3)
CD 774	SEMINAR IN ADULT SPEECH AND LANGUAGE	(3)
CD 775	SEMINAR IN LITERATE LANGUAGE	(3)
CD 789	INDEPENDENT STUDY IN COMMUNICATION DISORDERS	(1-6)

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## COMPUTER SCIENCE

The Department of Computer Science offers programs of study leading to the Master of Science in Computer Science and Doctor of Philosophy degrees. Admission to these programs is highly competitive and based upon academic record, GRE scores, and letters of recommendation. It is strongly suggested that applicants present evidence of mathematical maturity as well as competence in computer science. Full details of the requirements for degree programs are available from the department upon request.

Since very few specific courses are required for the graduate degree programs, all candidates in the M.S. program are expected to demonstrate proficiency in the fundamental areas of

computer science by taking four core courses in specific areas. Participation in departmental seminars is also required.

Both thesis (Plan A) and non-thesis (Plan B) options are available in the program leading to the Master of Science degree. A project is required of non-thesis candidates. No language requirement (other than proficiency in English) is mandated. The doctoral program in Computer Science is a research degree granted primarily on the demonstration of substantial research achievement. To be admitted to candidacy for this degree, candidates must satisfy the requirements of the Graduate School and pass the qualifying examination. This examination consists of written and oral sections covering breadth in computer science as well as depth in a specific area.

Areas of research actively pursued by faculty and students within the department include: artificial intelligence, numerical methods, operating systems, distributed computing and networking, theory of computation, data base technology, design and analysis of algorithms, cryptography, graphics and vision, parallel processing, and software engineering. Courses in these and other areas are available to permit students to complete studies of sufficient breadth and depth prior to engaging in independent research.

### **Admission Requirements**

The admission decision is made by the High Degree Committee based on the overall application file consisting of GRE scores, TOEFL scores (for international students), GPA, grades in CS and Math courses, background in computer science, letters of recommendation, and statement of purpose.

Students admitted to the doctoral program in Computer Science who have already been awarded a master's degree in Computer Science from another institution are not eligible to receive a master's degree in Computer Science from the University of Kentucky. Exceptions to this policy must be approved by the Dean of the Graduate School upon petition by the Director of Graduate Studies.

### **GRADUATE COURSES**

CS 405G	INTRODUCTION TO DATABASE SYSTEMS	(3)
CS 415G	GRAPH THEORY (SAME AS MA 415G)	(3)
CS 416G	PRINCIPLES OF OPERATIONS RESEARCH I (SAME AS MA 416G)	(3)
CS 441G	COMPILERS FOR ALGORITHMIC LANGUAGES	(3)
CS 450G	FUNDAMENTALS OF PROGRAMMING LANGUAGES	(3)
CS 463G	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	(3)
CS 470G	INTRODUCTION TO OPERATING SYSTEMS	(3)
CS 471G	NETWORKING AND DISTRIBUTED OPERATING SYSTEMS	(3)

CS 485G	TOPICS IN COMPUTER SCIENCE (SUBTITLE REQUIRED)	(2-4)
CS 505	INTERMEDIATE TOPICS IN DATABASE SYSTEMS	(3)
CS 515	ALGORITHM DESIGN	(3)
CS 521	COMPUTATIONAL SCIENCES	(3)
CS 522	MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA I (SAME AS MA 522)	(3)
CS 535	INTERMEDIATE COMPUTER GRAPHICS	(3)
CS 536	SITUATED COMPUTING	(3)
CS 537	NUMERICAL ANALYSIS (SAME AS MA/EGR 537)	(3)
CS 541	COMPILER DESIGN	(3)
CS 555	DECLARATIVE PROGRAMMING	(3)
CS 570	MODERN OPERATING SYSTEMS	(3)
CS 571	COMPUTER NETWORKS	(3)
CS 575	MODELS OF COMPUTATION	(3)
CS 585	INTERMEDIATE TOPICS IN COMPUTER SCIENCE (SUBTITLE REQUIRED)	(3)
CS 587	MICROCOMPUTER SYSTEMS DESIGN (SAME AS EE 587)	(3)
CS 610	MASTER'S PROJECT	(3)
CS 611	RESEARCH IN COMPUTER SCIENCE	(3)
CS 612	INDEPENDENT WORK IN COMPUTER SCIENCE	(1-3)
CS 616	SOFTWARE ENGINEERING	(3)
CS 621	PARALLEL AND DISTRIBUTED COMPUTING	(3)
CS 622	MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA II (SAME AS MA 622)	(3)
CS 623	PARALLEL ITERATIVE COMPUTING	(3)
CS 630	FREE-FORM SOLID MODELING	(3)
CS 631	COMPUTER-AIDED GEOMETRIC DESIGN	(3)
CS 633	3D COMPUTER ANIMATION	(3)
CS 634	MULTIMEDIA SYSTEMS	(3)
CS 635	IMAGE PROCESSING (SAME AS EE 635)	(3)
CS 636	COMPUTER VISION	(3)
CS 637	EXPLORING VIRTUAL WORLDS	(3)
CS 642	DISCRETE EVENT SYSTEMS (SAME AS EE 642)	(3)
CS 655	PROGRAMMING LANGUAGES	(3)
CS 660	TOPICS IN ARTIFICIAL INTELLIGENCE (SUBTITLE REQUIRED)	(3)
CS 663	ARTIFICIAL INTELLIGENCE	(3)
CS 670	DISTRIBUTED OPERATING SYSTEM THEORY	(3)
CS 671	ADVANCED COMPUTER NETWORKS	(3)
CS 673	ERROR CORRECTING CODES	(3)
CS 674	HEURISTIC ALGORITHMS	(3)
CS 675	COMPUTABILITY AND COMPLEXITY	(3)
CS 676	PARALLEL ALGORITHMS	(3)

CS 677	COMPUTATIONAL GEOMETRY	(3)
CS 678	CRYPTOGRAPHY	(3)
CS 680	SEMINAR IN COMPUTER SCIENCE	(2)
CS 682	SWITCHING THEORY	(3)
CS 683	FINITE-STATE MACHINES	(3)
CS 684	SPECIAL TOPICS IN VISION, GRAPHICS AND MULTIMEDIA (SUBTITLE REQUIRED)	(3)
CS 685	SPECIAL TOPICS IN COMPUTER SCIENCE (SUBTITLE REQUIRED)	(3)
CS 686	SPECIAL TOPICS IN THE THEORY OF COMPUTATION (SUBTITLE REQUIRED)	(3)
CS 687	SPECIAL TOPICS IN SYSTEMS	(3)
CS 688	NEURAL NETWORKS (SAME AS EE 688)	(3)
CS 689	SPECIAL TOPICS IN NUMERICAL AND SCIENTIFIC COMPUTATION (SUBTITLE REQUIRED)	(3)
CS 690	OPERATING SYSTEMS THEORY	(3)
CS 748	MASTER'S THESIS RESEARCH	(0)
CS 749	DISSERTATION RESEARCH	(0)
CS 767	DISSERTATION RESIDENCY CREDIT	(2)
CS 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
CS 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)

## CROP SCIENCE

The interdepartmental graduate program in Crop Science offers graduate work leading to the Master of Science and Doctor of Philosophy degrees with areas in plant breeding and genetics, crop physiology and management, turf science, cellular and molecular genetics, seed science and technology, and weed science. Faculty are from the Departments of Forestry, Horticulture, and Plant and Soil Science in the College of Agriculture.

### **Admission Requirements**

All students with strong training in science, including but not limited to baccalaureate degrees in biology, chemistry, agronomy and horticulture are encouraged to apply. An undergraduate grade point average of at least 3.0 is generally required, and all applicants must take the Graduate Record Examination. Foreign students should submit scores from the Test of English as a Foreign Language. Official copies of transcripts, GRE scores, and TOEFL scores should be sent directly to the Graduate School. To be considered for departmental research assistantships, which are awarded on a competitive basis, three letters of recommendation should be sent to the Director of Graduate Studies.

In order that all entering Ph.D. students are at an academic level to successfully complete course requirements, the following courses or their equivalent should have been completed prior to admission:

- MA 113 First semester course in Calculus
- PHY 201 First semester course in Physics
- CHE 230 First semester course in Organic Chemistry

Students are expected to make up deficiencies in these courses within one year of enrollment.

### **Degree Requirements**

For the M.S. degree, 24 hours of course work plus an acceptable thesis are required (Plan A). Work leading to advanced degrees must conform to the general rules and regulations of the Graduate School. Crop Science faculty also participate in the interdepartmental Plant and Soil Science graduate program which offers programs of study leading to the Master of Science degree.

Individual programs are developed to include a strong course work component and a meaningful research experience. A strong undergraduate background in the agricultural and biological sciences is required for all degree candidates.

### **GRADUATE COURSES**

PLS 450G	BIOCHEMISTRY	(3)
PLS 468G	SOIL USE AND MANAGEMENT	(3)
PLS 470G	SOIL NUTRIENT MANAGEMENT	(3)
PLS 477G	LAND TREATMENT OF WASTE	(3)
PLS 502	ECOLOGY OF ECONOMIC PLANTS	(3)
PLS 510	FORAGE MANAGEMENT AND UTILIZATION	(3)
PLS 514	GRASS TAXONOMY AND IDENTIFICATION	(3)
PLS 515	TURF MANAGEMENT	(3)
PLS 520	FRUIT AND VEGETABLE PRODUCTION	(3)
PLS 525	GREENHOUSE FLORAL CROP MANAGEMENT	(3)
PLS 531	FIELD SCHOOLS IN CROP PEST MANAGEMENT	(2)
PLS 547	SEED BIOLOGY	(3)
PLS 556	SEED PRODUCTION AND TECHNOLOGY	(3)
PLS 597	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTITLE REQUIRED)	(1-3)
PLS 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS	(1)
PLS 602	PRINCIPLES OF YIELD PHYSIOLOGY	(3)
PLS 609	PLANT BIOCHEMISTRY	(3)
PLS 619	CYTOGENETICS	(4)
PLS 620	PLANT MOLECULAR BIOLOGY	(3)
PLS 622	PHYSIOLOGY OF PLANTS I	(3)
PLS 623	PHYSIOLOGY OF PLANTS II	(3)
PLS 650	SOIL-PLANT RELATIONSHIPS	(3)

PLS 657	SEED BIOLOGY	(3)
PLS 658	ADVANCED WEED SCIENCE	(4)
PLS 664	PLANT BREEDING	(3)
PLS 671	SOIL CHEMISTRY	(4)
PLS 676	QUANTITATIVE INHERITANCE IN PLANT POPULATIONS	(3)
PLS 697	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTITLE REQUIRED)	(1-3)
PLS 712	ADVANCED SOIL FERTILITY	(3)
PLS 748	MASTER'S THESIS RESEARCH	(0)
PLS 749	DISSERTATION RESEARCH	(0)
PLS 767	DISSERTATION RESIDENCY CREDIT	(2)
PLS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PLS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PLS 772	PLANT AND SOIL SCIENCE SEMINAR	(1)
PLS 799	RESEARCH IN PLANT AND SOIL SCIENCE	(1-4)

## CURRICULUM AND INSTRUCTION

The Department of Curriculum and Instruction offers a wide range of graduate programs leading to the Master of Arts in Education, Master of Science in Education (Plan A or Plan B available), and Doctor of Education degrees. These programs are designed to prepare specialists for a variety of roles in curriculum and instruction including teaching, supervising, and coordinating subject matter areas at the elementary, middle school, senior high, and junior college levels. The doctoral programs prepare leaders for public schools, universities, and other educational agencies. Specialization is available in several graduate areas.

### Doctor of Education

In cooperation with the Department of Administration and Supervision, the department offers a program leading to the Doctor of Education (Ed.D.) degree in Instruction and Administration. Coursework for the Ed.D. in Instruction and Administration, Curriculum and Instruction option, will consist of a minimum of 42 graduate credits beyond the master's degree planned by the major professor and advisory committee based on the student's background, needs and goals. All course work plans will include work in the following:

- a. Curriculum and Instruction,
- b. Support work in education,
- c. Research tool courses (minimum of 9 semester hours required), and
- d. Support work outside of education.

## **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements include a statement of professional goals, an autobiographical sketch, professional writing samples, and four letters of professional reference. Interviews are frequently requested. For more information about the program, consult the Director of Graduate Studies.

### **Master of Arts in Education (Elementary Education Option)**

For a Master of Arts in Education, a minimum of 30 credit hours is required including 18 credit hours of professional education and 12 credit hours outside the College of Education related to the student's teaching certificate content area. Consult the Director of Graduate Studies for specific recommendations within this broad framework. The program qualifies teachers for a Rank II Certificate.

## **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements for admission include initial teacher certification in elementary education and three letters of professional reference.

### **Master of Arts in Education and Master of Science in Education (Middle Grades Education)**

The Master of Arts in Education/Master of Science in Education degree in Middle School Education is a 30-hour program leading to Rank II certification in Middle School. Students complete a minimum of 12 hours in the department, 6 hours in other areas of education, and 12 hours outside the college in an area appropriate to the teaching specialization. Students completing this subject-area course work in mathematics or science are eligible for the Master of Science in Education degree. Consult the Director of Graduate Studies for more detailed information regarding this program.

## **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements for admission include initial teacher certification in middle grades education and three letters of professional reference.

### **Master of Arts in Education (Advanced Certification in Secondary Education Option)**

For a Master of Arts in Education, a minimum of 30 credit hours are required including 18 credit hours of professional education and 12 credit hours outside the College of Education related to the student's content teaching certificate area. Consult the Director of Graduate Studies for specific recommendations within this broad framework. The program qualifies

teachers for a Rank II teaching certificate. Students completing subject area course work in mathematics or science are eligible for the Master of Science in Education degree. Consult the Director of Graduate Studies for more detailed information regarding this program.

### **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements for admission include initial teacher certification in secondary education and three letters of professional reference.

#### **Master of Arts in Education (Initial Certification Option - Secondary Education)**

This program is designed for students with a completed bachelor's degree in a content field. If it is a University of Kentucky degree, the degree must be in one of the following areas: business (or related field with a business minor), english, a foreign language, history, mathematics, a science, a social science, or in secondary education. Students having a bachelor's degree listed above from another institution are also eligible. Students not having a degree in one of the above areas may be required to complete additional course work. A departmental requirement is recommendation to a Teacher Education Program. That process involves compliance with admission requirements of the Kentucky Education Professional Standards Board.

Students meet state initial certification requirements while completing degree requirements. A minimum of 6 semester hours of graduate work must be completed outside the College of Education in the teaching specialty area. Dependent upon the student's background, one may need to complete undergraduate deficiencies to meet degree and certification requirements. Consult the Director of Graduate Studies for specific information regarding degree requirements.

#### **Master of Science in Education (Instructional Systems Design Option)**

The Instructional Systems Design area offers a 36-hour program designed for individuals who wish to develop their knowledge and skills in planning and designing instruction. Persons choosing this area are frequently preparing for instructional systems design responsibilities in business and industry, government, education, and various training organizations.

This program does not require or lead to initial teacher certification. However, previously certified teachers can use the program to advance the rank of their teaching certificates. Both a thesis option (Plan A, requiring 30 hours of course work and 6 hours of thesis credit) and a non-thesis option (Plan B, requiring 36 hours of course work) are offered. All students are required to complete an 18-hour common core including nine semester hours in the Department of Curriculum and Instruction. At least 6 hours must be taken outside the College of Education. An additional 12 credit hours of electives are required for the non-thesis option. The thesis



option includes 6 credit hours of electives and 6 credit hours of thesis credit. Specific programs are planned with a faculty advisor subject to the approval of the Director of Graduate Studies.

### **Admission Requirements**

For applicants who are not seeking advanced rank teaching certifications, in addition to the admission requirements set by the Graduate School, there is a departmental requirement of three references. For applicants who will pursue advanced teaching certificates, departmental requirements include initial teacher certification and three letters of professional reference.

### **Master of Arts in Education (Reading)**

Candidates for a Master of Arts in Education with Reading as an area of concentration must meet the specifications for a Master of Arts in Education, Plan B. The curriculum includes a minimum of 33 credit hours according to the following distribution:

- a. A minimum of 18 credit hours in graduate level reading courses to include EDC 619, EDC 620, EDC 642, or EDC 641. An additional 6 credit hours are selected with the approval of an advisor.
- b. Six to nine credit hours in the College of Education, selected to extend the humanistic, behavioral, multi-cultural and research components of the program, based on the student's educational background, with advisor approval.
- c. Six to nine semester hours credit selected from appropriate support areas outside the College of Education, with advisor approval.

Completion of the Master of Arts in Education with Reading as an area of concentration will fulfill the academic requirements for certification as a reading specialist.

### **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements for admission include initial teacher certification, a minimum of three years of successful classroom teaching, and three letters of professional reference. A minimum of three years of successful classroom teaching is an additional requirement for this certification.

### **GRADUATE COURSES**

EDC 501	TEACHING INTERNSHIP	(1-12)
EDC 513	TEACHING ENGLISH AS A SECOND LANGUAGE (SAME AS ENG/LIN 513)	(3)
EDC 514	TESL MATERIALS AND METHODS (SAME AS ENG/LIN 514)	(3)
EDC 534	READING AND STUDY SKILLS IN ENGLISH	(3)

EDC 543	VIDEO FOR DISTANCE EDUCATION AND MULTIMEDIA	(3)
EDC 544	USE AND INTEGRATION OF INSTRUCTIONAL MEDIA	(3)
EDC 547	INSTRUCTIONAL COMPUTING I	(3)
EDC 548	INSTRUCTIONAL COMPUTING II	(3)
EDC 550	EDUCATION IN A CULTURALLY DIVERSE SOCIETY	(3)
EDC 554	CULTURE, EDUCATION AND TEACHING ABROAD (SAME AS EPE 554)	(3)
EDC 565	MODERN EDUCATIONAL PROBLEMS (GENERAL CURRICULUM)	(3)
EDC 575	MODERN EDUCATIONAL PROBLEMS (UNCLASSIFIED)	(3)
EDC 576	MODERN EDUCATIONAL PROBLEMS (UNCLASSIFIED)	(3)
EDC 580	INTRODUCTION TO GIFTED EDUCATION (SAME AS EDP 580)	(3)
EDC 602	CURRICULA AND PROGRAMMING FOR THE GIFTED	(3)
EDC 605	DISTANCE LEARNING RESEARCH AND DESIGN	(3)
EDC 607	INSTRUCTIONAL DESIGN I	(3)
EDC 608	INSTRUCTIONAL DESIGN II	(3)
EDC 609	INTERACTIVE MULTIMEDIA RESEARCH AND DESIGN	(3)
EDC 610	DISCIPLINE AND CLASSROOM MANAGEMENT	(3)
EDC 611	AUTHORING APPLICATIONS FOR TECHNOLOGY-BASED INSTRUCTION	(3)
EDC 612	INSTRUCTIONAL DESIGN AND TECHNOLOGY FOUNDATIONS	(3)
EDC 615	ADVANCED INSTRUCTIONAL APPLICATIONS FOR THE EARLY ADOLESCENT LEARNER	(3)
EDC 616	THE MIDDLE SCHOOL	(3)
EDC 618	ADVANCED STUDY IN THE TEACHING OF READING	(3)
EDC 619	ASSESSMENT OF READING GROWTH AND DEVELOPMENT	(3)
EDC 620	DESIGN AND IMPLEMENTATION OF READING INSTRUCTION	(3)
EDC 621	LINGUISTIC AND COGNITIVE FOUNDATIONS OF READING IN EARLY CHILDHOOD	(3)
EDC 631	MATHEMATICS PEDAGOGY IN THE SECONDARY SCHOOL	(0-3)
EDC 632	SOCIAL STUDIES PEDAGOGY IN THE SECONDARY SCHOOL	(0-3)
EDC 633	BUSINESS PEDAGOGY IN THE SECONDARY SCHOOL	(0-3)
EDC 634	SCIENCE PEDAGOGY IN THE SECONDARY SCHOOL	(0-3)
EDC 635	ENGLISH PEDAGOGY IN THE SECONDARY SCHOOL	(0-3)
EDC 636	METHODS OF TEACHING FOREIGN LANGUAGE, K-12	(3)
EDC 641	RESEARCH AND THEORY IN TEACHING READING IN THE ELEMENTARY SCHOOL	(3)
EDC 642	RESEARCH AND THEORY IN TEACHING LANGUAGE ARTS	(3)
EDC 670	ADVANCED STUDY IN THE TEACHING OF ELEMENTARY SCHOOL MATHEMATICS	(3)
EDC 676	PRACTICUM IN GIFTED EDUCATION (SAME AS EDP 676)	(3)
EDC 701	THE HISTORY OF MATHEMATICS EDUCATION	(3)
EDC 702	THEORETICAL FOUNDATIONS OF MATHEMATICS EDUCATION	(3)
EDC 703	ADVANCED RESEARCH IN MATHEMATICS EDUCATION	(3)
EDC 709	SOCIAL DESIGN OF INTERACTIVE SYSTEMS	(3)

EDC 710	ADVANCED TOPICS IN INSTRUCTIONAL DESIGN	(3)
EDC 712	THE ELEMENTARY SCHOOL	(3)
EDC 714	THE SECONDARY SCHOOL	(3)
EDC 726	CURRICULUM INQUIRY MIXED METHODS FOR RESEARCH	(3)
EDC 724	GUIDING AND ANALYZING EFFECTIVE TEACHING	(3)
EDC 730	PROBLEMS OF THE SCHOOL CURRICULUM	(3)
EDC 732	PRINCIPLES OF CURRICULUM CONSTRUCTION	(3)
EDC 740	PRACTICUM IN TEACHING READING AND RELATED LANGUAGE ARTS	(3)
EDC 746	SUBJECT AREA INSTRUCTION IN THE SECONDARY SCHOOL	(0-9)
EDC 748	MASTER'S THESIS RESEARCH	(0)
EDC 749	DISSERTATION RESEARCH	(0)
EDC 750	INTERNSHIP IN INSTRUCTIONAL SYSTEMS DESIGN	(3)
EDC 755	INSTRUCTIONAL SYSTEMS DESIGN RESEARCH COLLOQUIUM	(1)
EDC 767	DISSERTATION RESIDENCY CREDIT	(2)
EDC 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
EDC 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
EDC 777	SEMINAR IN CURRICULUM AND INSTRUCTION (SUBTITLE REQUIRED)	(1-3)
EDC 781	INDEPENDENT STUDY IN CURRICULUM AND INSTRUCTION	(1-3)
EDC 791	RESEARCH PROBLEMS IN CURRICULUM AND INSTRUCTION	(1-3)

## DENTISTRY

The goal of the Master of Science degree program is to produce graduates who are clinically adept, well-grounded in research and the biological basis of dentistry and prepared to function at a high level of accomplishment in clinical practice and academic dentistry. The program is interdisciplinary. Faculty members are drawn from the College of Dentistry clinical and graduate faculty, and from departments throughout the University of Kentucky.

Only students of high academic standing will be accepted into this program, which requires didactic, clinical, and research training. All of these elements are integrated throughout the program. All students receive teaching experience in anticipation of full- or part-time academic involvement after graduation.

### **Admissions Requirements**

Students pursuing specialty training in Orthodontics, Periodontology, Oro-facial Pain or Pediatric Dentistry or the Pre-doctoral D.M.D./M.S. Research Program in general dentistry are eligible for the Master of Science (M.S.) degree. Successful completion of the M.S. degree is prerequisite to awarding of a specialty certificate (Orthodontics, Periodontology or Oro-facial Pain tracks) or D.M.D. degree (Pre-doctoral D.M.D./M.S. Research Program).

Applicants to the specialty tracks (Periodontology, Orthodontics, Oro-facial Pain or Pediatric Dentistry) must have a D.M.D./D.D.S. degree from an accredited United States or Canadian dental school or equivalent. Applicants to the Pre-doctoral D.M.D./M.S. Research Program must be in good academic standing in the University of Kentucky, College of Dentistry. Admission to the Master of Science Program is based on high academic performance in dental school, professional recommendations and a personal interview. Applicants must submit official scores to the specific program of interest for one of the following tests: the Dental Admission Test (DAT), the Graduate Record Exam (GRE), Part I of the National Dental Board, or Part II of the National Dental Board. To determine which of these tests is recommended for your specific track, please consult the student handbook or web site for that specific program. Applicants who are not native English speakers must score at least 550 (paper,) 213 (computer) or 79 (internet) on the Test of English as a Foreign Language (TOEFL).

### **Degree Requirements**

Both Plan A (thesis option) and Plan B (non-thesis option) are currently available to students enrolled in the Master of Science degree program. Requirements for the Master of Science degree are: 1) satisfactory completion of program requirements; 2) 24 hours graduate credit (Plan A Thesis option) or 30 hours graduate credit (Plan B Non-thesis option), at least 12 (Plan A) or 15 (Plan B) hours of which must be from a core curriculum; 3) submission of an acceptable thesis based on an individual research project (Plan A) or submission of the results from the individual research project to a peer-reviewed journal (Plan B); and 4) passage of a comprehensive oral examination and thesis defense (Plan A) or passage of a comprehensive oral examination (Plan B). Foreign language credit is not a requirement.

## **GRADUATE COURSES**

### **Orthodontics**

#### **Core Curriculum**

CDS 611	Child Growth and Development, Part 1	(2)
OBI 650	Oral Biology for Postgraduate Students I	(2)
OBI 651	Oral Biology for Postgraduate Students II	(2)
CPH 605	Introduction to Epidemiology	(3)
CDS 660	Research Design, Methodology and Dissemination	(2)
CDS 670	Advances in Oral and Maxillofacial Pathology	(1)
CDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)
<b>TOTAL</b>		<b>(15)</b>

### Additional Courses

OSG 651	Anatomic Relationships in Surgery	(1)
CDS 612	Child Growth and Development, Part II	(2)
ORT 610	Craniofacial Form	(2)
ORT 620	Oral Pharyngeal Function, Part I	(2)
ORT 621	Oral Pharyngeal Function, Part II	(2)
ORT 660	Orthodontic Diagnosis	(2)
ORT 661	Orthodontic Seminar-Clinic	(3)
ORT 662	Orthodontic Technique	(2)
ORT 664	Biomechanics	(2)
ORT 710	Management of Complex Orofacial Deformities	(1)
ORT 770	Orthodontics Seminar	(1)
ORT 790	Research in Orthodontics	(1-5)
PER 776	Periodontics Therapy Seminar	(1)
<b>TOTAL</b>		<b>(22-27)</b>
●ORT 748	Master's Thesis Research	(0)
●ORT 768	Residence Credit for Master's Degree	(1-6)

### Periodontology

#### Core Curriculum

OBI 650	Oral Biology for Postgraduate Students I	(2)
OBI 651	Oral Biology for Postgraduate Students II	(2)
OPT 650	Oral Pathology I	(2)
OPT 651	Oral Pathology II	(2)
CPH 605	Introduction to Epidemiology	(3)
CDS 660	Research Design, Methodology and Dissemination	(2)
CDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)
<b>TOTAL</b>		<b>(16)</b>

#### Additional Courses

PER 661	Modern Concepts in Periodontics (3 semesters)	(6)
PER 770	Treatment Planning Seminar (3 semesters)	(6)
PER 772	Periodontal Biology and Pathology (3 semesters)	(6)
PER 774	Periodontics Surgical Seminar (3 semesters)	(3)
PER 776	Periodontics Therapy Seminar (3 semesters)	(3)

PER 790	Research in Periodontics	(1-3)
<b>TOTAL</b>		<b>(25-27)</b>
●PER 748	Master's Thesis Research	(0)
●PER 768	Residence Credit for Master's Degree	(1-6)

### Orofacial Pain

#### Core Curriculum

OBI 650	Oral Biology for Postgraduate Students I	(2)
OBI 651	Oral Biology for Postgraduate Students II	(2)
CPH 605	Introduction to Epidemiology	(3)
CDS 660	Research Design, Methodology and Dissemination	(2)
CDS 670	Advances in Oral and Maxillofacial Pathology	(1)
CDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)
OFP 636	Clinical Management of Orofacial Pain	(3)
<b>TOTAL</b>		<b>(16)</b>

#### Additional Courses

OFP 634	Current Concepts in Temporomandibular Disorders	(3)
OFP 636	Clinical Management of Temporomandibular Disorders	(3)
OFP 700	Orofacial Pain Treatment Planning Seminar	(2)
OFP 734	Current Concepts in Orofacial Pain	(3)
OFP 736	Clinical Management of Orofacial Pain	(3)
OFP 790	Research in Orofacial Pain	(1-6)
<b>TOTAL</b>		<b>(15-20)</b>
●OFP 748	Master's Thesis Research	(0)
●OFP 768	Residence Credit for Master's Degree	(1-6)

### Pediatric Dentistry

#### Core Curriculum

CDS 611	Growth and Development	(2)
OBI 650	Oral Biology for Postgraduate Students I	(2)
OBI 651	Oral Biology for Postgraduate Students II	(2)
CPH 605	Introduction to Epidemiology	(3)
CDS 660	Research Design, Methodology and Dissemination	(2)
CDS 670	Advances in Oral and Maxillofacial Pathology	(1)

CDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)
<b>TOTAL</b>		<b>(15)</b>

### Additional Courses

ORT 610	Craniofacial Form	(2)
ORT 660	Orthodontic Diagnosis	(2)
PDO 610	Pediatric Dentistry Seminar I	(2)
PDO 790	Research in Pediatric Dentistry	(1- 6)
PDO 620	Pediatric Dentistry Seminar II	(2)
PDO 630	Pediatric Dentistry Seminar III	(2)
PDO 640	Pediatric Dentistry Seminar IV	
ORT 710	Management of Complex Orofacial Deformities	(2)
<b>TOTAL</b>		<b>(15-17+)</b>
●PDO 748	Master's Thesis Credit	(0)
●PDO 768	Residence Credit for Master's Degree	(1-6)

●These courses will not be offered under the plan B option.

### **D.M.D./M.S. RESEARCH PROGRAM**

Students interested in this special track should contact the College of Dentistry Director of Graduate Studies for the specific curricular offerings.

### **DIPLOMACY AND INTERNATIONAL COMMERCE**

The Patterson School of Diplomacy and International Commerce offers an interdisciplinary master's degree and serves in an advisory capacity with respect to the Ph.D. programs in international studies within the several departments historically associated with the Patterson School. These include most of the social science departments in the College of Arts and Sciences (especially History and Political Science), and most of the departments in the College of Business and Economics (especially Economics, Finance, Management, and Marketing), plus a few others elsewhere on campus such as Agricultural (Development) Economics, and Communications.

The M.A. degree program can be tailored with considerable flexibility to meet the career needs of any particular student. This program is designed for the student desiring a career in any of the non-academic fields in foreign affairs, especially service with governmental agencies such as the U.S. Departments of State, Treasury, or Commerce, and in the intelligence community. The

Patterson M.A. is also excellent preparation for careers in international organizations (such as the United Nations or the World Bank) or non-governmental organizations (such as Amnesty International) or multinational corporations involved in global commerce and banking. To serve the professional focus of the Patterson School the faculty is a mixture of both traditional academics and foreign-affairs professionals who spent years in government service prior to starting their teaching careers.

The Patterson M.A. degree requires 30 hours, total, normally 10 courses. Students are required to take an introductory course, DIP 777, a methodology course in statistics at the graduate level, and at least five courses in their major concentration and three in their minor. Concentrations include Diplomacy, National Security, Intelligence, Commerce, International Organizations, and International Development.

The M.A. candidate is encouraged to take courses outside the offerings of the Patterson School. Courses acceptable to the program include those dealing with interstate and cultural relations, foreign policy, national and regional development processes, international economics, and others related to the student's career goals as approved by the School. Course work may be concentrated in a specific geographical area such as Latin America, Asia, or Europe, or more broadly focused in functional aspects of international affairs.

Most students will need three semesters to complete the 30 minimum hours for the M.A. degree. However, some students elect to remain four semesters in order to obtain more breadth and/or depth in their desired fields of professional preparation. Entering students are expected to have a strong background in at least one foreign language but many students undertake additional language study although this study does not earn credit for the M.A. Students are strongly encouraged to serve a career-related internship obtained with the Patterson School's assistance. This internship will typically be scheduled in the summer between the first and second academic years in residence.

The student must pass a written and an oral examination covering work in three subfields of study, with these subfields to be defined for the student in consultation with the Patterson School's Director of Graduate Studies.

The M.A. degree offered by the Patterson School matches up well with other graduate and professional programs, such as law and business for those students who might desire extended postgraduate career preparation. Interested students should also consider the University's concurrent degree program in which students pursue two overlapping degrees. The Patterson School currently maintains concurrent degree programs in Law, Business, Economics, and German. The Patterson School M.A. degree does not match up well with a doctoral degree. Students who contemplate obtaining a Ph.D. are advised to proceed directly toward that goal in another discipline.



### M.B.A/M.A. in DIPLOMACY

The Patterson School of Diplomacy and International Commerce and the College of Business and Economics offer the opportunity to obtain the Master of Business Administration (M.B.A.) and the MA in Diplomacy degrees in a dual degree program that requires less time than would be required to achieve both degrees separately. The dual program of studies is designed to train students for international business careers or careers in government service that emphasize international business relations. Interested students must apply separately to each program, noting their desire to pursue the dual degree.

### M.S. in ECONOMICS/M.A. in DIPLOMACY

The Department of Economics of the College of Business and Economics combines with the Patterson School of Diplomacy to offer a dual degree program in economics and diplomacy that allows students to obtain both degrees in less time than would be required to achieve both degrees separately. The dual program of studies is designed to train students to become international economic analysts serving in government or international research institutions. Interested students must apply separately to each program, noting their desire to pursue the dual degree.

### M.A. in GERMAN/M.A. in DIPLOMACY

The German Division of the Department of Modern and Classical Languages, Literatures, and Cultures in cooperation with the Patterson School of Diplomacy and International Commerce offers a dual degree program that allows students to obtain both degrees in less time than would be required to achieve both degrees separately. Interested students must apply separately to each program, noting their desire to pursue the dual degree.

A number of non-service Patterson School fellowships are available from the bequest of James K. Patterson, the first President of the University. The School also offers fellowships provided by The Association of Retired Diplomatic and Consular Officers and The Henry Clay Center for Statesmanship.

### **Admission Requirements**

Application forms for admission and for fellowship assistance are available electronically at <http://www.uky.edu/PattersonSchool/> or may be requested by calling the Patterson School. GRE scores and official transcripts from each college or university attended are required by the Graduate School as part of the application procedure. In addition, each applicant is required to submit a brief statement explaining his/her interest in the Patterson School program in terms of career goals, along with two academic letters of reference and two letters of character or employment reference to be mailed directly to the Director of the Patterson School. In addition,

the Patterson School M.A. candidate must meet the Graduate School requirement for a reading knowledge of a modern foreign language in order to graduate.

### GRADUATE COURSES

DIP 700	DYNAMICS OF DIPLOMACY	(3)
DIP 715	DEMOCRACY AND INTERNATIONAL AFFAIRS	(3)
DIP 720	ECONOMIC STATECRAFT	(3)
DIP 725	GEOPOLITICAL MODELING	(3)
DIP 730	CROSS-CULTURAL NEGOTIATION AND BARGAINING	(3)
DIP 740	GLOBALIZATION	(3)
DIP 748	MASTER'S THESIS RESEARCH	(0)
DIP 750	DEFENSE STATECRAFT	(3)
DIP 755	MIDDLE EAST POLITICS	(3)
DIP 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
DIP 777	RESEARCH PROBLEMS IN INTERNATIONAL RELATIONS	(3)
DIP 780	INTERNATIONAL SCIENCE AND TECHNOLOGY POLICY	(3)
DIP 795	SPECIAL PROBLEMS IN DIPLOMACY AND INTERNATIONAL COMMERCE	(3)
DIP 600-1	NATIONAL/INTERNATIONAL INTELLIGENCE	(3)
DIP 600-2	MEDIATION AND CONFLICT RESOLUTION	(3)
PS 737	TRANSITIONAL ORGANIZATION AND PROCESSES	(3)

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### EARTH AND ENVIRONMENTAL SCIENCES

The Department of Earth and Environmental Sciences offers graduate work leading to the M.S. degree (thesis option) and to the Ph.D. degree in disciplines represented by Departmental faculty. The focus of the program is to prepare students for careers in industry, academia, and government.

#### Admission Requirements

The credentials of each applicant are considered individually and applicants from other scientific disciplines are encouraged to apply. Applicants should have a minimum grade point average of 2.75 at the undergraduate level, 3.0 at the graduate level, and course work in the basic sciences. Deficiencies in geosciences, allied sciences, and mathematics must be removed by such course work as the departmental committee on graduate studies may specify.

#### Degree Requirements

Candidates for the M.S. degree must complete 24 credit hours and submit a thesis that demonstrates the ability to conduct sound research. Candidates for the Ph.D. must pass a written and oral Qualifying Examination, submit and defend a dissertation based on original and significant research, and satisfy the Graduate School requirements. Students are

encouraged to tailor their course curriculum to their academic interests and career goals both within and in allied fields outside the Department.

The principal areas of study include biogeochemical systems, coal geology, geophysics, hydrogeology, and tectonics. Resources for the conduct of graduate research include: two ThermoFinnigan Delta XP Mass Spectrometers, electron microprobe, organic geochemistry facilities, organic petrology laboratory, fluid inclusion laboratory, X-ray diffraction facilities, student microcomputer laboratory, petrographic microscopes, access to additional teaching and research geochemical facilities, the Pirtle Geology Library, field vehicles, and extensive geophysical research facilities. Geophysical facilities include a Seismic Lab that is well equipped with state-of-the-art field-based instrumentation. Seismic sources available include various ATV-, truck-, and trailer-mounted P- and S-wave seismic impulse and vibratory sources. Seismic recording instrumentation includes multiple 48-channel and 24-channel engineering seismographs, and a wide range of appurtenant P- and S-wave surface and down-hole exploration geophones, cables, switches, etc. Seismic processing utilizes state-of-the-art signal processing seismic modeling algorithms. If required, UK serves as a supernode on the National Technology Grid with access to scalable, parallel-processing computer resources. Additional available geophysical equipment includes digital ground-penetrating-radar unit with various bistatic and cart-borne antennae, portable and loop electromagnetic systems, electrical resistivity system, a cart-borne magnetometer/gradiometer systems and a proton magnetometer, a modern gravimeter, and GPS equipment..

## GRADUATE COURSES

GLY 401G	INVERTEBRATE PALEOBIOLOGY AND EVOLUTION	(3)
GLY 420G	STRUCTURAL GEOLOGY	(4)
GLY 450G	SEDIMENTARY GEOLOGY	(4)
GLY 511	PETROLEUM GEOLOGY	(3)
GLY 530	LOW TEMPERATURE GEOCHEMISTRY	(3)
GLY 550	FUNDAMENTAL GEOPHYSICS	(3)
GLY 552	SEDIMENTARY PETROLOGY	(3)
GLY 555	STRATIGRAPHY	(3)
GLY 560	GEOPHYSICAL FIELD METHODS	(3)
GLY 570	SEMINAR IN GEOLOGICAL SCIENCES (SUBTITLE REQUIRED)	(1)
GLY 579	GROUNDWATER GEOPHYSICS	(3)
GLY 585	HYDROGEOLOGY	(3)
GLY 610	TOPICS IN HYDROGEOLOGY AND SURFICIAL PROCESSES (SUBTITLE REQUIRED)	(3)
GLY 620	TECTONICS	(3)
GLY 624	ADVANCED STRUCTURAL GEOLOGY	(3)
GLY 625	TOPICS IN APPLIED GEOPHYSICS AND ENGINEERING GEOLOGY (SUBTITLE REQUIRED)	(3)
GLY 645	TOPICS IN PETROLOGY AND GEOCHEMISTRY (SUBTITLE REQUIRED)	(3)

GLY 652	TECTONICS AND STRATIGRAPHY	(3)
GLY 703	PALEOECOLOGY/PALEONTOLOGY SEMINAR (SUBTITLE REQUIRED)	(1-3)
GLY 715	COAL GEOLOGY SEMINAR	(2)
GLY 730	SEMINAR IN TECTONICS AND STRATIGRAPHY (SUBTITLE REQUIRED)	(3)
GLY 741	CLAY MINERALOGY (SAME AS PLS 741)	(3)
GLY 745	SEMINAR IN PETROLOGY AND GEOCHEMISTRY (SUBTITLE REQUIRED)	(3)
GLY 748	MASTER'S THESIS RESEARCH	(0)
GLY 749	DISSERTATION RESEARCH	(0)
GLY 767	DISSERTATION RESIDENCY CREDIT	(2)
GLY 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
GLY 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
GLY 782	INDIVIDUAL WORK IN GEOLOGY	(1-3)
GLY 790	RESEARCH IN GEOLOGICAL SCIENCES	(0-6)

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## ECONOMICS

### Admission Requirements

Any student who is a graduate of a fully accredited institution of higher learning is eligible to apply for admission to the graduate program in economics. The final decision on matters of admission is made by the Graduate Studies Committee of the Department of Economics and is based on the student's academic profile and prospects for successful completion of the curriculum. Minimum admission requirements are an undergraduate grade point average of 2.75, a graduate grade point average of 3.0, if applicable, and a minimum combined score of 1000 on the verbal and quantitative sections of the GRE general test. **However, meeting the minimum requirements does not guarantee admission with most of our accepted applicants receiving scores well above these minimum requirements. For more information on the qualifications of our admitted students see <http://gatton.uky.edu/Programs/Econ/index.html>.**

After completing the application requirements for the Graduate School, prospective graduate students should also submit the following materials directly to the Director of Graduate Studies of the Economics Department:

1. A resume
2. A one-to-two page personal essay about why you want to attend graduate school in economics
3. Two or three confidential letters of recommendation
4. Unofficial copies of your GRE scores and transcript. While the Graduate School also requires this information sending unofficial copies to the department will speed up the admission process.

Along with the other application materials, the information in these items will be considered by the Economics Department in its admission and financial aid decisions.

## Master of Science

### Objectives

The M.S. in Economics is primarily for students who wish to have flexibility in a program of advanced study in economics. This degree program provides preparation for employment as an undergraduate teacher of economics in community colleges and as a researcher for government, business, and other organizations. The program can be structured to prepare a student for further graduate work in economics and related fields, but it is also suitable for students with strong interdisciplinary interests.

### Degree Requirements

The recommended minimum prerequisite undergraduate preparation includes 6 hours of intermediate theory, 6 hours of statistics, and 6 hours of calculus. Requirements for the M.S. in Economics are:

1. A minimum of 30 hours of graduate credit courses.
  - a. The student must satisfactorily complete the following courses:

ECO 590	Introduction to Quantitative Economics
ECO 601	Advanced Microeconomic Theory
ECO 602	Macroeconomic Theory
ECO 603	Research Methods and Procedures
ECO 703	Introduction to Econometrics I

The student must also satisfactorily complete either:

- |         |   |
|---------|---|
| ECO 701 | Neoclassical Microeconomic Theory <u>or</u> |
| ECO 702 | Advanced Macroeconomic Theory               |

and, one course in an elective area of the Ph.D. program.

- b. Courses taken outside of the Department of Economics must be approved by the Director of Graduate Studies to count toward the 30 hour requirement.
2. Successful completion of a final examination.
3. Minimum average of grade B (a GPA of 3.0) in all courses attempted for graduate credit after being admitted to Graduate School. Students obtaining six quality points below a B average will be dropped by the department.

## Doctor of Philosophy

### Objectives:

The Ph.D. program is designed to enable the graduate to contribute to the advancement of economics. The program is aimed at producing graduates who are qualified to teach, as well as engage in private sector and governmental research and consulting. To attain these objectives, the program is structured to provide the student with the appropriate knowledge, understanding, skills and abilities, including:

1. An understanding of economic theory.
2. Skill in the use of quantitative techniques, specifically mathematics and statistics.
3. An extensive exposure to the research, institutions, and issues in a limited number of fields.
4. Experience in the development of research projects throughout their entire program.
5. Research and writing skills that would lead to the publication of original research.
6. Competence in communicating economic knowledge to broad and diverse audiences.

### Degree Requirements

The recommended minimum undergraduate preparation includes 6 hours of intermediate economic theory, 6 hours of statistics, and 9 hours of calculus. Work for the degree of Doctor of Philosophy in Economics must conform to the general requirements of the Graduate School.

The requirements for the degree are:

1. Economic Theory. The student must demonstrate competence in economic theory as demonstrated by passing a departmental written examination in economic theory. This examination will be given twice a year, at the beginnings of the spring semester and the eight-week summer session. Students failing the examination will be given a second attempt; those failing on the second attempt will not be allowed to continue in the program.

Minimum preparation for the written examination in economic theory can be achieved by taking the following core courses:

ECO 601	Advanced Microeconomic Theory
ECO 602	Macroeconomic Theory
ECO 701	Neoclassical Microeconomic Theory
ECO 702	Advanced Macroeconomic Theory

In addition the student must satisfactorily complete ECO 704.

2. Statistics/Econometrics. The student must demonstrate competence in the area of statistics and econometrics. This competence may be demonstrated by satisfactory performance in the following courses:

ECO 603      Research Methods and Procedures  
ECO 703      Introduction to Econometrics I  
ECO 706      Introduction to Econometrics II  
                 or by passing a special examination.

3. Elective Areas. All Ph.D. students must choose two fields of study approved by the student's Advisory Committee. The two fields may be chosen from the following:

Environmental/Health Economics  
Industrial Organization  
International Economics  
Labor Economics  
Monetary Economics  
Public Economics

Minimum course preparation for each field shall consist of at least two courses as determined by the student's Advisory Committee. In addition to the two chosen fields, the student is encouraged to take elective courses in other areas of economics, such as econometrics or economic theory, or in other disciplines such as Agricultural Economics, Finance, Marketing, Management, Mathematics, or Public Administration.

4. Supporting Work. At least nine hours of supporting course work must be selected. These courses must be approved by the student's Advisory Committee. This supporting work will allow the student to pursue more intensive study of one or both of the two chosen fields, or to pursue courses in other fields of economics. The supporting work cannot consist of 400 or 500 level courses, ECO 610 or ECO 611, ECO 652, or any of the core courses in economic theory (ECO 601, ECO 602, ECO 701, ECO 702, ECO 704, ECO 705) or econometrics (ECO 603, ECO 703, ECO 706). Supporting work can also be courses from other disciplines including Agricultural Economics, Finance, Mathematics, Statistics, or Public Policy with the approval of the Director of Graduate Studies.

5. Grades. Minimum average of grade B in all courses attempted for graduate credit after being admitted to the Graduate School. Students obtaining six quality points below a B average will automatically be dropped by the department.

6. Qualifying Examinations.

a. Written Examination: The written examination must be taken in one of the student's two elective fields as part of the requirements for candidacy for the Ph.D. degree. The choice of the field in which the student takes the exam should reflect the intended field in which the student is to write his or her dissertation. This examination is given twice a year, at the beginning of the

spring semester and at the beginning of the eight-week summer session. The written examination is prepared and graded by specialists in the respective fields. In the event that the student fails the examination, the student's Advisory Committee determines the conditions which must be met before another examination is given. The minimum time between examinations is four months. Two failures to pass the written examination constitute failure of the qualifying examination.

b. Oral Examination: After passing the written qualifying examination, the Director of Graduate Studies will, on the advice of the Advisory Committee, schedule through the Graduate School an oral examination which will be administered by the Advisory Committee. The examination will ordinarily consist of the presentation and defense of a dissertation proposal.

7. The Ph.D. Dissertation. The dissertation will be based on original research on a significant topic. The dissertation will be defended in an oral examination

### **COURSES FOR THE M.S. AND PH.D. IN ECONOMICS**

ECO 590	INTRODUCTION TO QUANTITATIVE ECONOMICS I (SAME AS AEC 590)	(3)
ECO 601	ADVANCED MICROECONOMIC THEORY	(3)
ECO 602	MACROECONOMIC THEORY	(3)
ECO 603	RESEARCH METHODS AND PROCEDURES IN ECONOMICS	(3)
ECO 652	PUBLIC POLICY ECONOMICS (MS only) (SAME AS PA/HA 652)	(3)
ECO 653	HEALTH ECONOMICS (MS only) (SAME AS PA/HA 636)	(3)
ECO 654	BENEFIT-COST ANALYSIS (MS only) (SAME AS PA 680)	(3)
ECO 674	AGRICULTURE AND ECONOMIC DEVELOPMENT (SAME AS AEC 626)	(3)
ECO 700	TEACHING METHODS IN BUSINESS (SAME AS BA 700)	(1)
ECO 701	NEOCLASSICAL MICROECONOMIC THEORY	(3)
ECO 702	ADVANCED MACROECONOMIC THEORY	(3)
ECO 703	INTRODUCTION TO ECONOMETRICS I	(3)
ECO 704	GENERAL EQUILIBRIUM ANALYSIS AND WELFARE ECONOMICS	(3)
ECO 706	INTRODUCTION TO ECONOMETRICS II	(3)
ECO 707	RESEARCH SEMINAR IN ECONOMICS	(3)
ECO 721	ENVIRONMENTAL ECONOMICS, REGULATION AND POLICY (SAME AS PA 727)	(3)
ECO 731	LABOR ECONOMICS I	(3)
ECO 732	LABOR ECONOMICS II	(3)
ECO 741	THEORY OF THE FIRM AND MARKET STRUCTURE	(3)
ECO 742	INDUSTRIAL ORGANIZATION	(3)
ECO 751	PUBLIC ECONOMICS	(3)



ECO 752	THE ECONOMICS OF POLICY ANALYSIS (SAME AS PA 754)	(3)
ECO 761	MONETARY ECONOMICS: THEORY	(3)
ECO 762	MONETAR ECONOMICS: POLICY	(3)
ECO 767	DISSERTATION RESIDENCY CREDIT	(2)
ECO 771	INTERNATIONAL ECONOMICS: INTERNATIONAL MONEY AND FINANCE	(3)
ECO 772	INTERNATIONAL ECONOMICS: TRADE THEORY AND POLICY	(3)
ECO 773	OPEN ECONOMY MACROECONOMICS	(3)
ECO 796	SEMINAR	(1-6)
ECO 797	RESEARCH PROBLEMS IN ECONOMICS	(1-9)

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## **EDUCATIONAL AND COUNSELING PSYCHOLOGY**

The Department of Educational and Counseling Psychology offers programs leading to the following degrees: Master of Science in Education (Plans A and B available), the Specialist in Education (Ed.S.), and the Doctor of Philosophy (Ph.D.). Applications to the Master of Arts in Education and the Doctor of Education (Ed.D.) degrees are no longer accepted. Students must apply for admission to both the Graduate School and to the Department. Doctoral applications must be completed by January 15 for summer/fall admission. All other degree applications are considered shortly after March 1.

Within the degree programs offered, there are three specializations possible: counseling psychology, educational psychology, and school psychology. Specializations are designed to provide students with both a background in behavioral and humanistic components of human learning and behavior, and the competencies to practice the skills designated for these programs. Admission to candidacy in any of these programs includes not only demonstrated skills in the academic area, but a judgment by the faculty of the program that the candidate demonstrates the personal and social characteristics as well as the professional commitment and ethical standards requisite for providing the services and demonstrating the skills associated with the program and the advanced degree.

For further information on specific program guidelines, contact the Director of Graduate Studies in the Department of Educational and Counseling Psychology.

### **Master of Science in Education**

The Master of Science in Education degree is offered by the Department for individuals who will not meet state certification requirements in counseling or school psychology immediately upon completion. Individuals who are interested in specializing in educational psychology, human development, measurement, or research in education may obtain this degree. The educational psychology program, planned in consultation with an advisor, is flexible and tailored to individual needs. It consists of 36 hours of course work (including a 3-hour paper) or

30 hours of course work plus a 6-hour thesis. The work completed for this degree with an emphasis in either counseling or school psychology is applicable toward certification in either counseling or school psychology, respectively, but does not fulfill state certification requirements. The counseling program prerequisites include psychological testing and abnormal psychology.

### **Admission Requirements**

Applicants to the M.S. Ed. Degree program leading to certification in school psychology must possess an undergraduate degree in psychology, education, or a closely allied field (e.g., rehabilitation counseling or pediatric nursing). Students are selected for this program based on their undergraduate grade point average, Graduate Record Examination scores, letters of recommendation, a personal statement describing their selection of a career in school psychology, a writing sample, and a personal interview. These data provide information regarding student diversity, interests, and prior academic accomplishments in relation to program goals. The program faculty use the Graduate School minimum requirements for undergraduate grade point average and Graduate Record Examination scores for admissions eligibility.

### **Specialist in Education**

The Educational Specialist degree is offered in the areas of educational psychology, counseling psychology, and school psychology. Programs follow the general guidelines of the College of Education as specified earlier (see [Advanced Degrees](#)). The program includes the Master of Science in Education degree program plus a full-time one-semester internship and additional course work. This program leads to permission to sit for the State Board of Psychology Certification Examination in Counseling Psychology. The requirements for the State Board of Education certification in School Psychology include the work for the Master of Science in Education degree plus the additional Educational Specialist degree requirements.

### **Admission Requirements**

Applicants to the Ed. S. degree program leading to certification in school psychology must possess a master's degree in psychology, education or a closely allied field (e.g., rehabilitation counseling or pediatric nursing). Students who did not complete the M.S. Ed. program in school psychology will likely need to complete additional requirements to replace required course work from the M.S. Ed. program. Students are selected for the Ed.S. program based on their undergraduate and prior graduate grade point average, Graduate Record Examination scores, letters of recommendation, a personal statement describing their selection of a career in school psychology, a writing sample, and a personal interview. These data provide information regarding student diversity, interests, and prior academic accomplishments in relation to program goals. The program faculty use the Graduate School minimum requirements for

undergraduate and graduate grade point average, and Graduate Record Examination scores for admissions eligibility.

### **Doctor of Philosophy**

The Ph.D. program is offered in the specialty areas of counseling psychology, educational psychology and school psychology under one departmental program. The Doctor of Philosophy programs in Counseling Psychology and in School Psychology are accredited by the American Psychological Association through its Office of Program Consultation and Accreditation (750 First Street, NE, Washington, DC 20002-4242, phone: 202.336.5500). A full-time, supervised one-year internship is required for both areas. Various concentrations are possible within the Ph.D. program. Representative of these are: 1) learning, cognition, and curriculum design; 2) human development and social processes; 3) counseling psychology; 4) measurement, evaluation and research design; and 5) school psychology.

### **Admission Requirements**

Applicants to the Ph.D. Degree program in school psychology must possess an undergraduate degree in psychology, education or a closely allied field (e.g., rehabilitation counseling or pediatric nursing). Students with prior graduate work at the masters or specialist degree will also be considered for admission to advanced graduate status. Students are selected for this program based on their undergraduate and prior graduate grade point average, Graduate Record Examination scores, letters of recommendation, a personal statement describing their selection of a career in school psychology, a writing sample, and a personal interview. These data provide information regarding student diversity, interests, and prior academic accomplishments in relation to program goals. The program faculty use the Graduate School minimum requirements for undergraduate grade point average, and Graduate Record Examination scores for admissions eligibility.

### **GRADUATE COURSES**

EDP 518	MENTAL HYGIENE	(3)
EDP 522	EDUCATIONAL TESTS AND MEASUREMENTS	(3)
EDP 548	EDUCATIONAL PSYCHOLOGY	(3)
EDP 557	EDUCATIONAL STATISTICS	(3)
EDP 570	INTRODUCTION TO PSYCHOLOGICAL SERVICES IN SCHOOLS	(3)
EDP 580	INTRODUCTION TO GIFTED EDUCATION (SAME AS EDC 580)	(3)
EDP 600	LIFE SPAN HUMAN DEVELOPMENT AND BEHAVIOR (SAME AS FAM 654)	(3)
EDP 603	HUMAN COGNITIVE DEVELOPMENT	(3)
EDP 604	LIFESPAN GENDER DEVELOPMENT	(3)
EDP 605	INTRODUCTION TO COUNSELING: TECHNIQUES I	(3)
EDP 606	PROFESSIONAL ISSUES IN COUNSELING PSYCHOLOGY	(3)
EDP 610	THEORIES OF LEARNING IN EDUCATION	(3)

EDP 611	HUMAN COGNITIVE LEARNING	(3)
EDP 612	DEVELOPMENT OF CREATIVITY AND CRITICAL THINKING	(3)
EDP 613	SOCIAL PSYCHOLOGICAL ISSUES IN EDUCATION	(3)
EDP 614	MOTIVATION AND LEARNING	(3)
EDP 615	PROSEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY (SAME AS PSY 620)	(3)
EDP 616	MULTICULTURAL PSYCHOLOGY (SAME AS AAS 616)	(3)
EDP 620	TOPICS AND METHODS OF EVALUATION (SAME AS ANT/EPE 620/SOC 622)	(3)
EDP 621	ADVANCED TOPICS AND METHODS OF EVALUATION (SAME AS ANT/EPE 621)	(3)
EDP 630	PRINCIPLES OF PSYCHOLOGICAL ASSESSMENT	(3)
EDP 640	INDIVIDUAL ASSESSMENT OF COGNITIVE FUNCTIONING	(3)
EDP 642	INDIVIDUAL ASSESSMENT OF PERSONALITY FUNCTIONING	(3)
EDP 649	GROUP COUNSELING	(3)
EDP 650	DIAGNOSIS AND PSYCHOPATHOLOGY IN COUNSELING PSYCHOLOGY	(3)
EDP 652	THEORIES OF COUNSELING	(3)
EDP 656	METHODOLOGY OF EDUCATIONAL RESEARCH	(3)
EDP 658	PROBLEMS IN EDUCATIONAL PSYCHOLOGY	(1-3)
EDP 660	RESEARCH DESIGN AND ANALYSIS IN EDUCATION	(3)
EDP 661	TECHNIQUES OF COUNSELING II	(3)
EDP 664	PRE-MASTERS PRACTICUM IN COUNSELING PSYCHOLOGY	(1-6)
EDP 665	POST-MASTERS PRACTICUM IN COUNSELING PSYCHOLOGY	(1-6)
EDP 666	PSYCHOLOGY OF CAREER COUNSELING	(3)
EDP 669	DIAGNOSTIC CLASSIFICATION IN SCHOOL PSYCHOLOGY	(3)
EDP 670	PSYCHOEDUCATIONAL STRATEGIES OF INTERVENTION	(3)
EDP 671	SEMINAR IN PSYCHOEDUCATIONAL CONSULTATION IN SCHOOLS	(3)
EDP 675	PRACTICUM IN SCHOOL PSYCHOLOGY	(1-6)
EDP 676	PRACTICUM IN GIFTED EDUCATION (SAME AS EDC 676)	(3)
EDP 680	PARENT AND CHILD COUNSELING	(3)
EDP 683	TOPICS IN COUNSELING PSYCHOLOGY	(1-3)
EDP 685	ISSUES AND TECHNIQUES IN THE COUNSELING OF WOMEN	(3)
EDP 686	THEORY AND METHODS IN MARRIAGE AND FAMILY THERAPY	(3)
EDP 701	COGNITIVE-BEHAVIORAL COUNSELING	(3)
EDP 702	CAREER DEVELOPMENT: RESEARCH, THEORIES AND PRACTICES (SAME AS EDV 702)	(2-3)
EDP 703	SEMINAR IN CLINICAL SUPERVISION	(1-3)
EDP 707	MULTIVARIATE ANALYSIS IN EDUCATIONAL RESEARCH	(3)
EDP 708	INTERNSHIP IN EDUCATIONAL AND COUNSELING PSYCHOLOGY	(0-9)
EDP 748	MASTER'S THESIS RESEARCH	(0)
EDP 749	DISSERTATION RESEARCH	(0)
EDP 765	INDEPENDENT STUDY IN COUNSELING PSYCHOLOGY	(1-4)
EDP 767	DISSERTATION RESIDENCY CREDIT	(2)
EDP 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
EDP 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)

EDP 776	SEMINAR IN SCHOOL PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
EDP 777	SEMINAR IN COUNSELING PSYCHOLOGY	(1-3)
EDP 778	SEMINAR IN EDUCATIONAL PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
EDP 782	INDEPENDENT STUDY IN EDUCATIONAL PSYCHOLOGY	(1-3)

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## EDUCATIONAL LEADERSHIP STUDIES

The Department of Educational Leadership Studies offers programs leading to the Master of Education (M.Ed.) in School Administration and the Specialist in Education (Ed.S.) degree. In cooperation with the Department of Curriculum and Instruction, it offers a program in Instruction and Administration leading to the Doctor of Education (Ed.D.) degree. These advanced degree programs are designed to prepare candidates for leadership positions in public schools and other educational agencies or for the professorship in educational administration. The department participates in a Cooperative Doctoral Program with four regional comprehensive universities.

### Master of Education

The Master of Education (M. Ed.) in School Administration is a degree program through which one may prepare for certification as a school principal in Kentucky public schools. This preparation program includes 33 hours of course work and leads to a letter of eligibility for the Instructional Leader, School Principalship, All Grades professional certificate. If this is a student's initial master's degree, it will lead to Rank II. For those who already have one master's degree, a 30-hour Rank I program can be completed.

### Admission Requirements

Admission to the M.Ed. program includes the following criteria:

1. Bachelor's degree from an accredited institution;
2. On a 4.0 scale, a GPA of 2.75 for all undergraduate work and 3.0 GPA on all graduate work;
3. Official scores on all three sections of the Graduate Record Examination (GRE);
4. One year of professional experience in an educational or other organizational setting;
5. Complete program application with supporting materials;
6. Professional and scholarly references; and
7. Positive recommendation for admission from the UK Department of Educational Leadership Studies.

With the M.Ed. tied to principal certification, the state of Kentucky establishes the following additional requirements for a letter of eligibility for Kentucky principalship certification:

1. Master's degree in education from an accredited institution;
2. GPA of 2.5 on a 4.0 scale for all collegiate work;
3. Eligibility for a Kentucky classroom teaching certificate;
4. Completion of the Kentucky Teacher Internship Program (KTIP) or two years out-of-state full-time teaching experience;
5. Three years full-time teaching experience completed;
6. Passing score on the National Teacher Examination (as required of KY teachers);
7. Passing of national and state tests as specified by the Kentucky Education Professional Standards Board,
8. Completion of a preparation program approved by the Kentucky Education Professional Standards Board.

### **Specialist in Education**

The Department of Educational Leadership Studies in the College of Education at the University of Kentucky offers a practice-oriented, academic program leading to the awarding of the Specialist in Education degree (Ed.S.). This program is intended to serve two interrelated and complementary purposes:

1. to provide professional educators with an opportunity to develop specialized expertise in the area of educational leadership with a focus on school administration and instructional supervision: and
2. to provide those professional educators who desire it, a bridge from their master's-level academic work to doctoral-level study in the specialized area of educational administration and supervision.

The content of the Ed.S. program is divided into two segments. The classroom-based segment of the program consists usually of 39 hours of formal course work that can be structured to meet the course-based subject matter requirements for Kentucky certification as a building-level principal, as an instructional supervisor, or as a school district superintendent. The second segment of the EdS program consists of the design, implementation, and formal written description of a field-based inquiry project.

### **Admission Requirements**

Admission to the Ed.S program follows the basic requirements of The Graduate School at the University of Kentucky and any additional requirements imposed by the Kentucky Educational Professional Standards Board for the particular certificate sought in conjunction with the Ed.S., plus professional references, a complete program application to the Department of Educational

Leadership Studies, and a positive recommendation by the Department's admissions committee.

### **Doctor of Education**

The Department of Educational Leadership Studies offers the Ed.D. (Doctor of Education degree) in Instruction and Administration with a program emphasis in Educational Leadership. Four important themes are embedded in the Department's Ed.D. program emphasis and are reflected throughout the content of course work:

- Valuing Research and the Use of Data
- Fostering Educational Improvement
- Focusing on Leadership Development
- Addressing Concerns for Social Justice

Every student's program of study for this Ed.D. degree has three essential elements: (1) the core curriculum; (2) a program major emphasis; and (3) a research sequence.

### **Admission Requirements**

Admission to the doctoral program in EDA requires completion of the Graduate School's application requirements plus a complete application and references to the Department of Educational Leadership Studies with the following attachments to the EDA application:

- Autobiographical Statement: A short (2 - 3 typed pages) autobiographical statement explaining how you came to be where you are at this point in your life.
- Professional Goals Statement: A short (2 - 3 typed pages) explanation of your professional goals highlighting future plans and aspirations.
- Professional Perspectives Essay: A short (3-5 typed pages) essay responding to one of the topics below. This essay will be reviewed on the basis of the content of your ideas, the clarity and logic used in developing, organizing, and presenting those ideas, and on the use of correct grammar, spelling, punctuation, etc., as well.
- Essay Topic For Ed.D. Degree Program Applicants: Contemporary educational leaders must provide leadership relative to many complex and sometimes controversial issues. Pick ONE set of issues from the list below (i.e., #1, #2, or #3). In your essay, explain briefly your understanding of the issue set you selected and discuss briefly your own current thinking about what it means to provide responsible educational leadership in reference to it.

1. Culture, gender, ethnicity, and social class;
2. Teaching, learning, and professional ethics;
3. New organizational structures for schools, political demands, and fiscal limitations.

## The Ed.D. Curriculum

Course work for the Ed.D. in Educational Leadership Studies within the department will consist of a minimum of 42 hours of graduate course work beyond the master's in addition to the required 18 hours of dissertation research. All course work plans include work in the following:

- a. Instruction and Administration,
- b. Support work in education,
- c. Research methodology course sequence, and,
- d. Support work outside of education.

Internships for graduate students can be arranged with public school systems and other educational agencies.

A limited number of graduate assistantships are available through the department. These involve up to 20 hours per week of service to the department or some other unit of the University, designed in such a way that the work contributes to the educational development of the student. A modest stipend is paid for this service. The University also provides some financial aid in the form of loans and fellowships.

For further information, write to the Director of Graduate Studies in the Department of Educational Leadership Studies, 111 Dickey Hall, College of Education, University of Kentucky, Lexington, Kentucky 40506, requesting materials for the specific program of interest.

## GRADUATE COURSES

EDA 600	ORGANIZATION AND ADMINISTRATION OF AMERICAN EDUCATION	(3)
EDA 601	INTRODUCTION TO SCHOOL LEADERSHIP AND ADMINISTRATION	(3)
EDA 610	SCHOOL LEADERSHIP PRACTICUM I: SUMMER	(1)
EDA 611	SCHOOL LEADERSHIP PRACTICUM II	(1)
EDA 612	SCHOOL LEADERSHIP PRACTICUM III	(1)
EDA 625	SCHOOL SAFETY AND DISCIPLINE LEADERSHIP	(3)
EDA 627	SCHOOL FINANCE AND SUPPORT SERVICES	(3)
EDA 628	SCHOOL LAW AND ETHICS	(3)
EDA 629	THE PRINCIPAL	(3)
EDA 631	LEADERSHIP FOR SCHOOL PROGRAM COLLABORATION	(3)
EDA 632	ADMINISTRATION OF EDUCATIONAL REFORM	(3)
EDA 634	LEADERSHIP FOR HUMAN RESOURCES DEVELOPMENT IN SCHOOLS	(3)
EDA 638	THE SUPERVISOR	(3)
EDA 639	THE SCHOOL SUPERINTENDENCY	(3)
EDA 642	MICROCOMPUTER APPLICATIONS IN ADMINISTRATION	(3)
EDA 646	LEADERSHIP FOR SCHOOL COMMUNITY RELATIONS	(3)
EDA 649	SCHOOL SYSTEM ADMINISTRATION	(3)
EDA 650	LEADERSHIP FOR SCHOOL PROGRAM IMPROVEMENT	(3)
EDA 651	FOUNDATIONS OF INQUIRY	(3)



EDA 659	STRATEGIC MANAGEMENT IN EDUCATION	(3)
EDA 669	LEADERSHIP FOR SCHOOL PROBLEM SOLVING	(3)
EDA 679	SCHOOL SUPERINTENDENT PRACTICUM I: SPRING	(1)
EDA 680	SCHOOL SUPERINTENDENT PRACTICUM II: SUMMER	(1)
EDA 681	SCHOOL SUPERINTENDENT PRACTICUM III: FALL	(1)
EDA 694	THE ADMINISTRATION OF VOCATIONAL EDUCATION (SAME AS AED/HEE 694)	(3)
EDA 701	LEADERSHIP IN EDUCATIONAL ORGANIZATIONS I	(3)
EDA 702	LEADERSHIP IN EDUCATIONAL ORGANIZATIONS II	(3)
EDA 749	DISSERTATION RESEARCH	(0)
EDA 767	DISSERTATION RESIDENCY CREDIT	(2)
EDA 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
EDA 770	TOPICAL SEMINAR IN EDUCATIONAL LEADERSHIP	(1-3)
EDA 771	SEMINAR IN ADMINISTRATION	(1-3)
EDA 785	INDEPENDENT WORK IN SCHOOL ADMINISTRATION	(3)
EDA 792	RESEARCH IN EDUCATIONAL ADMINISTRATION AND SUPERVISION	(3)

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## EDUCATIONAL POLICY STUDIES AND EVALUATION

The Department of Educational Policy Studies and Evaluation provides a unique opportunity for students who wish to develop the knowledge, judgment, and research skill required to address educational issues with flexibility and imagination. Although methodological finesse is prized within the department, degree programs do not emphasize 'methods' per se. The premium is placed on understanding questions of policy within the broader, often overlapping contexts in which they arise. Every effort is made to face the issues in ways which credit rather than ignore those contexts and their subtlety.

There are four broad areas of concentration. Higher Education focuses upon research concerning higher education policies, programs, and services. History and Philosophy of Education treats educational issues, problems, ideas, and institutions, using the tools of historical inquiry and philosophical analysis. The Socio-Cultural Study of Education provides sociological, anthropological, and comparative international perspectives. Evaluation focuses upon the relationships among ethics and education, policy analysis, and the development of evaluation systems for educational policies and programs.

The Department's faculty represents a wide spectrum of intellectual orientations, professional commitments, and experience. No less importantly, an uncommon degree of respect for both the difficulties and the necessities of interdisciplinary conversation prevails. These factors, together with flexibility in program planning at the course work stage (which includes opportunities for independent study, affiliations with faculty from other departments in the College and the University, as well as extramural internships), help to create an environment congenial to students with a variety of backgrounds and future goals. Some of the Department's graduates pursue traditional academic careers as faculty members or administrators. Others

serve as policy analysts or evaluation specialists in school systems, state departments of education, or in other arenas outside the university.

### **Master of Science in Education (M.S. in Education)**

The master's degree is available for those who wish to explore topics in educational policy and evaluation for the first time, or to enhance what understanding they may already possess through direct experience as teachers or as members of an administrative staff. For some it serves as a terminal degree; others use it to lay the foundation for doctoral study.

#### **Admission Requirements**

Admission requires a minimum grade point average of 2.75 in all undergraduate course work, a 3.0 GPA for any previous graduate work, as well as satisfactory completion of the Graduate Record Examination (GRE). A minimum total of 31 credit hours including the proseminar (EPE 601) are required to complete the degree. No less than 19 hours of the total required must be taken within Educational Policy Studies. Planning in conjunction with an advisory committee, students choose a suitable array of courses from among the department's four areas of concentration, and then round out their programs with some appropriate support work from other departments within the College or the University.

### **Doctor of Education (Ed.D.)**

The Ed.D. program in Educational Policy Studies and Evaluation provides advanced study for those who seek careers in the administration or evaluation of educational programs in schools, colleges, or other institutional settings. The program is also ideally suited for those who wish to develop the scholarly competence needed to serve as faculty members in colleges of education.

#### **Admission Requirements**

Admission to the program requires a master's degree (or thirty graduate credits applicable to an appropriate master's degree) and satisfactory completion of the Graduate Record Examination (GRE). Course work is planned by the student's advisory committee based on their assessment of his or her background and goals. All programs include the proseminar (EPE 601) and course work chosen from the department's four general areas of concentration as well as support work in related fields within or outside the College of Education. Although some students' programs may require competency in a foreign language, there is no general foreign language requirement.

### **Doctor of Philosophy (Ph.D.) Studies in Higher Education**

The degree of Doctor of Philosophy represents the same level of attainment as the Doctor of Education. Graduate students are held to a uniformly high standard of intellectual

accomplishment at both the course work and dissertation stages, no matter what degree option they may pursue. Unlike the Ed.D. program however, where students are free to choose the topic of research, the department's Ph.D. requires intensive research on some aspect of higher education. After taking the proseminar, the student selects an area of concentration in either the history and philosophy of higher education, the socio-cultural study of higher education, or research and evaluation in higher education.

### **Admission Requirements**

The requirements for admission are a minimum of 24 hours of graduate work (a master's degree in a discipline outside of Education is preferred) and satisfactory scores on the Graduate Record Examination (GRE).

### **Cooperative Doctoral Program**

The department participates in the Cooperative Ed.D. program with regional universities. These programs permit qualified applicants to complete one year of graduate study beyond the master's degree at the regional institution. The remainder of the academic program must be completed at the University of Kentucky. The work of each student is directed by a committee composed of faculty from the two institutions.

### **GRADUATE COURSES**

EPE 525	SPECIAL TOPICS SEMINAR IN EDUCATIONAL POLICY STUDIES AND EVALUATION (SUBTITLE REQUIRED)	(3)
EPE 554	CULTURE, EDUCATION AND TEACHING ABROAD (SAME AS EDC 554)	(3)
EPE 555	COMPARATIVE EDUCATION	(3)
EPE 557	GATHERING, ANALYZING, AND USING EDUCATIONAL DATA	(3)
EPE 570	GATHERING, ANALYZING, AND USING EDUCATIONAL DATA	(3)
EPE 601	PROSEMINAR	(1)
EPE 602	SOCIAL POLICY ISSUES AND EDUCATION	(3)
EPE 603	EDUCATIONAL POLICY ANALYSIS: AN INTRODUCTION	(3)
EPE 612	INTRODUCTION TO HIGHER EDUCATION	(3)
EPE 620	TOPICS AND METHODS OF EVALUATION (SAME AS EDP/ANT 620/SOC 622)	(3)
EPE 621	ADVANCED TOPICS AND METHODS OF EVALUATION (SAME AS EDP/ANT 621)	(3)
EPE 622	COLLEGE AND UNIVERSITY FACULTY	(3)
EPE 628	ETHICS AND EDUCATIONAL DECISION MAKING	(3)
EPE 632	STUDENT SERVICES	(3)
EPE 640	PHILOSOPHY OF EDUCATION	(3)
EPE 651	HISTORY OF EDUCATION IN THE UNITED STATES	(3)
EPE 652	HISTORY OF EDUCATIONAL THOUGHT	(3)

EPE 653	HISTORY OF HIGHER EDUCATION	(3)
EPE 661	SOCIOLOGY OF EDUCATION (SAME AS SOC 661)	(3)
EPE 663	FIELD STUDIES IN EDUCATIONAL INSTITUTIONS	(3)
EPE 665	EDUCATION AND CULTURE	(3)
EPE 667	EDUCATION AND GENDER	(3)
EPE 670	POLICY ISSUES IN HIGHER EDUCATION	(3)
EPE 672	COLLEGE TEACHING AND LEARNING	(3)
EPE 674	THEORIES OF STUDENT DEVELOPMENT	(3)
EPE 676	ORGANIZATION AND ADMINISTRATION OF HIGHER EDUCATION	(3)
EPE 678	ECONOMICS OF HIGHER EDUCATION	(3)
EPE 679	MULTIPLE MEASURES IN EDUCATION AND EVALUATION	(3)
EPE 680	POLITICS OF HIGHER EDUCATION	(3)
EPE 681	HISTORY OF THE UNIVERSITY: GOVERNANCE AND ITS LEGAL CONTEXT	(3)
EPE 682	HIGHER EDUCATION AND THE LAW	(3)
EPE 683	AFFIRMATIVE ACTION AND FEDERAL REGULATION OF HIGHER EDUCATION	(3)
EPE 684	HIGHER EDUCATION AND ATHLETICS: A HISTORICAL ANALYSIS	(3)
EPE 685	THE RESEARCH UNIVERSITY	(3)
EPE 686	PHILANTHROPY AND HIGHER EDUCATION	(3)
EPE 690	THE COMMUNITY COLLEGE	(3)
EPE 703	PREPARING RESEARCH PROPOSALS	(3)
EPE 748	MASTER'S THESIS RESEARCH	(0)
EPE 749	DISSERTATION RESEARCH	(0)
EPE 763	ADVANCED FIELD STUDIES	(3)
EPE 767	DISSERTATION RESIDENCY CREDIT	(2)
EPE 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
EPE 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
EPE 773	SEMINAR IN EDUCATIONAL POLICY STUDIES AND EVALUATION	(1-3)
EPE 778	SEMINAR IN HISTORY OF EDUCATION IN KENTUCKY	(3)
EPE 785	INDEPENDENT STUDIES IN EDUCATIONAL POLICY STUDIES AND EVALUATION	(1-3)
EPE 790	INTERNSHIP IN EDUCATIONAL POLICY STUDIES AND EVALUATION	(1-6)
EPE 797	HISTORICAL RESEARCH ON EDUCATION	(3)
EPE 798	SEMINAR IN HIGHER EDUCATION	(3)

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## ELECTRICAL ENGINEERING

The Department of Electrical and Computer Engineering offers advanced studies leading to either a Master of Science in Electrical Engineering or a Doctor of Philosophy in Electrical Engineering.

## **Admission Requirements**

A minimum grade point average of 3.0/4.0 on all undergraduate work is required for admission to the graduate program. A minimum GRE general test score of 1100 (combination of verbal and quantitative sections) must be obtained. Meeting the minimum requirements does not guarantee admission will be granted. Acceptance is based upon a competitive evaluation and on a space-available basis. An undergraduate degree in electrical engineering is preferred. Those applicants without a B.S.E.E. degree from an ABET accredited EE program should develop competence and demonstrate ability in the fundamentals of electrical engineering. Such students, before being admitted to full graduate standing within the department, must take (or have taken an equivalent of) a set of prescribed electrical engineering remedial courses. A minimum grade of C must be made in these courses.

## **Degree Requirements**

For the M.S.E.E. degree, both the thesis and non-thesis options are available. The thesis option requires 24 hours of acceptable graduate level work plus the satisfying of the usual requirements for the thesis. The non-thesis option, Plan B, requires 30 hours of acceptable graduate work plus an additional three hours of EE 784, the special problems project. All students in their first semester of regular graduate work must select an academic advisor who will assist the student in formulating a graduate plan of study leading to their particular degree. This plan, which must receive the approval of the Director of Graduate Studies, must contain specific courses and a proposed thesis area or specialized project topic.

In order to assure a minimum breadth and level of understanding at the graduate level, all EE graduate students must take three of five specified courses from the major areas of electrical engineering. These courses are: EE 611 Deterministic Systems, EE 621 Electromagnetic Systems, EE 640 Stochastic Systems, EE 661 Solid State Electronics, EE 685 Digital Computer Structure. Although no formal course requirements exist for the Ph.D. program, students must satisfy the above mentioned core course requirements as well as the selection of an advisor and the formulation of the graduate plan of study.

The Department of Electrical and Computer Engineering has active research programs in the following areas: electric machines and drives, power electronics, computer engineering, power systems, control systems, electromagnetic compatibility, electromagnetic field theory, signal processing, communication systems, circuit theory, and solid state electronics. Departmental laboratories are well-equipped for students' research. In addition, the Center for Robotics and Manufacturing Systems at the University of Kentucky provides additional research opportunities in the area of robotics and manufacturing systems.

## GRADUATE COURSES

EE 402G	ELECTRONIC INSTRUMENTATION AND MEASUREMENTS (SAME AS PHY 402G)	(3)
EE 415G	ELECTROMECHANICS	(3)
EE 416G	ENERGY CONVERSION LABORATORY	(2)
EE 421G	SIGNALS AND SYSTEMS I	(3)
EE 422G	SIGNALS AND SYSTEMS II	(3)
EE 461G	INTRODUCTION TO ELECTRONICS	(3)
EE 462G	ELECTRONIC CIRCUITS LABORATORY	(2)
EE 468G	INTRODUCTION TO ENGINEERING ELECTROMAGNETICS	(4)
EE 511	INTRODUCTION TO COMMUNICATION SYSTEMS	(3)
EE 512	DIGITAL COMMUNICATION SYSTEMS	(3)
EE 516	POWER SEMICONDUCTOR MODELS	(3)
EE 517	ADVANCED ELECTROMECHANICS	(3)
EE 518	ELECTRIC DRIVES	(3)
EE 522	ANTENNA DESIGN	(3)
EE 523	MICROWAVE CIRCUIT DESIGN	(3)
EE 524	SOLID STATE PHYSICS (SAME AS PHY 524)	(3)
EE 525	NUMERICAL METHODS AND ELECTROMAGNETICS	(3)
EE 527	ELECTROMAGNETIC COMPATIBILITY	(3)
EE 530	ROBOTICS	(3)
EE 537	ELECTRIC POWER SYSTEMS I	(3)
EE 538	ELECTRIC POWER SYSTEMS II	(3)
EE 560	SEMICONDUCTOR DEVICE DESIGN	(3)
EE 561	ELECTRIC AND MAGNETIC PROPERTIES OF MATERIALS (SAME AS MSE 561)	(3)
EE 562	ANALOG ELECTRONIC CIRCUITS	(3)
EE 564	DIGITAL ELECTRONIC CIRCUITS	(3)
EE 566	HYBRID MICROELECTRONICS (SAME AS MSE 566)	(3)
EE 567	INTRODUCTION TO LASERS AND MASERS (SAME AS PHY 567)	(3)
EE 568	FIBER OPTICS (SAME AS MSE 568)	(3)
EE 569	ELECTRONIC PACKAGING SYSTEMS AND MANUFACTURING PROCESSES (SAME AS MSE 569)	(3)
EE 571	FEEDBACK CONTROL DESIGN	(3)
EE 572	DIGITAL CONTROL OF DYNAMIC SYSTEMS	(3)
EE 579	NEURAL ENGINEERING: MERGING ENGINEERING WITH NEUROSCIENCE (SAME AS BME 579)	(3)
EE 581	ADVANCED LOGICAL DESIGN	(3)
EE 582	HARDWARE DESCRIPTION LANGUAGES AND PROGRAMMABLE LOGIC	(3)
EE 583	MICROPROCESSORS	(3)
EE 584	INTRODUCTION TO VLSI DESIGN AND TESTING	(3)
EE 585	FAULT TOLERANT COMPUTING	(3)

EE 586	COMMUNICATION AND SWITCHING NETWORKS	(3)
EE 587	MICROCOMPUTER SYSTEMS DESIGN (SAME AS CS 587)	(3)
EE 595	INDEPENDENT PROBLEMS	(1-3)
EE 599	TOPICS IN ELECTRICAL ENGINEERING (SUBTITLE REQUIRED)	(2-3)
EE 601	ELECTROMAGNETIC ENERGY CONVERSION I	(3)
EE 603	POWER ELECTRONICS	(3)
EE 604	SWITCH MODE CONVERTERS	(3)
EE 605	SYSTEMS FOR FACTORY INFORMATION AND CONTROL (SAME AS MFS 605)	(3)
EE 606	SEMINAR AND PROJECT IN MANUFACTURING SYSTEMS ENGINEERING (SAME AS MFS/ME 606)	(3)
EE 611	DETERMINISTIC SYSTEMS	(3)
EE 613	OPTIMAL CONTROL THEORY	(3)
EE 619	PROBLEMS SEMINAR IN OPERATIONS RESEARCH (SAME AS STA 619/MA 613)	(3)
EE 621	ELECTROMAGNETIC FIELDS	(3)
EE 622	ADVANCED ELECTRODYNAMICS	(3)
EE 625	COMPUTATIONAL ELECTROMAGNETICS	(3)
EE 627	MULTICONDUCTOR TRANSMISSION LINES	(3)
EE 630	DIGITAL SIGNAL PROCESSING	(3)
EE 635	IMAGE PROCESSING (SAME AS CS 635)	(3)
EE 639	ADVANCED TOPICS IN SIGNAL PROCESSING AND COMMUNICATIONS	(3)
EE 640	STOCHASTIC SYSTEMS	(3)
EE 642	DISCRETE EVENT SYSTEMS (SAME AS CS 642)	(3)
EE 661	SOLID-STATE ELECTRONICS	(3)
EE 663	OPTOELECTRONIC DEVICES	(3)
EE 672	MOLECULAR PROPERTIES IN ELECTRONIC DEVICES	(3)
EE 684	INTRODUCTION TO COMPUTER AIDED DESIGN OF VLSI CIRCUITS	(3)
EE 685	DIGITAL COMPUTER STRUCTURE	(3)
EE 686	ADVANCED COMPUTER ARCHITECTURE DESIGN	(3)
EE 688	NEURAL NETWORKS (SAME AS CS 688)	(3)
EE 699	TOPICS IN ELECTRICAL ENGINEERING (SUBTITLE REQUIRED)	(3)
EE 748	MASTER'S THESIS RESEARCH	(0)
EE 749	DISSERTATION RESEARCH	(0)
EE 767	DISSERTATION RESIDENCY CREDIT	(2)
EE 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
EE 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	12)
EE 783	SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING	(1-3)
EE 784	RESEARCH PROJECT IN ELECTRICAL ENGINEERING	(3)
EGR 537	NUMERICAL ANALYSIS (SAME AS CS/MA 537)	(3)

EGR 599	TOPICS IN ENGINEERING (SUBTITLE REQUIRED)	(1-3)
EGR 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS ME 611)	(3)
EGR 621	FINITE ELEMENT ANALYSIS IN ENGINEERING	(3)

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## ENGINEERING

### Currently not accepting students

When adequate demand exists, the College of Engineering offers a multidisciplinary Master of Engineering degree. This graduate program is intended to serve the educational needs of engineers from accredited baccalaureate programs employed by Kentucky industries, consulting firms, and government agencies. When operational, the degree program is offered through off-campus modes of delivery, predominantly via Interactive Television (ITV), to sites at cooperating comprehensive universities, community colleges, independent colleges, and other institutions throughout the Commonwealth. **The program is not offered outside Kentucky and is not suitable for on-campus, degree-seeking students.**

The courses are also available to students in post-baccalaureate status who wish to enhance their knowledge and skills in a specific area, but who are not pursuing an advanced degree. The five program areas of concentration are: 1) environmental engineering, 2) manufacturing systems design, 3) advanced processing systems, 4) electronics and process control, and 5) mining engineering.

### Admission Requirements

Before enrolling in an extended-campus engineering course, applicants must gain admission (regular, provisional, or post-baccalaureate) to the University of Kentucky Graduate School. United States citizens or U.S. permanent residents must complete the following admission requirements:

- Submit a completed application for admission to the UK graduate school. Distance learning programs will coordinate the process for distance learning students.
- Obtain a bachelor's degree in an engineering discipline from an ABET- accredited institution
- Present a minimum undergraduate grade point average on all undergraduate course work of 2.75 based on a 4.0 scale.
- Send two official transcripts from each college or university previously attended.
- Submit a minimum score of 1000 on the combined verbal and quantitative sections of the graduate record examination (must be satisfied before completing 9 credit hours of graduate work).
- Pay the required graduate school application fee for domestic applicants.



## Degree Requirements

The Master of Engineering degree requires 30 credit hours of course work. Students who enroll in the program will develop an individualized program which has an 18 credit hour area of concentration. The area of concentration will be multidisciplinary and will correspond to the student's career objectives. The remaining 12 credit hours will be in supporting electives, drawn from Engineering, Business and Economics, Mathematics, or other areas. At least one-half of the courses must be at the 600 level or above. Each student will have a major professor who, with two or more additional faculty, will constitute the student's advisory committee. This Committee will review and approve the student's proposed individualized plan of study and will administer the student's final exam (on campus).

Students may utilize any graduate course offered by UK or by other recognized graduate degree-granting institutions, providing these graduate courses meet the program requirements, are approved by the student's committee, and are taken in graduate status. Transfer of credit for courses taken from other institutions or for courses taken in another degree program or as a post-baccalaureate student is limited to 9 credit hours.

For copies of sample individualized curricula in the program's five areas of concentration or for current information on program status, as well as course offerings and sequencing, contact:

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[www.engr.uky.edu/extended\\_campus/](http://www.engr.uky.edu/extended_campus/)

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## ENGLISH

The Department of English offers programs leading to the M.A. and to the Ph.D. degrees. The master's degree may be obtained either by Plan A or Plan B, as defined in this Bulletin. Special areas of concentration for Plan A are Linguistics, Film, and Teaching English as a Second Language (TESL), but require half their programs to be in literature. M.A. courses are to be chosen from both British and American literature. A reading knowledge of one foreign language is required, as is a final oral examination based on a reading list.

The Ph.D. course requirements include a minimum of 24 hours, four seminars taken at the University of Kentucky, and coverage of the periods of British and American literature. The qualifying examination is both written and oral. The written examinations are based on reading lists drawn up by the student in consultation with the Advisory Committee; one will address a broadly defined historical period, the other, a genre, mode, or topic explored through a range of cultural and historical settings. The oral examination focuses on the dissertation prospectus, topic, and context. Ph.D. candidates are required to have a reading knowledge of at least one foreign language. Specific language(s) required and degree of proficiency expected, if beyond Graduate School requirements, will be established by the student's Advisory Committee. There is no specific requirement in a minor area, but such work may be required by a student's Advisory Committee if it appears essential to the major research or concentration interest.

### **Admission Requirements**

Admission to both programs is based on course grades, GRE scores, three letters of recommendation, a brief (1-2 pages) statement of purpose and an analytical writing sample, preferably a critical essay. While each applicant is judged on his or her merits, normal expectations are an undergraduate GPA of 3.0 or above, a graduate GPA of 3.5 or above, and scores of at least 70-80% on two of the three sections of the GRE Aptitude test. (We do not require the subject test.) Students who receive their master's degree from the University of Kentucky will be evaluated by their examining committee, so they need not submit letters of recommendation or a writing sample. Applicants for the master's program who do not have the equivalent of a University of Kentucky major in English may be asked to complete some advanced undergraduate work in English in addition to the courses normally required for the M.A. Applicants to the doctoral program who do not have an M.A. in English may be asked to complete additional courses beyond the minimum of 24 hours for the Ph.D. Applicants with teaching experience must submit a teaching portfolio. The deadline for applications for assistantships and fellowships is January 15th.

All applicants must also fulfill the admission requirements of the Graduate School. A detailed and current statement of requirements for both the M.A. and Ph.D. is available on request from the Director of Graduate Studies in English.

### **GRADUATE COURSES**

ENG 480G	SPECIAL STUDIES IN FILM (SUBTITLE REQUIRED)	(3)
ENG 481G	STUDIES IN BRITISH LITERATURE (SUBTITLE REQUIRED)	(3)
ENG 482G	STUDIES IN AMERICAN LITERATURE (SUBTITLE REQUIRED)	(3)
ENG 483G	STUDIES IN AFRICAN AMERICAN OR DIASPORIC LITERATURE (SUBTITLE REQUIRED)	(3)

ENG 484G	COMPARATIVE STUDIES IN LITERATURE (SUBTITLE REQUIRED)	(3)
ENG 485G	STUDIES IN LITERATURE AND GENDER (SUBTITLE REQUIRED)	(3)
ENG 486G	STUDIES IN THEORY (SUBTITLE REQUIRED)	(3)
ENG 487G	CULTURAL STUDIES (SUBTITLE REQUIRED)	(3)
ENG 488G	GENDER AND SEXUALITY STUDIES (SUBTITLE REQUIRED)	(3)
ENG 507	ADVANCED WORKSHOP IN IMAGINATIVE WRITING (SUBTITLE REQUIRED)	(3)
ENG 509	COMPOSITION FOR TEACHERS	(3)
ENG 512	MODERN ENGLISH GRAMMAR (SAME AS LIN 512)	(3)
ENG 513	TEACHING ENGLISH AS A SECOND LANGUAGE (SAME AS EDC/LIN 513)	(3)
ENG 514	TESL MATERIALS AND METHODS (SAME AS EDC/LIN 514)	(3)
ENG 515	PHONOLOGICAL ANALYSIS (SAME AS ANT/LIN 515)	(3)
ENG 516	GRAMMATICAL ANALYSIS (SAME AS ANT/LIN 516)	(3)
ENG 519	INTRODUCTION TO OLD ENGLISH	(3)
ENG 570	SELECTED TOPICS FOR ADVANCED STUDIES IN LITERATURE (SUBTITLE REQUIRED)	(3)
ENG 572	STUDIES IN ENGLISH FOR TEACHERS (SUBTITLE REQUIRED)	(3)
ENG 600	BIBLIOGRAPHY AND METHODS OF RESEARCH	(3)
ENG 605	EDITING	(3)
ENG 607	GRADUATE WRITING WORKSHOP (SUBTITLE REQUIRED)	(3)
ENG 609	COMPOSITION FOR TEACHERS	(3)
ENG 610	STUDIES IN RHETORIC	(3)
ENG 617	STUDIES IN LINGUISTICS (SUBTITLE REQUIRED)(SAME AS LIN 617)	(3)
ENG 618	HISTORY OF THE ENGLISH LANGUAGE	(3)
ENG 619	BEOWULF	(3)
ENG 620	STUDIES IN MIDDLE ENGLISH LITERATURE	(3)
ENG 621	STUDIES IN CHAUCER	(3)
ENG 622	STUDIES IN RENAISSANCE LITERATURE: 1500-1660	(3)
ENG 625	STUDIES IN RENAISSANCE DRAMA EXCLUSIVE OF SHAKESPEARE	(3)
ENG 626	STUDIES IN SPENSER, SHAKESPEARE, MILTON	(3)
ENG 630	STUDIES IN ENGLISH LITERATURE: 1660-1720	(3)
ENG 631	STUDIES IN ENGLISH LITERATURE: 1720-1780	(3)
ENG 635	STUDIES IN LITERATURE: 1780-1815	(3)
ENG 636	STUDIES IN LITERATURE: 1815-1830	(3)
ENG 638	STUDIES IN ENGLISH LITERATURE: 1830-1860	(3)

ENG 642	STUDIES IN MODERN BRITISH LITERATURE	(3)
ENG 651	STUDIES IN AMERICAN LITERATURE BEFORE 1860	(3)
ENG 652	STUDIES IN AMERICAN LITERATURE: 1860-1900	(3)
ENG 653	STUDIES IN AMERICAN LITERATURE SINCE 1900	(3)
ENG 656	BLACK AMERICAN LITERATURE (SAME AS AAS 656)	(3)
ENG 660	MODERN CRITICAL THEORY	(3)
ENG 681	STUDIES IN FILM	(3)
ENG 682	STUDIES IN FICTION	(3)
ENG 690	STUDIES IN LITERATURE AND GENDER (SUBTITLE REQUIRED)	(3)
ENG 691	READINGS IN RHETORIC (SUBTITLE REQUIRED)	(1)
ENG 700	TUTORIAL FOR PH.D. CANDIDATES	(3)
ENG 720	SEMINAR IN MEDIEVAL LITERATURE	(3)
ENG 722	SEMINAR IN RENAISSANCE STUDIES (SUBTITLE REQUIRED)	(3)
ENG 730	SEMINAR IN 18TH CENTURY LITERATURE	(3)
ENG 735	SEMINAR IN ROMANTIC LITERATURE	(3)
ENG 738	SEMINAR IN VICTORIAN LITERATURE	(3)
ENG 740	SEMINAR IN 20TH CENTURY BRITISH LITERATURE	(3)
ENG 748	MASTER'S THESIS RESEARCH	(0)
ENG 749	DISSERTATION RESEARCH	(0)
ENG 750	SEMINAR IN COLONIAL LITERATURE	(3)
ENG 751	SEMINAR IN AMERICAN LITERATURE: 1800-1860	(3)
ENG 752	SEMINAR IN AMERICAN LITERATURE: 1860-1900	(3)
ENG 753	SEMINAR IN AMERICAN LITERATURE SINCE 1900	(3)
ENG 767	DISSERTATION RESIDENCY CREDIT	(2)
ENG 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ENG 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
ENG 771	SEMINAR IN SPECIAL TOPICS	(3)
ENG 780	DIRECTED STUDIES	(1-6)
ENG 781	SEMINAR IN FILM (SUBTITLE REQUIRED)	(3)

## ENTOMOLOGY

The Department of Entomology offers graduate work leading to the Master of Science (Plan A -- Thesis and Plan B -- Non-thesis) and the Doctor of Philosophy degrees. Individual graduate programs are planned by students in consultation with their advisor and the Director of Graduate Studies. Study and research are available in various areas of entomology including acarology, applied entomology, araneology, behavior, biochemistry, biological control, ecology, genetics, host plant resistance, insect biology, medical and veterinary entomology, molecular biology, physiology, systematics, and taxonomy. The discipline of entomology, similar to all

agricultural and biological sciences, has evolved significantly during the past two decades and continues to undergo rapid changes. To increase flexibility in the core curricula, the PhD and MS core curricula are the responsibility of the graduate faculty in Entomology.

### **Admission Requirements**

Admission to the Graduate program in Entomology is based on the recommendation of the Entomology Graduate Program Committee. Minimum admission requirements include an overall undergraduate grade point average of 3.0 and an overall graduate grade point average of 3.25. Applicants whose native language is English must score at least 1050 on the combined verbal and quantitative portions of the Graduate Record Examination (GRE) general test. Those whose native language is not English must have a Test of English as a Foreign Language (TOEFL) with a minimum score of 79 on the TOEFL-iBT. A minimum overall band score of 6.5 on the International English Language Testing System (IELTS) may be used in lieu of a TOEFL score. They must also have a score of 550 on the quantitative portion of the GRE. The Program requires three letters of recommendation. Meeting the minimum requirements does not guarantee admission. These minimal requirements may be waived in exceptional cases if sufficient additional evidence is presented regarding the ability of the student to do graduate work. Admission to the Graduate Program in Entomology does NOT automatically guarantee financial assistance to the student.

### **Degree Requirements**

During their first year of graduate studies, M.S. (Plan A) and Ph.D. students are required to prepare a formal written research proposal encompassing a thorough literature review, clear statement of objectives, and materials and methods of the project. A research proposal seminar will be presented to the Department upon completion of the written research proposal. An exit seminar, usually presented during the last semester of the student's tenure, is required for M.S. (plans A and B) and Ph.D. students. August graduates will present their seminar in the preceding spring. M.S. students using the Plan B option will be required to provide a detailed outline of their practicum to their Advisory Committee. The practicum must be a minimum of 3 credit hours (maximum of 6 credit hours) and may consist of library research, special problems, internships, etc., as agreed upon by the student and major professor, and approved by the Advisory Committee. M.S. and Ph.D. students will be required to post a formal notification of scheduled examinations on the notice board in the main departmental office two weeks prior to the examination date.

All M.S. and Ph.D. students must satisfy the following core course requirements:

1. An undergraduate course in general entomology. Students who have not had such a course must take ENT 300.
2. ENT 564 Insect Taxonomy
3. STA 570 Basic Statistical Analysis

4. Each M.S. student must take two semesters of ENT 770, Entomological Seminar, (or approved equivalent seminars) and Ph.D. candidates must take four semesters of approved seminars.
5. Ph.D. and M.S. candidates using the Plan A option must take a minimum of one course from two of the following core areas. M.S. candidates using the Plan B option must take a minimum of one course from all three core areas.

Core Area 1: Insect Behavior, Ecology, Evolution and Systematics.

ENT 568	Insect Behavior
ENT 607	Advanced Evolution
ENT 625	Insect-Plant Relationships
ENT 660	Immature Insects
ENT 665	Insect Ecology
ENT 667	Invasive Species Biology

Core Area 2: Insect Molecular Biology, Physiology and Genetics.

ENT 635	Insect Physiology
ENT 636	Insect Molecular Biology

Core Area 3: Pest Management and Applied Ecology.

ENT 530	Integrated Pest Management
ENT 561	Insects Affecting Human and Animal Health
ENT 574	Advanced Applied Entomology
ENT 680	Biological Control

In all cases, an equivalent graduate level course from another institution is acceptable upon approval of the Advisory Committee. Such approval will not decrease the minimum number of credits required, but simply will permit the student to take other courses.

### GRADUATE COURSES

ENT 530	INTEGRATED PEST MANAGEMENT	(3)
ENT 561	INSECTS AFFECTING HUMAN AND ANIMAL HEALTH (SAME AS BIO 561)	(3)
ENT 564	INSECT TAXONOMY (SAME AS BIO 564)	(4)
ENT 568	INSECT BEHAVIOR (SAME AS BIO 568)	(3)
ENT 574	ADVANCED APPLIED ENTOMOLOGY	(4)
ENT 605	EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS BIO/FOR 605)	(2)

ENT 606	CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS BIO/FOR 606)	(3)
ENT 607	ADVANCED EVOLUTION (SAME AS BIO/FOR 607)	(2)
ENT 608	BEHAVIORAL ECOLOGY AND LIFE HISTORIES (SAME AS BIO/FOR 608)	(2)
ENT 609	POPULATION AND COMMUNITY ECOLOGY (SAME AS BIO/FOR 609)	(2)
ENT 613	BEHAVIORAL ECOLOGY AND COMPARATIVE NEUROBIOLOGY (SAME AS BIO/PSY/PGY/ANA 613)	(2)
ENT 614	TECHNIQUES IN BEHAVIORAL ECOLOGY AND COMPARATIVE NEUROBIOLOGY (SAME AS BIO/PSY/PGY/ANA 614)	(2)
ENT 625	INSECT-PLANT RELATIONSHIPS (SAME AS BIO 625)	(3)
ENT 635	INSECT PHYSIOLOGY (SAME AS BIO 635)	(4)
ENT 636	INSECT MOLECULAR BIOLOGY	(4)
ENT 660	IMMATURE INSECTS	(3)
ENT 665	INSECT ECOLOGY (SAME AS BIO 665)	(3)
ENT 667	INVASIVE SPECIES BIOLOGY (SAME AS BIO/FOR 667)	(3)
ENT 680	BIOLOGICAL CONTROL	(3)
ENT 684	PHYLOGENETIC SYSTEMATICS (SAME AS BIO 684)	(3)
ENT 695	SPECIAL TOPICS IN ENTOMOLOGY (SUBTITLE REQUIRED)	(3)
ENT 748	MASTER'S THESIS RESEARCH	(0)
ENT 749	DISSERTATION RESEARCH	(0)
ENT 767	DISSERTATION RESIDENCY CREDIT	(2)
ENT 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ENT 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
ENT 770	ENTOMOLOGICAL SEMINAR	(1)
ENT 780	SPECIAL PROBLEMS IN ENTOMOLOGY AND ACAROLOGY	(2-3)
ENT 790	RESEARCH IN ENTOMOLOGY AND ACAROLOGY	(1-6)

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## FAMILY STUDIES

The Department of Family Studies offers the Master of Science in Family Studies and the Ph.D. in Family Studies. Admissions for both Department of Family Studies graduate programs are conducted one time each year. The deadline date for application for the following fall semester is January 15. Admissions are for Fall Semester enrollment only. This applies to the Ph.D. and the Master of Science in Family Studies including the Marriage and Family Therapy option.

## **Master of Science in Family Studies**

Students pursuing the Family Studies Master's degree take core courses totaling 12 hours: FAM 652, FAM 654, FAM 668, and FAM 690. Within this master's is the option of a prescribed program of study in Marriage and Family Therapy that includes a one-year practicum experience.

The Family Studies Master's requires 36 credit hours. At least two-thirds of the minimum requirements must be in regular courses, and at least three-quarters of the minimum requirements must be in courses numbered at the 600 or 700 levels. Plan A (thesis) requires 36 hours, 6 of which are thesis credit hours, 12 core course hours, and 18 hours of major electives. Plan B (non-thesis) requires 36 credit hours, 12 of which are core courses and 24 of which are major electives. The deadline date for application for the following fall semester is January 15.

Students pursuing the Marriage and Family Therapy option within the Family Studies Master's degree, complete a program of prescribed courses and clinical practica accredited by the Commission on Accreditation for Marriage and Family Therapy Education. The program includes course work in the following areas: a) Theoretical Foundations of Marital and Family Therapy; b) Assessment and Treatment in Marital and Family Therapy; c) Human Development and Family Studies; d) Research; e) Ethics and Professional Issues; and f) Supervised Clinical Practice. Students in this program may choose Plan A (thesis) requiring 6 additional thesis credit hours. Students are admitted to the Marriage and Family Therapy program beginning in the fall term only, and take courses through the following summer. The deadline for applying for admission is January 15.

### **Admission Requirements**

Applicants must submit a Family Studies Departmental online application including a statement of their academic goals for the M.S. degree. Three letters of recommendation should be sent directly from the writer (not the applicant) to the Director of Graduate Studies.

## **Doctor of Philosophy**

The Department of Family Studies offers the Ph.D. in Family Studies. The doctoral program is a research-based curriculum designed for those desiring a research career in Family Science. Individuals completing the Ph.D. in Family Studies will be qualified for positions at colleges and universities; program evaluation positions in public and private settings focusing on individuals and the family; and administrative positions in public and private human services prevention and intervention settings. Financial assistance is available for doctoral students, including teaching and research assistantships.



## Admission Requirements

Students who have earned a Master's degree may apply to the Ph.D. program. Applicants must submit a Family Studies Departmental online application including a statement of clearly developed academic and research goals for the Ph.D. degree <[www.uky.edu/HES/family/e-app-form.htm](http://www.uky.edu/HES/family/e-app-form.htm)>. Three letters of recommendation should be sent directly from the writer (not the applicant) to the Director of Graduate Studies. The deadline date for application for the following fall semester is January 15. Admissions are for Fall Semester enrollment only.

For additional information, contact the Director of Graduate Studies, Department of Family Studies, 315 Funkhouser, University of Kentucky , Lexington , KY 40506-0054 or 859.257.7750.

## GRADUATE COURSES

FAM 502	FAMILIES AND CHILDREN UNDER STRESS	(3)
FAM 509	THE U.S. FAMILY IN HISTORICAL PERSPECTIVE (SAME AS SOC 509/HIS 596)	(3)
FAM 544	CULTURAL DIVERSITY IN AMERICAN CHILDREN AND FAMILIES	(3)
FAM 550	CHILDREN AND FAMILY IN APPALACHIA	(3)
FAM 551	WOMAN IN CONTEMPORARY SOCIETY	(3)
FAM 552	ADMINISTRATION AND SUPERVISION IN EARLY CHILDHOOD EDUCATION PROGRAMS	(3)
FAM 553	PARENT-CHILD RELATIONSHIPS ACROSS THE LIFECYCLE	(3)
FAM 554	WORKING WITH PARENTS	(3)
FAM 555	FOSTERING COGNITIVE DEVELOPMENT IN CHILDREN	(3)
FAM 557	INFANT DEVELOPMENT	(3)
FAM 563	FAMILIES, LEGISLATION AND PUBLIC POLICY	(3)
FAM 585	AGING AND ENVIRONMENT (SAME AS GEO 585/GRN 585)	(3)
FAM 601	SYSTEMIC FAMILY DEVELOPMENT	(3)
FAM 602	CONSUMER ECONOMICS	(3)
FAM 603	THEORY AND RESEARCH IN FAMILY ECONOMICS AND MANAGEMENT	(3)
FAM 624	PERSPECTIVES ON HUMAN SEXUALITY (SAME AS SW 624)	(3)
FAM 640	USING THE DSM IN MFT ASSESSMENT	(3)
FAM 652	READINGS IN FAMILY THEORY AND RESEARCH	(3)
FAM 654	LIFE SPAN HUMAN DEVELOPMENT AND BEHAVIOR (SAME AS EDP 600)	(3)
FAM 655	THEORY AND DYNAMICS OF HUMAN DEVELOPMENT	(3)
FAM 656	ADULT DEVELOPMENT AND AGING IN THE FAMILY	(3)
FAM 657	FAMILY SYSTEMS THEORY	(3)
FAM 658	ADOLESCENT DEVELOPMENT	(3)
FAM 659	ADVANCED CHILD DEVELOPMENT	(3)
FAM 660	AGING AND FAMILY VALUES (SAME AS GRN 660)	(3)
FAM 668	ALLOCATION OF FAMILY RESOURCES	(3)

FAM 685	PROFESSIONAL ISSUES IN MARRIAGE AND FAMILY INTERVENTION	(3)
FAM 686	THEORY AND METHODS IN MARRIAGE AND FAMILY THERAPY	(3)
FAM 687	TREATMENT MODALITIES IN MARRIAGE AND FAMILY THERAPY	(3)
FAM 688	FAMILIES IN CRISIS: INTERVENTION STRATEGIES	(3)
FAM 689	PERSPECTIVES ON DIVORCE AND REMARRIAGE	(3)
FAM 690	FAMILIAL AND DEVELOPMENTAL RESEARCH METHODS	(3)
FAM 699	FIELD EXPERIENCES IN FAMILY STUDIES	(1-3)
FAM 710	CURRENT TRENDS IN EARLY CHILDHOOD EDUCATION AND CARE	(3)
FAM 740	COUPLE AND SEX THERAPY	(3)
FAM 748	MASTER'S THESIS RESEARCH	(0)
FAM 749	DISSERTATION RESEARCH	(0)
FAM 752	SEMINAR IN FAMILY THEORY CONSTRUCTION (SAME AS SOC 752)	(3)
FAM 759	SPECIAL ADVANCED TOPICS IN FAMILY STUDIES	(1-3)
FAM 763	SEMINAR IN PROMARY PREVENTION FOR FAMILY SCIENCE AND HUMAN DEVELOPMENT	(3)
FAM 767	DISSERTATION RESIDENCY CREDIT	(2)
FAM 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
FAM 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
FAM 775	SEMINAR IN HUMAN DEVELOPMENT AND FAMILY RELATIONS	(1-3)
FAM 776	PROSEMINAR IN MARRIAGE AND FAMILY THERAPY (SUBTITLE REQUIRED)	(1-3)
FAM 785	ADVANCED PROBLEMS IN INDIVIDUAL AND FAMILY DEVELOPMENT	(1-3)
FAM 786	ADVANCED PROBLEMS IN FAMILY ECONOMICS AND MANAGEMENT	(1-3)
FAM 787	SUPERVISED EXPERIENCE IN THE PRACTICE OF MARRIAGE AND FAMILY THERAPY	(1-6)
FAM 790	ADVANCED METHODS IN FAMILY STUDIES RESEARCH	(3)
FAM 796	SPONSORED RESEARCH DEVELOPMENT IN FAMILY SCIENCE AND HUMAN DEVELOPMENT	(2)
HES 596	SPECIAL PROBLEMS IN HUMAN ENVIRONMENTAL SCIENCES	(1-3)
HES 600	RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES (SAME AS DMT 600)	(3)

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## FORESTRY

The program offers graduate work leading to the Master of Science in Forestry. Degrees are awarded under Plan A, which requires a minimum of 24 semester hours of graduate course work plus an acceptable thesis, and under Plan B, which requires a minimum of 30 semester hours of graduate course work. The prospective student must have an undergraduate degree in forestry or take a core of undergraduate forestry courses as part of the master's program. (The Forestry Director of Graduate Studies maintains a list of courses that are approved to fulfill this requirement for students who lack an undergraduate forestry degree.) A student's study and research program may be directed toward any of a wide range of topic areas, including: conservation biology, forest biometrics, forest ecology, forest economics, forest entomology,

forest genetics, forest hydrology, forest soils, invasive species modeling and surveillance, marketing/wood products, restoration ecology, silviculture, spatial resource analyses, tree physiology, water quality, and wildlife biology and management. All MS FORE students must take FOR 601 (taught in the fall semester), FOR 602 (taught in the fall semesters of odd-numbered calendar years), and FOR 770 three times (taught in one or more sections each fall and spring semester).

Students interested in pursuing further graduate studies (Ph.D.) in the forestry area may enter one of several interdepartmental programs in which forestry faculty participate, such as agricultural economics, animal science, biology, crop science, plant physiology, and plant & soil science.

### Admission Requirements

Applicants must hold an awarded four-year baccalaureate degree from an accredited institution of higher learning, preferably in Forestry or a Natural Resource discipline. Applicants are expected to have an overall undergraduate grade point average of 3.00 and a minimum combined verbal and quantitative score on the Graduate Record Examination of 1000. A résumé, three letters of recommendation, and a statement of academic and career interests and goals must be sent directly to the Forestry Director of Graduate Studies. Each applicant must identify a graduate faculty member who agrees to serve as his/her major advisor. Applications that are complete by February 1 will be eligible to be considered for an award of departmental financial aid.

Additional information concerning the graduate program in forestry may be obtained at [www.ca.uky.edu/forestry/academics.php](http://www.ca.uky.edu/forestry/academics.php), or by contacting the Director of Graduate Studies at [dwagner@uky.edu](mailto:dwagner@uky.edu).

### GRADUATE COURSES

FOR 460G	FOREST WATERSHED MANAGEMENT	(3)
FOR 564	FOREST SOILS (SAME AS PLS 564)	(3)
FOR 599	INDEPENDENT WORK IN FORESTRY	(1-3)
FOR 601	RESEARCH METHODS IN FORESTRY	(3)
FOR 602	RENEWABLE NATURAL RESOURCES IN A GLOBAL PERSPECTIVE	(3)
FOR 605	EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS ENT/BIO 605)	(2)
FOR 606	CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION (SAME AS ENT/BIO 606)	(3)
FOR 607	ADVANCED EVOLUTION (SAME AS ENT/BIO 607)	(2)
FOR 608	BEHAVIORAL ECOLOGY AND LIFE HISTORIES (SAME AS ENT/BIO 608)	(2)

FOR 609	POPULATION AND COMMUNITY ECOLOGY (SAME AS BIO/ENT 609)	(2)
FOR 612	FOREST ECOSYSTEM DYNAMICS	(3)
FOR 620	SPECIAL TOPICS IN FORESTRY (SUBTITLE REQUIRED)	(1-3)
FOR 622	PHYSIOLOGY OF PLANTS I (SAME AS PLS/BIO 622)	(3)
FOR 623	PHYSIOLOGY OF PLANTS II (SAME AS PLS/BIO 623)	(3)
FOR 630	WILDLIFE HABITAT ANALYSIS	(3)
FOR 662	QUANTITATIVE METHODS IN RENEWABLE RESOURCE MANAGEMENT (SAME AS AEC 662)	(3)
FOR 695	FIELD RESEARCH IN FORESTRY	(3)
FOR 748	MASTER'S THESIS RESEARCH	(0)
FOR 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
FOR 770	FORESTRY SEMINAR (SUBTITLE REQUIRED)	(1)
FOR 781	SPECIAL PROBLEMS IN FORESTRY	(1-3)
FOR 791	RESEARCH IN FORESTRY	(1-3)

## FRENCH

The Department of Modern and Classical Languages, Literatures and Cultures offers a graduate program leading to the M.A. degree in French according to Plan B only.

### **Admission Requirements**

Applicants for admission must first be approved by the Graduate School. They are then reviewed by the Director of Graduate Studies in Modern and Classical Languages, Literatures and Cultures, who consults with the French graduate faculty before returning recommendations to the Graduate School.

An applicant may be provisionally admitted without meeting all of the minimum standards if other factors, including letters of recommendation, the writing sample, and the tape-recorded reading, indicate an ability to perform satisfactorily in graduate-level work. Presentation of a minimum Graduate Record Examination score (GRE) or a minimum Grade Point Average (GPA) does not, however, automatically guarantee admission to the program, as the final decision depends on an evaluation of all materials submitted and the faculty's assessment of the applicant's potential for successful graduate study.

In addition to assuring that the applicant has met the admission requirements of the Graduate School, the Department carefully evaluates the following materials:

1. Evidence of completion of the equivalent of the University of Kentucky's undergraduate major in French. Applicants who fail to meet this standard may be admitted provisionally to the Master's program, but may be required to take additional undergraduate work in French. Graduate credit will not be awarded for undergraduate courses, but graduate courses taken simultaneously count in the degree program.
2. A minimum 3.25 undergraduate GPA in French on a four-point scale.
3. A combined score of 1700-1800 or better on the three sections of the GRE. In special cases, a student without the GRE may be accepted provisionally for the first semester, during which the examination must be taken.
4. Three letters of recommendation addressing the applicant's qualifications for graduate work in French.
5. A writing sample in French by the applicant (analytical prose, typically a graded term paper; not a creative work).
6. Non-native speakers of French must submit a cassette recording (3-4 minutes) of themselves reading a contemporary prose passage in French (a newspaper or magazine article, not a literary work).
7. Non-native speakers of English must submit a cassette recording of themselves reading a similar passage in English. In addition, they must fulfill the Graduate School's Test of English as a Foreign Language (TOEFL) requirement.
8. A statement of purpose in seeking the M.A. in French.
9. Students in post-baccalaureate programs in French or other areas at the University of Kentucky who wish to transfer to the French Master's program will be evaluated also on their post-baccalaureate course work and on recommendations from their instructors, even though admission may be delayed until the end of the semester in which they are enrolled. A maximum of six hours in post-baccalaureate course work may be transferred to the Master's program.

Letters of recommendation, writing samples, cassette recordings, and statements of purpose should be sent to the Director of Graduate Studies, Department of Modern and Classical Languages, Literatures and Cultures, 1055 Patterson Office Tower, University of Kentucky, Lexington KY 40506-0027. For admission in the fall semester with a Teaching Assistantship award, all materials should be received by the Department no later than March 15.

### **Degree Requirements**

Students select a program from a variety of courses listed below in French literature, language, civilization, and literature and the arts. They are then examined over their program. The master's examination for each candidate is prepared and evaluated by a committee of three members of the French graduate faculty which will consider the candidate's course program in preparing the examination.

Candidates must also demonstrate a reading knowledge of another foreign language. The M.A. examination is administered in November, April and July. Applications for the examination

should be made to the Director of Graduate Studies no later than four months prior to the date of examination. For further information concerning the M.A. program in French, consult the Director of Graduate Studies.

All courses listed below are offered on a rotating basis and not less frequently than every eighth semester.

### GRADUATE COURSES

FR 450G	TOPICS IN FRENCH CULTURE (SUBTITLE REQUIRED)	(3)
FR 465G	TOPICS IN FRENCH LITERATURE AND CULTURE IN TRANSLATION (SUBTITLE REQUIRED)	(3)
FR 470G	STUDIES IN FRENCH LITERATURE (SUBTITLE REQUIRED)	(3)
FR 504	TOPICS IN FRENCH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
FR 507	INTERPRETATION AND STYLE	(3)
FR 510	LINGUISTIC STRUCTURE OF MODERN FRENCH	(3)
FR 516	INTRODUCTION TO EARLY FRENCH	(3)
FR 550	FRANCE TODAY	(3)
FR 553	TEACHING OF FRENCH	(3)
FR 570	SEMINAR IN FRENCH LANGUAGE PEDAGOGY	(1)
FR 601	POETIC VISION (SUBTITLE REQUIRED)	(3)
FR 602	NARRATIVE TRADITION (SUBTITLE REQUIRED)	(3)
FR 604	THE TRAGIC MODE (SUBTITLE REQUIRED)	(3)
FR 605	COMIC FICTION (SUBTITLE REQUIRED)	(3)
FR 606	LITERATURE OF THE MIDDLE AGES (SUBTITLE REQUIRED)	(3)
FR 607	STUDIES IN RENAISSANCE LITERATURE (SUBTITLE REQUIRED)	(3)
FR 609	SEVENTEENTH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 617	EIGHTEENTH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 619	NINETEENTH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 621	TWENTIETH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 630	FRENCH LANGUAGE, LITERATURE AND CULTURE OUTSIDE FRANCE (SUBTITLE REQUIRED)	(3)
FR 767	DISSERTATION RESIDENCY CREDIT	(2)
FR 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)

FR 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
FR 780	SPECIAL STUDIES IN FRENCH	(3)

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## GEOGRAPHY

The Department of Geography offers both M.A. (Plan A and Plan B) and Ph.D. programs. Emphasis is placed on theoretical and conceptual training in the student's chosen field of interest. A variety of philosophical and methodological approaches are encouraged. The strength of the program lies in its focus upon close faculty-student interaction, flexibility in designing an appropriate plan of study, and research training in small seminar environments. The primary objective of the graduate program is to prepare students for research-oriented careers in government, industry, and universities. Emphasis in graduate seminars is on developing the background and skills necessary for original contributions to geographic knowledge. Faculty have regional expertise in South and South-East Asia, Japan, the Himalayas, southern Africa, the Caribbean, Central and Eastern Europe, the states of the former Soviet Union, Western Europe, and North America (particularly Appalachia). Research clusters of the faculty include:

**Cultural Studies:** Interpretation and analysis of the built environment; space and representation; the political economy of landscape production; regional imagery; media studies; popular culture; the social construction of community; historic preservation; recreation, tourism and society.

**Development Studies:** Policies and practices of development; political economy perspectives on development; postcolonial theory; economic restructuring and transition economies; household survival strategies; the relations between migration, transportation, tourism, and economic development; environmental management and sustainable development.

**Earth Surface Systems:** Landscape evolution; biogeomorphology; fluvial systems; climate, landform, hydrosphere, biosphere interactions; urban environments; arctic and alpine environments; nonlinear dynamical systems theory in geosciences.

**Political Geography:** Electoral systems; state theory; post-Cold War democratization; the geography of revolutionary change; critical geopolitics; political economy of environmental movements; political economy of globalization discourses and practices.

**Social Geography:** Health care, disease, and society; the geography of AIDS; the geography of aging and the life course; poverty and social policy; race and gender; human behavior in space and time; population and migration studies; spatial structure of social networks; transportation of disadvantaged groups.

**Social Theory:** Theories of human spatiality; Marxist, neo-Marxist, and post-Marxist theory; regulation theory; postmodernism and post-structuralism; feminist theory; space, landscape, and identity; geographic thought and society; technology and social change.

**Urban and Economic:** The local state urban change; urban social conflict; neighborhood change; economic impacts of transportation systems; urban historical geography; regional economic

restructuring; global financial systems; urban morphology; space-time convergence; information and communications; geography of multinational corporations; impacts of foreign direct investment and trade.

**Weathering and Regolith Evolution:** Rock weathering; stone durability and decay; landscape geochemistry; solutes; soil geomorphology and pedology; weathering and landscape evolution. In addition, students have access to faculty with expertise in a variety of methodological areas, including: quantitative, especially multivariate statistics and modeling; mathematical demography; automated and production cartography; GIS; remote sensing applied to human geography; air photo interpretation; qualitative research methodologies, including experiential methods and realism; field techniques.

### **Admission Requirements**

In addition to the basic graduate school requirements, the following materials should be sent to the Department of Geography:

- Three letters of reference from persons who can evaluate your potential for success in our graduate program
- Statement of your goals and objectives in which you discuss your areas of scholarly interest, any research directions you may wish to pursue, and how your interests and goals fit with the University of Kentucky's graduate program in Geography (about two pages, double-spaced)
- Letter requesting consideration for assistantships and fellowships (if desired)
- Curriculum vitae (if available)

It is requested that copies of the materials (if available) sent to the Graduate School also be sent to the DGS. Once all these materials have arrived in the Department of Geography, the application is reviewed by the faculty members on the Department's Graduate Committee. The committee's evaluation does not place emphasis on any one element of the application, rather the combination of elements must convince the Graduate Committee members that the applicant has great potential for success in our program.

The Department welcomes students with undergraduate concentrations in related fields. In some cases students without an academic background in Geography may be required to complete additional course work so as to gain appropriate foundational knowledge.

There is no official deadline for applications. However, applicants are encouraged to submit all application material before February 1st to ensure consideration for admission for the following fall semester. Admission decisions are made on a rolling basis, but decisions about financial aid usually take place in March and April.

### **Degree Requirements**

Applicants for the Ph.D. in geography must conform to the general requirements of the Graduate School as set forth in the first part of this Bulletin. Requirements in the Ph.D. program



consist of 1) core courses (GEO 700 or other advanced methods course, 702, 707) in the theory and methodology of geography; 2) seminars, independent study and directed research in one of the research foci noted above or in cognate disciplines; 3) successful examination in one modern foreign language; 4) a written and oral qualifying examination in theory, methodology, and the student's selected topical focus; and 5) a dissertation based on original research. A program designed to meet the professional academic goals of each doctoral candidate is outlined in consultation with the Director of Graduate Studies and the candidate's Advisory Committee.

Applicants for the M.A. degree in geography follow a broadly based program which consists of: 1) required courses (GEO 600, 702, and 710); 2) elective courses in geography and cognate disciplines according to the student's academic goals and career objectives; and 3) the completion of a master's thesis (Plan A). The non-thesis Ph.D.-preparatory program (Plan B) consists of: 1) required courses (GEO 600, 700 or other advanced methods course, 702, 707, 710); 2) elective courses in geography and cognate disciplines according to the student's academic goals and career objectives; 3) a written examination; 4) a publication-quality research paper; and 5) an oral examination. The Plan A option requires 24 credit hours, the Plan B, 30 credit hours.

### GRADUATE COURSES

GEO 405G	CARTOGRAPHIC PRODUCTION AND DESIGN	(3)
GEO 406G	FIELD STUDIES (SUBTITLE REQUIRED)	(1-9)
GEO 409G	GEOGRAPHIC INFORMATION SYSTEMS AND SCIENCE: FUNDAMENTALS	(3)
GEO 420G	URBAN AND REGIONAL PLANNING	(3)
GEO 430G	PHYSICAL GEOGRAPHY FOR TEACHERS	(3)
GEO 441G	FLUVIAL FORMS AND PROCESSES	(3)
GEO 452G	WORLD GEOGRAPHY FOR TEACHERS	(3)
GEO 475G	MEDICAL GEOGRAPHY	(3)
GEO 490G	AMERICAN LANDSCAPES	(3)
GEO 491G	JAPANESE LANDSCAPES	(3)
GEO 505	PRACTICUM IN CARTOGRAPHY	(3)
GEO 506	INTRODUCTION TO COMPUTER CARTOGRAPHY	(3)
GEO 512	GI SYSTEMS & SCIENCE: ANALYTICAL ISSUES	(3)
GEO 514	GI SYSTEMS & SCIENCE: TECHNICAL ISSUES	(3)
GEO 516	GI SYSTEMS & SCIENCE: MANAGEMENT ISSUES	(3)
GEO 530	BIOGEOGRAPHY AND CONSERVATION (SAME AS BIO 530)	(3)
GEO 542	POLITICAL GEOGRAPHY	(3)
GEO 544	HUMAN POPULATION DYNAMICS	(3)
GEO 545	TRANSPORTATION GEOGRAPHY	(3)
GEO 546	TOURISM AND RECREATION GEOGRAPHY	(3)
GEO 547	GEOGRAPHY OF INFORMATION AND COMMUNICATIONS	(3)
GEO 551	JAPANESE MULTINATIONAL CORPORATIONS (SAME AS JPN 551)	(3)
GEO 560	INDEPENDENT WORK IN GEOGRAPHY	(3)

GEO 565	TOPICS IN GEOGRAPHY	(3)
GEO 585	AGING AND ENVIRONMENT (SAME AS FAM 585/GRN 585)	(3)
GEO 600	ANALYTIC METHODS IN GEOGRAPHY	(3)
GEO 655	SPECIAL STUDY OF SYSTEMATIC GEOGRAPHY	(3)
GEO 700	ADVANCED ANALYTICAL METHODS IN GEOGRAPHY	(3)
GEO 702	CONCEPTS IN GEOGRAPHY	(3)
GEO 705	ADVANCED GEOGRAPHIC METHODS (SUBTITLE REQUIRED)	(3)
GEO 706	ADVANCED FIELD STUDIES (SUBTITLE REQUIRED)	(1-9)
GEO 707	DEVELOPMENT OF GEOGRAPHIC THOUGHT	(3)
GEO 708	GEOGRAPHIC INFORMATION SYSTEMS RESEARCH METHODOLOGIES	(3)
GEO 710	RESEARCH METHODOLOGY AND DESIGN	(3)
GEO 711	CULTURAL STUDIES AND GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 712	DEVELOPMENT STUDIES AND GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 713	ECONOMIC GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 714	POLITICAL GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 715	GEOGRAPHY AND SOCIAL THEORY (SUBTITLE REQUIRED)	(3)
GEO 717	URBAN GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 720	REGIONAL STUDIES (SUBTITLE REQUIRED)	(3)
GEO 721	TOPICAL SEMINAR IN PHYSICAL GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 722	SOCIAL GEOGRAPHY (SUBTITLE REQUIRED)	(3)
GEO 731	EARTH SURFACE SYSTEMS	(3)
GEO 740	RESEARCH INTERNSHIP (SUBTITLE REQUIRED)	(1-6)
GEO 741	TEACHING PRACTICUM	(1)
GEO 742	PREPARING FUTURE FACULTY IN GEOGRAPHY	(1)
GEO 748	MASTER'S THESIS RESEARCH	(0)
GEO 749	DISSERTATION RESEARCH	(0)
GEO 767	DISSERTATION RESIDENCY CREDIT	(2)
GEO 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
GEO 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
GEO 772	SPECIAL RESEARCH PROBLEMS IN GEOGRAPHY	(1-6)

## GERMAN

The general goal of graduate work in German is to provide students with a critical understanding of German culture, its language and literature and its relationship to western civilization as a whole. Specific courses are designed to acquaint students with the aims and methods of research in the fields of language pedagogy, literary and cultural history, literary theory, and historical linguistics. Students working as teaching assistants under faculty supervision have ample opportunity to develop effective teaching skills in a controlled setting.

The Department of Modern and Classical Languages, Literatures and Cultures offers a graduate program leading to the M.A. (Plan A or B) degree in German. Competence in another foreign language, normally French, in addition to German is required for graduate degrees.

### Admission Requirements

Admission requirements include an acceptable undergraduate major in German, a satisfactory score on the Graduate Record Examination (GRE), and three letters of recommendation. Applicants lacking more comprehensive knowledge of German language and literature may be admitted with the understanding that their program must include some advanced undergraduate work in addition to those courses normally required for the M.A.

Individual programs of study are planned with consideration of the student's competencies and interests. The Department endeavors to be flexible and to accommodate career goals in teaching, government service, or research. Areas of specialization of the graduate faculty of the department afford flexible coverage in breadth and depth, with particular strength in early modern studies, the Age of Goethe, Wilhelmine and Weimar culture, contemporary literature and culture, literary theory, intellectual history, gender studies, and foreign language pedagogy. The Department serves as the editorial center for the international journal, *Colloquia Germanica*. The University Library has substantial holdings in all areas of German language, linguistics and literature and in supporting fields.

### GRADUATE COURSES

GER 415G	MAJOR GERMAN AUTHORS (SUBTITLE REQUIRED)	(3)
GER 416G	GENRES OF GERMAN LITERATURE	(3)
GER 420G	SPECIAL STUDIES IN GERMAN LITERARY AND CULTURAL HISTORY (SUBTITLE REQUIRED)	(3)
GER 507	ADVANCED GERMAN COMPOSITION AND CONVERSATION	(3)
GER 520	SPECIAL TOPICS SEMINAR	(3)
GER 532	HISTORY OF THE GERMAN LANGUAGE	(3)
GER 553	THE TEACHING OF GERMAN	(3)
GER 612	STUDIES IN LITERARY THEORY	(3)
GER 615	STUDIES IN MAJOR AUTHORS	(3)

GER 616	STUDIES IN GENRE	(3)
GER 620	STUDIES IN THE MIDDLE AGES	(3)
GER 624	STUDIES IN THE EARLY MODERN ERA	(3)
GER 625	STUDIES IN THE 18TH CENTURY	(3)
GER 629	STUDIES IN THE 19TH CENTURY	(3)
GER 630	STUDIES IN THE 20TH CENTURY	(3)
GER 650	MULTIDISCIPLINARY GERMAN STUDIES SEMINAR (SUBTITLE REQUIRED)	(3)
GER 653	RESEARCH AND ISSUES IN TEACHING GERMAN	(1)
GER 721	SPECIAL TOPICS IN GERMAN LITERARY AND CULTURAL HISTORY	(3)
GER 748	MASTER'S THESIS RESEARCH	(0)
GER 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
GER 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
GER 781	INDEPENDENT STUDIES IN GERMAN	(1-3)

## GERONTOLOGY

The Ph.D. program in Gerontology is a multidisciplinary and interdisciplinary research-oriented degree specifically focused on aging and health. The program, based in the Graduate Center for Gerontology and the College of Public Health, is organized in a way that combines expertise, methodologies and facilities from more than 20 departments ranging from the biomedical sciences, through the social and behavioral sciences, to the humanities.

### Admission Requirements

The Ph.D. Program in Gerontology encourages applications from individuals having expressed interests in advanced theoretical and research-based studies of aging processes or aged individuals and populations. Complete applications that will be considered for admission to the Gerontology Program must include:

Required Elements Sent to the Graduate School

- Application Form and fee payment,
- Official transcripts of all colleges and universities attended,
- Official report of the Graduate Record Examination (GRE).
- (International Students) Official TOEFL report

Additional Elements Sent to the Gerontology Program

- At least three (3) letters of reference,
- Personal statement of interests, doctoral study plans, and career goals.

Students are encouraged to submit samples of scholarly writing, and are strongly encouraged to visit the program before admission decisions are made.

All complete applications will be evaluated not only for evidence of strong academic accomplishment and high professional standards, but for evidence of a strong potential for success in advanced graduate studies and careers in gerontology-related fields.

### **Degree Requirements**

The goal of the Ph.D. program is to provide advanced multidisciplinary and interdisciplinary research training in gerontology with an emphasis on aging and health. Students will develop an understanding of the full spectrum of topics that concern both the process of aging and the health and well-being of the elderly population. In addition, students will develop in-depth knowledge in related disciplines or areas of specialization. The course of study is flexible, stressing an integrative approach to the selection of course work and research activities. Emphasis is placed on tailoring each student's program to meet the specific needs of the individual's background and career goals. To fulfill these objectives, the program integrates formal course work in gerontology, specialized training in a related domain, opportunities for research, experiential learning modules and a problem focused research seminar. Graduates of the program will be able to conduct aging-related research, teach gerontology at the university level, direct gerontology educational programs, work in the aging services field, and consult with other professionals on various issues pertaining to aging and health.

Approximately 40 faculty from departments throughout the University are involved in the program's instruction and research activities. Departments represented include: Anatomy and Neurobiology, Anthropology, Behavioral Science, Civil Engineering, Dentistry, Family Studies, Geography, Internal Medicine and Geriatrics, Management, Neurology, Nursing, Nutrition and Food Science, Philosophy, Physiology and Biophysics, Preventive Medicine, Psychology, Social Work, and Sociology. The diversity of the faculty facilitates the comprehensive study of aging and the aged. At the same time it allows for concentration in several areas of particular expertise and program specialization, including: rural aging, long-term care, cognitive and sensory change, public policy, ethical issues, and the etiology and treatment of Alzheimer's disease, strokes, and other diseases prevalent among the elderly.

The Ph.D. program maintains close linkages with the Sanders-Brown Center on Aging, a Commonwealth Center of Excellence, which offers a broad base of programmatic support for the program as well as serving as the home of the Alzheimer's Disease Research Center and the Stroke Center. Numerous sites for clinical/experiential training are available at various clinics, agencies and organizations, including but not limited to: The Kentucky Division of Aging Services, the University of Kentucky Hospital, Christian Health Center (a University-affiliated nursing home), Best Friends Alzheimer's Day Care Program, University of Kentucky Geriatric Support Services, University of Kentucky Memory Disorders Clinic, University of Kentucky Center for Rural Health, the Center for Creative Living, Cardinal Hill Hospital, St. Claire Medical Center, Northeast Area Health Education Center and the Veterans Affairs Medical Center. Further information may be obtained by writing to:

Rodney Guttman, Ph.D, Director of Graduate Studies  
Graduate Center for Gerontology  
305 Sanders-Brown Building  
University of Kentucky  
Lexington, KY 40536-0230  
<http://www.mc.uky.edu/gerontology>

### **Ph.D. Requirements**

Students are required to complete the core curriculum in gerontology and 18 hours in an area of specialization. Elective courses to be taken will be recommended by each student's Advisory Committee.

#### **CORE CURRICULUM**

GRN 600	A STUDY OF THE OLDER PERSON	(3)
GRN 620	HUMAN AGING AND ADJUSTMENT	(6)
GRN 650	RESEARCH METHODS IN GERONTOLOGY	(3)
GRN 780	APPLIED RESEARCH PRACTICUM I	(1)
GRN 781	APPLIED RESEARCH PRACTICUM II	(1)
GRN 782	WOMEN'S HEALTH AND AGING	(3)
GRN 785	INDEPENDENT RESEARCH IN GERONTOLOGY	(3)
GRN 790	INTEGRATIVE RESEARCH SEMINAR I	(3)
GRN 791	INTEGRATIVE RESEARCH SEMINAR II	(3)

#### **SIX HOURS TO BE SELECTED FROM:**

GRN 612	BIOLOGY OF AGING	(3)
GRN 710	AGING OF THE NERVOUS SYSTEM	(3)
BSC 770	PSYCHOSOCIAL ISSUES IN HEALTH AND AGING	(3)
GRN 610	AGING AND BIOMEDICAL ETHICS	(3)
ANT 539	AGING IN CROSS-CULTURAL PERSPECTIVE	(3)
GRN 585	AGING AND ENVIRONMENT	(3)
GRN 715	HEALTH POLICY AND AGING	(3)

It is assumed that students entering with M.S. or M.A. degrees will have taken some of the required courses or their equivalent. The student's Advisory Committee, in conjunction with the Program Steering Committee, will determine the amount of prior course work to be credited toward specific requirements.

Possible elective courses that may be selected by the student or required by the student's Advisory Committee include but are not limited to those listed below:

## GERONTOLOGY ELECTIVES

GRN 513	GERIATRIC PHARMACY	(3)
BSC 779	BEHAVIORAL FACTORS IN DEATH AND DYING	(3)
NFS 680	NUTRITION AND AGING	(2)
AHE 510	OLDER WOMEN AND THEIR HEALTH	(3)
HA 510	ORGANIZATION OF THE LONG-TERM CARE SECTOR	(3)
SOC 735	SPECIAL TOPICS IN WORK, GENDER AND INEQUALITY:GENDER AND AGING	(3)
SW 604	SOCIAL WORK PRACTICE WITH THE AGING	(2)
SW 613	UBAN ECOLOGY AND AGING	(2-3)
SW 642	PSYCHOLOGICAL ASPECTS OF HUMAN AGING	(3)

## GRADUATE COURSES

GRN 513	GERIATRIC PHARMACY (SAME AS PHR 813)	(3)
GRN 585	AGING AND ENVIRONMENT (SAME AS FAM 585/GEO 585)	(3)
GRN 600	A STUDY OF THE OLDER PERSON	(3)
GRN 612	BIOLOGY OF AGING (SAME AS BIO/ANA/PGY 612)	(3)
GRN 615	SEMINAR IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING I) (SAME AS PGY 615)	(2)
GRN 620	HUMAN AGING AND ADJUSTMENT	(6)
GRN 643	BIOMEDICAL ASPECTS OF AGING (SAME AS SW 643)	(3)
GRN 650	RESEARCH METHODS IN GERONTOLOGY	(3)
GRN 660	AGING AND FAMILY VALUES (SAME AS FAM 660)	(3)
GRN 710	AGING OF THE NERVOUS SYSTEM (SAME AS PHA/PGY/ANA 710)	(3)
GRN 715	HEALTH POLICY AND AGING (SAME AS HA 715)	(3)
GRN 720	GERIATRIC DENTISTRY	(1)
GRN 749	DISSERTATION RESEARCH	(0)
GRN 767	DISSERTATION RESIDENCY CREDIT	(2)
GRN 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
GRN 770	SPECIAL TOPICS IN GERONTOLOGY	(1-3)
GRN 780	APPLIED RESEARCH PRACTICUM I	(1)
GRN 781	APPLIED RESEARCH PRACTICUM II	(1)
GRN 782	WOMEN'S HEALTH AND AGING (SAME AS BSC 782)	(3)
GRN 785	INDEPENDENT RESEARCH IN GERONTOLOGY	(3)
GRN 790	INTEGRATIVE RESEARCH SEMINAR I	(1)
GRN 791	INTEGRATIVE RESEARCH SEMINAR II	(1)

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## HEALTH ADMINISTRATION

The Master of Health Administration is offered in the Martin School of Public Policy and Administration, a research, academic and service unit of the Graduate School. The MHA is a 44-credit-hour program for those seeking careers in the management of a variety of health institutions, organizations and agencies. The MHA program is accredited by the Commission on Accreditation of Healthcare Management Education (CAMHE).

The interdisciplinary faculty have appointments in the Martin School, in academic units including the Kentucky College of Public Health, the Colleges of Business and Economics, and Arts and Sciences.

### Admission Requirements

Master of Health Administration Students must meet the admission standards of both the Graduate School and the Martin School. Applicants must submit the following items to be considered for admission to the Master of Health Administration program in addition to documents required by the Graduate School.

1. Three letters of recommendation.
2. A one to three page statement explaining why you wish to pursue an MHA degree.
3. The Applicant Information Form.

The final selection of students for admission will be subject to the discretion of the admissions committee of the MHA program.

Deadlines for the program are the same as the Graduate School admission deadlines. Students are admitted only in the fall semester. Applications completed by February 1 will have priority for financial aid.

### Pre-requisites

Students are admitted from various academic disciplines. If not previously exposed to business disciplines, students must develop an understanding of the concepts of financial accounting and macroeconomics, such as that acquired by taking ECO 202 and ACC 201 or the equivalent. The MHA curriculum has an administrative core, a health service core, an internship, and a final capstone project. Degree requirements include the successful completion of all course work with a 3.0 or better GPA and passing of the final master's comprehensive examination. The MHA program is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA). For more information about the program, write:

MHA Director of Graduate Studies  
University of Kentucky  
419 Patterson Office Tower  
Lexington, KY 40506-0027



## Course Requirements

Completion of 44 credit hours of coursework is required (see below)

### MHA CURRICULUM ADMINISTRATIVE CORE (12 HOURS)

HA 621	QUANTITATIVE METHODS OF RESEARCH	(3)
HA 623	DECISION ANALYSIS AND SUPPORT SYSTEMS	(3)
HA 624	INFORMATION SYSTEMS IN HEALTH CARE	(3)
HA 642	PUBLIC ORGANIZATION THEORY AND BEHAVIOR	(3)

### HEALTH SERVICES CORE (26 HOURS)

HA 601	OVERVIEW OF THE HEALTH CARE DELIVERY SYSTEM	(3)
HA 602	ORGANIZATIONAL CHANGE AND STRATEGIC PLANNING	(3)
HA 603	LEGAL ASPECTS OF HEALTH ADMINISTRATION	(2)
HA 604	MANAGERIAL ETHICS	(1)
HA 635	MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS	(3)
HA 636	HEALTH ECONOMICS	(3)
HA 637	HEALTH FINANCE	(3)
PA 622	PROGRAM EVALUATION	(3)
HA 673	HEALTH POLICY DEVELOPMENT	(2)
HA 628	PERSONNEL MANAGEMENT IN THE PUBLIC SECTOR	(3)

### ADMINISTRATIVE PRACTICUM (3 HOURS)

HA 711	INTERNSHIP IN HEALTH ADMINISTRATION	(3)
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### CAPSTONE (3 HOURS)

HA 660	DECISION MAKING IN HEALTH CARE ORGANIZATIONS	(3)
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### GRADUATE COURSES

HA 601	OVERVIEW OF THE HEALTH CARE DELIVERY SYSTEM (SAME AS PA 671)	(3)
HA 602	ORGANIZATIONAL CHANGE AND STRATEGIC PLANNING	(3)
HA 603	LEGAL ASPECTS OF HEALTH ADMINISTRATION	(2)
HA 604	MANAGERIAL ETHICS	(1)
HA 621	QUANTITATIVE METHODS OF RESEARCH (SAME AS PA 621)	(3)
HA 622	MENTAL HEALTH ADMINISTRATION	(3)
HA 623	DECISION ANALYSIS AND SUPPORT SYSTEMS (SAME AS PA 623)	(3)
HA 624	INFORMATION SYSTEMS IN HEALTH CARE	(3)

HA 628	PERSONNEL MANAGEMENT IN HEALTH AND PUBLIC ADMINISTRATION(3) (SAME AS PA 628)	
HA 632	PUBLIC FUNDS MANAGEMENT (SAME AS PA 632)	(3)
HA 635	MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS	(3)
HA 636	HEALTH ECONOMICS (SAME AS PA 636/ECO 653)	(3)
HA 637	HEALTH FINANCE (SAME AS PA 637)	(3)
HA 642	PUBLIC ORGANIZATION THEORY AND BEHAVIOR (SAME AS PA 642)	(3)
HA 652	PUBLIC POLICY ECONOMICS (SAME AS PA/ECO 652)	(3)
PA 622	PROGRAM EVALUATION	(3)
HA 660	DECISION MAKING IN HEALTH CARE ORGANIZATIONS	(3)
HA 673	HEALTH POLICY DEVELOPMENT (SAME AS PA 673)	(2)
HA 711	PRACTICUM IN HEALTH ADMINISTRATION	(3)
HA 715	HEALTH POLICY AND AGING (SAME AS GRN 715)	(3)
HA 775	SPECIAL TOPICS IN HEALTH ADMINISTRATION (SAME AS PA 775)	(1-3)
HA 785	INDEPENDENT STUDY IN HEALTH ADMINISTRATION (SAME AS PA 785)	(1-3)

## HISPANIC STUDIES

### Master of Arts

#### Admission Requirements

A B.A. in Hispanic Studies or a related area, demonstrated fluency in Spanish, strong letters of reference and a representative research essay from the candidate's prior academic work.

Graduate Record Examination scores are required for admission. Foreign students must pass the TOEFL with the minimum required score of 550 on the paper version of the exam, 213 on the computer version, or 79 on the Internet/IBT version. Supervised teaching experience within the department is a requirement for both the Master's and Doctoral degrees.

#### Degree Requirements

Standard Graduate School requirements; reading knowledge of a second foreign language; successful completion of SPA 553 (Pedagogy and the Teaching of Spanish), SPA 602 (Studies in Spanish Linguistics), SPA 606 (Introduction to Literary Theory) and SPA 782 (Introduction to

Hispanic Studies). Successful completion of an additional 27 hours of credits of which 6 might be taken at the 500 level (24 credits must be taken at the 600 level or above). The M.A. is granted to a student who has successfully passed a written and oral examination after completing the required coursework. The exam is designed to test the candidate's knowledge of the MA Reading List (located at the URL [//www.as.uky.edu/HispanicStudies/mareadinglist.html](http://www.as.uky.edu/HispanicStudies/mareadinglist.html)) and the candidate's composite course work. A student who plans to complete only the MA degree (or is not admitted into the PhD program) has three years to complete the coursework towards the MA and to take the exam.

NOTE: Students who are admitted into the PhD program during the fourth semester of coursework are not required **to take an MA exam after their second year**. The MA degree will be conferred to them upon completion of Part A of the doctoral Qualifying Exam. Students who enter the program with an MA from another institution will be reviewed by the graduate committee at the end of the second semester. If the committee deems the student's work acceptable, the student may then go on to complete the PhD requirement. If the work is deemed unacceptable, the student will be required to pass the MA exam before proceeding on to the PhD.

## **Doctor of Philosophy**

### **Admission Requirements**

In addition to the Graduate School requirements for the MA listed previously, presentation of an acceptable writing sample, excellent letters of reference and a statement of purpose (with an indication of student's interest in particular dissertation topics).

### **Degree Requirements**

Standard Graduate School requirements. 54 credit hours (18 courses) of which ten credits are required: successful completion of SPA 553 (Pedagogy and the Teaching of Spanish), SPA 602 (Studies in Spanish Linguistics), SPA 606 (Introduction to Literary Theory) and SPA 782 (Introduction to Hispanic Studies—1 credit hour). Of the remaining 15 courses, 5 must be in the major field of concentration (with two of these at the 700 level). 4 courses must be in the allied fields, and 2 in a minor field (outside the department). Additionally, the student must demonstrate reading knowledge of two languages other than Spanish and English. The successful candidate will defend a dissertation prospectus, successfully complete Parts A and B of the Qualifying exam, and defend a dissertation.

Candidates are expected to devise a program of study and research around the major area of specialization. Two minor areas (in Hispanic literature and culture) and one allied field (related to the dissertation work) must be selected as support divisions for the major area. Minimum graduate credit expectations are 24 credit hours in the combined Major and Minor areas and 15 credit hours in the Allied Fields; 6 graduate credits in Hispanic Linguistics and in each of the

two remaining areas not chosen as Major, Minor, or Allied Fields. Two seminars (one in the major field) are required.

Specialization by area: 1) Medieval Spanish Studies; 2) Renaissance and Early Modern Spanish Studies; 3) Eighteenth- and Nineteenth-Century Spanish Studies; 4) Twentieth- and Twenty-First-Century Spanish Studies; 5) Colonial and Nineteenth-Century Spanish American Studies; 6) Twentieth- and Twenty-First-Century Spanish American Studies. The dissertation focus may combine Hispanic literature and film, Hispanic literature and Fine Arts, Hispanic literature with a second literature, literature and popular culture, or literature and theory. Students are encouraged to explore topics in Transatlantic Studies, and to make use of the excellent programs in Social Theory, Women's Studies, Latin American Studies, Environmental Studies and Appalachian Studies in considering trans-disciplinary possibilities for their doctoral theses.

**The qualifying examination** consists of two parts. Part A is a written exam and a two hour oral exam based on the reading list and the prospectus the student has submitted to the dissertation committee. The written exam is structured as follows: a take-home exam in the areas of the dissertation and the extradisciplinary Minor Field, and an additional ten hours to test the student's knowledge in his/her area of general specialization, and the additional three areas (Major and Allied Fields) on which the student has chosen to concentrate. In order to take this exam, the student needs to have submitted a written prospectus and a reading list to the dissertation committee at least two months before scheduling the exam.

Part B of the qualifying examination will take place during the semester following Part A. The student will present either a fully written introduction or a sample dissertation chapter to the dissertation committee.

Acceptable Progress towards the Dissertation: The ABD student is required to establish and maintain an acceptable timeline for completing the dissertation. The Department expects that the student complete at least one dissertation chapter per semester until the dissertation is completed. It is hoped that the student will complete the dissertation within two years after the qualifying exams.

## GRADUATE COURSES

SPA 438G	LITERATURE OF SOCIAL PROTEST IN SPANISH AMERICA	(3)
SPA 501	SPANISH PHONETICS, PRONUNCIATION AND PHONEMICS	(3)
SPA 506	INTRODUCTION TO COMPARATIVE SPANISH, PORTUGUESE, AND ITALIAN LINGUISTICS	(3)
SPA 553	TEACHING OF SPANISH	(3)
SPA 600	HISTORY OF THE SPANISH LANGUAGE	(3)
SPA 601	STUDIES IN SPANISH PEDAGOGY (SUBTITLE REQUIRED)	(1)
SPA 602	STUDIES IN SPANISH LINGUISTICS (SUBTITLE REQUIRED)	(3)

SPA 606	INTRODUCTION TO CRITICAL THEORY AND CULTURE STUDIES	(3)
SPA 607	SPECIALTOPICS IN CRITICAL THEORY AND CULTURAL STUDIES (SUBTITLE REQUIRED )	(1)
SPA 608	SPECIAL TOPICS IN SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 609	SPECIAL TOPICS IN LATIN AMERICAN AND U.S. HISPANIC LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 610	STUDIES IN MEDIEVAL SPANISH LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 620	STUDIES IN EARLY MODERN AND BAROQUE SPANISH LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 630	STUDIES IN 18TH AND 19TH CENTURY SPANISH LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 640	STUDIES IN 20TH AND 21 STCENTURY SPANISH LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 650	STUDIES IN COLONIAL LATIN AMERICAN LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 660	STUDIES IN 19TH CENTURY LATIN AMERICAN LITERATURE (SUBTITLE REQUIRED)	(3)
SPA 680	STUDIES IN 20TH CENTURY LATIN AMERICAN LITERATURE 1900.1950'S (SUBTITLE REQUIRED)	(3)
SPA 681	STUDIES IN CONTEMPORARY LATIN AMERICAN LITERATURE 1960'S TO PRESENT (SUBTITLE REQUIRED)	(3)
SPA 685	STUDIES IN U.S. HISPANIC LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 690	STUDIES IN SPANISH AND/OR LATIN AMERICAN FILM (SUBTITLE REQUIRED)	(3)
SPA 706	ADVANCED READINGS IN CRITICAL THEORY AND CULTURAL STUDIES (SUBTITLE REQUIRED)	(3)
SPA 708	CRITICALPERSPECTIVESON SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 709	CRITICAL PERSPECTIVES ON LATIN AMERICAN AND U.S. HISPANIC LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 710	SEMINAR IN MEDIEVAL SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 720	SEMINAR IN EARLY MODERN AND BAROQUE SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 730	SEMINAR IN 18TH AND 19TH CENTURY SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 740	SEMINAR 20-21ST CENTURY SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 748	MASTER'S THESIS RESEARCH	(0)
SPA 749	DISSERTATION RESEARCH	(0)

SPA 750	SEMINAR IN COLONIAL LATINAMERICAN LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 760	SEMINAR IN 19TH CENTURY LATIN AMERICAN LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
SPA 767	DISSERTATION RESIDENCY CREDIT	(2)
SPA 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
SPA 780	SEMINAR IN 20TH CENTURY LATIN AMERICAN LITERATURE AND CULTURE 1900-1950'S (SUBTITLE REQUIRED)	(3)
SPA 781	SEMINAR IN CONTEMPORARY LATIN AMERICAN LITERATURE AND CULTURE 1960'S TO PRESENT (SUBTITLE REQUIRED)	(3)
SPA 782	SPECIAL STUDIES IN SPANISH	(1-3)
SPA 785	SEMINAR IN U.S. HISPANIC AND/OR LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)

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## HISTORIC PRESERVATION

Preservation is a field involved with the interpretation and conservation of historic sites, as well as with their renovation and adaptive use. An interdisciplinary approach to the investigation of buildings and landscapes, which addresses the complexity of material culture, has been adopted by the faculty of this program. The College of Design offers a Master of Historic Preservation degree that provides opportunities for students to explore a variety of interests. Applications are invited not only from those with degrees in design—architects, interior designers, and landscape architects—but also from those who hold degrees in other disciplines and wish to pursue studies in historic preservation.

### Admission Requirements

Requirements for admission include 1) a baccalaureate degree from an accredited college or university, 2) demonstration of ability in drawing, drafting, and photography, 3) three letters of recommendation and a personal essay, 4) a minimum score of 1000 on the verbal and quantitative sections and an acceptable score on the analytical section of the Graduate Record Examination (GRE), 5) an interview with the faculty in the program, if possible, and 6) a B average GPA at the undergraduate level..

Requirements for the degree include the completion of core courses, advanced electives, an internship, and a final project—a total of 48 hours of credit. For additional information on admission and requirements, contact the Director, Graduate Program in Historic Preservation, College of Design, University of Kentucky, Lexington, KY 40506-0041.

## GRADUATE COURSES

HP 501	SELECTED TOPICS IN HISTORIC PRESERVATION (SUBTITLE REQUIRED)	(3)
HP 601	INTRODUCTION TO HISTORIC PRESERVATION	(3)
HP 602	DYNAMICS OF HISTORIC PRESERVATION: LAW, LAND USE PLANNING AND ECONOMICS	(3)
HP 610	AMERICAN ARCHITECTURE I	(3)
HP 611	AMERICAN ARCHITECTURE II	(3)
HP 612	DOCUMENTATION OF HISTORIC BUILDINGS AND SITES	(3)
HP 613	HISTORICAL STRUCTURAL SYSTEMS AND BUILDING MATERIALS	(3)
HP 616	PRESERVATION DESIGN STUDIO	(3-6)
HP 699	SUMMER INTERNSHIP	(1-6)
HP 720	CASE STUDIES IN PRESERVATION	(3)
HP 721	INTERPRETATION OF HISTORIC BUILDINGS AND SITES	(3)
HP 722	HISTORIC PROPERTIES MANAGEMENT AND ADMINISTRATION	(3)
HP 723	KENTUCKY ARCHITECTURE AND CULTURAL LANDSCAPES	(3)
HP 724	ADVANCED HISTORICAL STRUCTURAL SYSTEMS AND BUILDING MATERIALS CONSERVATION	(3)
HP 725	PRESERVATION PRACTICUM	(3)
HP 726	AMERICAN MATERIAL CULTURE (SAME AS ANT 726)	(3)
HP 728	HISTORIC LANDSCAPE AND GARDEN RESTORATION AND INTERPRETATION	(3)
HP 750	ARCHITECTURE DESIGN STUDIO	(3)
HP 798	MASTER'S PROJECT I	(3)
HP 799	MASTER'S PROJECT II	(3)
GEO 490G	AMERICAN LANDSCAPES	(3)
ID 589	RES/PRES I: INTRODUCTORY CONCEPTS OF RESTORATION AND PRESERVATION	(3)

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## HISTORY

### The Master's and Ph.D. Programs

The Department of History offers both the M. A. and the Ph.D. degrees. The master's degree may be obtained either by Plan A or Plan B. A reading knowledge of one foreign language is required. The Ph.D. program is built around graduate readings and research seminars that are designed to prepare students for the qualifying exams and to write the doctoral dissertation. Specific requirements vary depending on a student's concentration (e.g. U.S., modern Europe, pre-modern Europe). Reading knowledge of one foreign language is required and proficiency must be satisfied before a student may sit for qualifying exams. A student's advisory committee may require proficiency in one or more additional languages or skills such as oral history. The

precise nature of the qualifying exam fields will be determined by the major advisor and the advisory committee. The advisory committee chair directs the doctoral dissertation.

More information on specific requirements may be found at the department's website <http://www.uky.edu/AS/History/> or in the department's Graduate Handbook, which is available at <http://www.uky.edu/AS/History/grads/index.html>.

### **Admission Procedures and Requirements**

Students applying for the MA program should submit evidence of strong undergraduate preparation in history, preferably an undergraduate major with a minimum grade-point average of 3.0 on a 4.0 scale. Applicants must also submit Graduate Record Examination scores, three letters of recommendation, a writing sample, and a one- or two-page statement of purpose. Ideally, the writing sample should be a research paper or a major term paper. The letters of recommendation should be collected by the applicant and forwarded in a single envelope.

Applicants applying for admission to the Ph.D. program should follow the same procedures. Whenever possible, the department prefers to see an applicants' MA thesis when making admission decisions. Each applicant is judged on his or her merits and against the larger pool of applicants. Admission is competitive, and the department usually cannot accept all qualified applicants. Applicants who wish to be considered for financial assistance and fellowships must apply no later than January 15.

### **GRADUATE COURSES**

HIS 500	PRE-CLASSICAL AND CLASSICAL GREECE	(3)
HIS 501	FOURTH CENTURY GREECE AND THE HELLENISTIC WORLD	(3)
HIS 502	A HISTORY OF THE ROMAN REPUBLIC	(3)
HIS 503	A HISTORY OF THE ROMAN EMPIRE	(3)
HIS 504	GREEK AND ROMAN MEDICINE	(3)
HIS 506	HISTORY OF SEXUALITY IN THE US	(3)
HIS 507	US LABOR HISTORY	(3)
HIS 509	ROMAN LAW (SAME AS CLA 509)	(3)
HIS 510	MEDIEVAL CIVILIZATION I	(3)
HIS 511	MEDIEVAL CIVILIZATION II	(3)
HIS 512	MEDIEVAL INSTITUTIONS TO THE MID TENTH CENTURY	(3)
HIS 513	MEDIEVAL INSTITUTIONS SINCE THE MID TENTH CENTURY	(3)
HIS 514	SPAIN: FROM RECONQUEST TO EMPIRE, 1200-1700	(3)
HIS 519	THE ERA OF THE RENAISSANCE	(3)
HIS 520	THE ERA OF THE REFORMATION	(3)
HIS 521	EUROPEAN SOCIAL HISTORY, 1400-1800	(3)
HIS 522	EUROPE AND THE WORLD IN THE AGE OF REVOLUTION, 1760-1815	(3)
HIS 525	MODERN EUROPE: 1890-1939	(3)



HIS 526	EUROPE SINCE 1939	(3)
HIS 529	WOMEN IN MODERN EUROPE	(3)
HIS 534	RUSSIA IN THE NINETEENTH CENTURY	(3)
HIS 535	RUSSIA IN THE TWENTIETH CENTURY	(3)
HIS 536	INTELLECTUAL AND CULTURAL HISTORY OF RUSSIA TO 1800	(3)
HIS 537	INTELLECTUAL AND CULTURAL HISTORY OF RUSSIA FROM 1800 TO PRESENT	(3)
HIS 540	HISTORY OF MODERN FRANCE TO 1815	(3)
HIS 541	HISTORY OF MODERN FRANCE SINCE 1815	(3)
HIS 542	GERMAN HISTORY 1789-1918	(3)
HIS 543	GERMAN HISTORY SINCE 1918	(3)
HIS 546	THE BYZANTINE EMPIRE	(3)
HIS 548	HISTORY OF THE MIDDLE EAST: 1453-1920	(3)
HIS 549	HISTORY OF THE MIDDLE EAST: 1952 TO PRESENT	(3)
HIS 553	EIGHTEENTH CENTURY BRITAIN	(3)
HIS 554	BRITISH HISTORY 1815-1901	(3)
HIS 555	BRITISH HISTORY SINCE 1901	(3)
HIS 561	THE INTELLECTUAL AND CULTURAL HISTORY OF LATIN AMERICA	(3)
HIS 562	MODERN MEXICO	(3)
HIS 563	THE HISTORY OF WOMEN IN LATIN AMERICA	(3)
HIS 572	AMERICAN LEGAL HISTORY	(3)
HIS 573	AMERICAN CONSTITUTIONAL HISTORY	(3)
HIS 574	THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES TO 1919	(3)
HIS 575	THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES SINCE 1919	(3)
HIS 576	FRONTIER AMERICA, 1400-1869	(3)
HIS 577	FRONTIER AMERICA, 1869-PRESENT	(3)
HIS 578	HISTORY OF THE OLD SOUTH	(3)
HIS 579	HISTORY OF THE NEW SOUTH	(3)
HIS 580	HISTORY OF APPALACHIA	(3)
HIS 581	U.S. URBAN HISTORY SINCE 1865	(3)
HIS 582	IMMIGRATION AND AMERICAN HISTORY 1815 TO PRESENT	(3)
HIS 584	HEALTH AND DISEASE IN THE U.S.	(3)
HIS 593	EAST ASIAN HISTORY SINCE WORLD WAR II	(3)
HIS 595	STUDIES IN HISTORY	(3)
HIS 596	THE U.S. FAMILY IN HISTORICAL PERSPECTIVE (SAME AS FAM/SOC 509)	(3)
HIS 597	WESTERNERS IN EAST ASIA, 1839 TO THE PRESENT	(3)
HIS 598	CHINA IN REVOLUTION, 1895-1976	(3)
HIS 600	THE INTELLECTUAL HISTORY OF AFRICAN AMERICANS (SAME AS AAS 600)	(3)
HIS 606	HISTORICAL CRITICISM	(3)
HIS 613	READINGS IN EARLY MEDIEVAL HISTORY	(3)
HIS 614	READINGS IN HIGH AND LATE MEDIEVAL HISTORY	(3)
HIS 615	READINGS IN HISTORY OF SCIENCE AND MEDICINE THROUGH THE RENAISSANCE	(3)
HIS 621	READINGS IN EARLY MODERN EUROPE, 1450-1648	(3)

HIS 622	READINGS IN EARLY MODERN EUROPE, 1648-1815	(3)
HIS 623	READINGS IN 19TH CENTURY EUROPEAN HISTORY	(3)
HIS 624	READINGS IN EUROPEAN HISTORY OF THE TWENTIETH CENTURY	(3)
HIS 625	READINGS IN BRITISH AND BRITISH EMPIRE HISTORY	(3)
HIS 626	BRITAIN, 1792-1914	(3)
HIS 630	READINGS IN AMERICAN HISTORY: THE COLONIAL ERA	(3)
HIS 631	READINGS IN AMERICAN HISTORY: THE AMERICAN REVOLUTION AND THE NEW REPUBLIC	(3)
HIS 632	READINGS IN AMERICAN HISTORY: THE AGE OF JACKSON, CIVIL WAR AND RECONSTRUCTION	(3)
HIS 633	READINGS IN AMERICAN HISTORY: THE GILDED AGE AND THE PROGRESSIVE ERA	(3)
HIS 634	READINGS IN AMERICAN HISTORY: AMERICA SINCE 1920	(3)
HIS 638	READINGS IN LATIN AMERICAN HISTORY	(3)
HIS 650	READINGS IN SPECIAL TOPICS IN HISTORY	(3)
HIS 651	READINGS IN U.S. FOREIGN RELATIONS SINCE 1900	(3)
HIS 653	READINGS IN U.S. WOMEN'S HISTORY	(3)
HIS 654	READINGS IN MODERN AFRICAN-AMERICAN HISTORY	(3)
HIS 655	READINGS IN ANTEBELLUM SOUTHERN HISTORY	(3)
HIS 656	READINGS IN NEW SOUTH HISTORY	(3)
HIS 657	RACE RELATIONS IN THE UNITED STATES (SAME AS AAS 657)	(3)
HIS 695	INDEPENDENT WORK	(1-3)
HIS 700	SPECIAL PROBLEMS IN HISTORY	(3)
HIS 706	SEMINAR IN MEDIEVAL HISTORY	(3)
HIS 710	SEMINAR IN AMERICAN HISTORY, 1607-1815	(3)
HIS 711	SEMINAR IN AMERICAN HISTORY, 1815-1865	(3)
HIS 712	SEMINAR IN AMERICAN HISTORY, 1865 TO THE PRESENT	(3)
HIS 722	SEMINAR IN MODERN EUROPEAN HISTORY, 1870 TO THE PRESENT	(3)
HIS 730	SEMINAR IN MODERN BRITISH HISTORY	(3)
HIS 748	MASTER'S THESIS RESEARCH	(0)
HIS 749	DISSERTATION RESEARCH	(0)
HIS 767	DISSERTATION RESIDENCY CREDIT	(2)
HIS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
HIS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)

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## HOSPITALITY AND DIETETIC ADMINISTRATION

### HOSPITALITY ADMINISTRATION

Courses are designed to:

- Build on a background of industry and academic knowledge of hospitality and tourism
- Give technological expertise for functioning in a diverse and changing workplace
- Develop leadership skills
- Enhance interpersonal attributes

- Analyze strategic issues and trends in tourism and hospitality and lodging industry. Direct involvement in hospitality and health care industries is accomplished through research projects and cooperative activities.

## **DIETETIC ADMINISTRATION**

Courses are designed to:

- Examine leadership and administrative concepts
- Provide instruction on theories and concepts in institutional organization
- Administer a current events approach to the financial decision making and reimbursement process in dietetics
- Build expertise in practice issues in dietetics

## **Degree Requirements**

### **CORE COURSES**

NFS 610	HOSPITALITY & DIETETICS ADMINISTRATION & ASSESSMENT	(3)
NFS 648	INSTITUTION ADMINISTRATION	(3)
NFS 770	SEMINAR IN HOSPITALITY & DIETETICS ADMINISTRATION	(1)
NFS 772	CURRENT TOPICS IN HOSPITALITY & DIETETICS ADMINISTRATION	(2)
STA 570	BASIC STATISTICAL ANALYSIS	(4)
STA 675	SURVEY SAMPLING	(2)

### **HOSPITALITY ADMINISTRATION**

NFS 694	STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM	(3)
NFS 646	INSTITUTION ORGANIZATION & MANAGEMENT	(3)
NFS 781	ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM	(3)
PLAN B REQUIRES 12 ADDITIONAL HOURS OF ELECTIVES		

### **DIETETIC ADMINISTRATION**

NFS 603	ADVANCED COMMUNITY PROGRAM DEVELOPMENT	(3)
NFS 784	SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT	(3)
NFS 690	ADVANCED WORK IN DIETETICS	(3)
PLAN B REQUIRES 12 ADDITIONAL HOURS OF ELECTIVES		

Each administration specialty has fifteen credits from the core, a base of nine credits of prescribed courses, three or more credits from electives. Plan A requires 24 credit hours of course work plus a thesis. Plan B requires 36 credit hours of course work without a thesis. Six additional credit hours are allowed for thesis research if option A is chosen.

## Admission Requirements

In addition to general admission requirements as stipulated by the Graduate School, the applicant must meet the following criteria:

- A B.S. Degree in Hospitality Management or Dietetics/Nutrition from an accredited institution. Registered Dietitian (R.D.) eligibility preferred for Dietetic Administration option.
- A minimum grade point average of 3.0 on a 4.0 scale, or a total of 1,000 or more on the verbal and quantitative portions of the Graduate Record Examination (GRE).
- Have a Test of English as a Foreign Language (TOEFL) score of 550 or better if an international student.

Official transcripts and GRE/TOEFL scores must be sent directly to the Graduate School (Room 106 Gillis Building, University of Kentucky, Lexington, KY 40506-0033), along with a completed application. Application forms can be found at: [www.gradschool.uky.edu/gradhome.html](http://www.gradschool.uky.edu/gradhome.html) . In addition, the applicant must submit a statement of purpose letter and have three letters of recommendation sent to the Director of Graduate Studies for Hospitality and Dietetic Administration.

## Application Deadlines

Applications are accepted all year but applicants requesting a graduate assistantship should apply by February 15th for the following fall semester and September 1st for the following spring semester. Foreign applications should reach the Graduate School at least six (6) months prior to the beginning of the semester the applicant intends to begin graduate study or February 1st for the fall semester and June 15th for the spring semester.

## GRADUATE COURSES

NFS 408G	SEMINAR IN FOOD AND NUTRITION	(1)
NFS 510	ADVANCED NUTRITION	(3)
NFS 511	THERAPEUTIC NUTRITION	(4)
NFS 513	ADVANCED THERAPEUTIC NUTRITION	(2)
NFS 516	MATERNAL AND CHILD NUTRITION	(3)
NFS 591	SPECIAL PROBLEMS IN FOODS AND NUTRITION	(1-3)
NFS 603	ADVANCED COMMUNITY PROGRAM DEVELOPMENT	(3)
NFS 607	FOOD RELATED BEHAVIORS (SAME AS NS/ANT/BSC 607)	(3)
NFS 610	HOSPITALITY AND DIETETICS ADMINISTRATION AND ASSESSMENT	(3)
NFS 620	NUTRITION AND AGING (SAME AS NS 620)	(2)
NFS 630	ADVANCED COMMUNITY NUTRITION (SAME AS NS 630)	(3)
NFS 640	HUMAN NUTRITION: ASSESSMENT (SAME AS NS 640)	(3)
NFS 646	INSTITUTION ORGANIZATION AND MANAGEMENT	(3)

NFS 648	INSTITUTION ADMINISTRATION	(3)
NFS 685	MINERAL METABOLISM (SAME AS ASC 685)	(2)
NFS 690	ADVANCED WORK IN DIETETICS	(3)
NFS 694	STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM	(3)
NFS 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES (SAME AS NS/CNU 704)	(1)
NFS 748	MASTER'S THESIS RESEARCH (SAME AS NS 748)	(0)
NFS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE (SAME AS NS 768)	(1-6)
NFS 770	SEMINAR IN HOSPITALITY AND DIETETICS ADMINISTRATION	(1)
NFS 772	CURRENT TOPICS IN HOSPITALITY AND DIETETICS ADMINISTRATION	(2)
NFS 781	ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM	(3)
NFS 782	SPECIAL PROBLEMS (SAME AS NS/CNU 782)	(1-6)
NFS 784	SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT	(3)
NFS 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS NS/CNU 790)	(0-6)
HES 596	SPECIAL PROBLEMS IN HUMAN ENVIRONMENTAL SCIENCES	(1-3)

## INTEGRATED BIOMEDICAL SCIENCES

Graduate students pursuing doctoral degrees in the biomedical sciences at the University of Kentucky, College of Medicine are admitted through the Integrated Biomedical Sciences (IBS) Curriculum. This first-year core curriculum provides broad-based exposure to fundamental concepts in the biomedical sciences, development of interdisciplinary approaches essential to innovative research, and flexibility in choosing a research emphasis among 175 faculty in six departments.

On completion of the IBS Curriculum, students select their doctoral degree program based on research interests and mentoring relationships in one of six departments:

- Anatomy and Neurobiology
- Graduate Center for Toxicology
- Microbiology, Immunology and Molecular Genetics
- Molecular and Biomedical Pharmacology
- Molecular and Cellular Biochemistry
- Physiology

Please refer to these departments for information about their Ph.D. programs.

## Admission Requirements

Successful students in the Integrated Biomedical Sciences Curriculum have typically completed an undergraduate degree in chemistry, biology, biochemistry, engineering, mathematics, neurosciences, physics, pharmacy or psychology. Undergraduate course work in organic chemistry, physical chemistry, calculus, physics, and the biological sciences is highly recommended.

Admission to IBS is based upon academic background, GPA, professional recommendations, performance on the Graduate Record Examination (GRE), and prior research experience. Personal interviews are strongly encouraged. Students must meet the admissions requirements set by the Graduate School, including a bachelor's degree from a fully accredited institution of higher learning.

Students seeking to apply to IBS must submit applications both through the online IBS application process at [www.mc.uky.edu/ibs/admissions/](http://www.mc.uky.edu/ibs/admissions/) and through the Graduate School online admissions process at [www.gradschool.uky.edu/](http://www.gradschool.uky.edu/). Inquiries regarding admission should be directed to:

Integrated Biomedical Sciences Curriculum  
University of Kentucky College of Medicine  
800 Rose Street, Room MN150  
Lexington, KY 40536-0298  
1.866.239.0004 (toll free)  
E-mail: [ibs@lsv.uky.edu](mailto:ibs@lsv.uky.edu)  
[www.mc.uky.edu/ibs](http://www.mc.uky.edu/ibs)

*\*Integrated Biomedical Sciences is not a degree program.*

## GRADUATE COURSES

IBS 601	BIOMOLECULES AND METABOLISM (SAME AS BCH 607)	(3)
IBS 602	BIOMOLECULES AND MOLECULAR BIOLOGY (SAME AS BCH 608)	(3)
IBS 603	CELL BIOLOGY	(3)
IBS 604	CELL SIGNALING	(3)
IBS 605	EXPERIMENTAL GENETICS (SAME AS MI 604)	(2)
IBS 606	INTEGRATED BIOMEDICAL SCIENCES	(4)
IBS 607	SEMINAR IN INTEGRATED BIOMEDICAL SCIENCES	(0)
IBS 609	RESEARCH IN INTEGRATED BIOMEDICAL SCIENCES	(1)

## INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION

### Requirements for Program

The Interdisciplinary Early Childhood (IEC) MEd program prepares educators for leadership roles in schools, programs, and systems that serve children, birth through age five, with and without disabilities and their families. Graduates are awarded the MEd degree in Education with a major in Interdisciplinary Early Childhood. In the Interdisciplinary Early Childhood program, students will build upon their skills as active, critical consumers of research and are expected to consume and produce research that will inform their practice. At this advanced level, students are expected to reflect not only on matters within the classroom context, but also on systems such as schools, families, communities, and policy. Through engaging students in a variety of learning experiences, including field-based experiences, professional literature, and conducting research, the MEd program prepares graduates to build upon their leadership skills so they are prepared to actively engage in their chosen professions as agents of research-based change.

The program is guided by the standards of the Division for Early Childhood of the Council For Exceptional Children and the National Association for the Education of Young Children. The program also embeds Kentucky's Standards for Interdisciplinary Early Childhood Education and the Kentucky Early Childhood Core Content within courses and field experiences.

### Continuous Assessment

1. **Assessment at the Point of Entry to the IEC Program.** In addition to satisfying the criteria for admission to the University of Kentucky Graduate School, all MEd applicants must complete a departmental application, which includes indicators of written language and professional writing, technology skills, and professional goals, supported by professional letters of recommendation. The program faculty and Graduate Admissions and Standards Committee (GASC) reviews the students' portfolio and interview results to make a determination on entry.
2. **On-going Assessment.** Once students are admitted to the program, they plan with their advisor the remainder of the program. Midpoint review is not necessarily a single point of assessment, and because of the different program options, mid-point evaluations are not restricted to specific timelines or identified courses. All advanced study candidates are evaluated by the conclusion of 15 semester credit hours. Evaluation criteria include the maintenance of at least a 3.0 GPA and the satisfactory performance in coursework and field placements.
3. **Exit Assessment.** MEd students undergo exit review at the conclusion of the final course required on the program plan for the MEd degree. Because of the distinction between requirements for fulfilling Rank and degree, there may be multiple "exit" reviews for a given student. Thus, students pursuing the Master's may opt to file for Rank change prior to completion of the thesis. In such cases,

there will in essence be two “exit” assessments; one for Rank and a subsequent assessment upon thesis completion.

### CORE GRADUATE COURSEWORK

IEC 620:	Assessment in IECE	(3)
EDS 621:	Issues in Early Childhood Special Education	(3)
EDS 522:	Children and Families	(3)
IEC 623:	Practicum in IECE	(3)
IEC 710:	Current Trends in IECE	(3)
FAM659:	Advanced Child Development	(3)
EDS 768:	Residence Credit for Master’s Degree	(3)

### RESEARCH CORE

Two courses in a research methodology selected by the student and approved by the thesis advisor; may include courses in a) single subject, b) qualitative, or c) group design.

a) EDS 601 & EDS 633	(6)
b) EPE 663 & EPE 763	(6)
<b>OR</b>	
c) EDP 557 & EDP 660	(6)

### ELECTIVES

Students choose 9 hours of approved electives in one of the following areas:

1. Child Development
2. Curriculum Planning, Development, & Home Visiting
3. Program Administrative, Evaluation and Professional Behavior
4. Family/community Relations/Advocacy
5. Cultural Pluralism/ Multicultural Education
6. Special Education and assessment of Children Birth to Five

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### INTERIOR DESIGN

The graduate program in interior design leads to a post-professional Master of Arts in Interior Design. A combination of course work, independent study, and research experience is available to provide students with a program of study designed to meet each student’s career interests. Courses from within and outside the discipline cultivate interdisciplinary design thinking.



Using design-related scholarship/research and creative approaches, students will engage in an investigative process that leads to an area of design specialization.

The student works with an advising committee in the selection of a written thesis or a design thesis project option and the appropriate courses at the 500, 600, and 700 levels. It is essential that the applicant have an undergraduate degree in interior design or a related professional subject matter. Supplementary course work may be required of applicants without professional undergraduate interior design degrees.

### **Degree Requirements**

The Master of Arts in Interior Design is available under Plan A and Plan B. The thesis option (Plan A) requires 24 hours of course work, six hours of master's residence credit, and a written thesis with a research emphasis. Plan B requires completion of 30 credit hours, including six hours of ID 700 in which a design thesis project that engages in innovative problem-solving focusing on the student's area of specialization and an extensive programming document are developed. A common core of twelve hours, comprised of ID 650, ID 655, and ID 659, is required of all students. Students are to complete twelve credits of additional course work in the area of concentration. Successful completion of a final examination is required for graduation.

### **Admission Requirements**

Potential graduate students must:

1. Apply and be accepted to the Graduate School.
2. Have been granted a baccalaureate degree by an accredited institution with a minimum 3.0 GPA on a 4.0 scale (2.75-3.0 GPA will be considered in relation to other credentials).
3. Have taken the Graduate Record Examination (GRE). For a non-English speaking student, a TOEFL score of 550 or above is required (or a score of 213 on the computer version of TOEFL).
4. After admittance to the Graduate School, apply and be accepted by the School of Interior Design

To be reviewed by the school, send a letter to the Director of Graduate Studies stating the general nature of your desired program and career goals; rationale for selecting this program; and your background in this area of study. Additionally, three letters of recommendation regarding academic ability must be sent to the Director of Graduate Studies. A portfolio, which is reviewed and evaluated by a faculty committee, is required of all applicants. The portfolio may be submitted digitally.

## GRADUATE COURSES

ID 641	REGIONAL VARIATIONS IN COLONIAL AMERICAN DESIGN	(3)
ID 650	SURVEY OF CURRENT THEORIES AND LITERATURE	(3)
ID 655	ISSUES IN CREATIVITY AND THE DESIGN PROCESS	(3)
ID 659	INTERIOR DESIGN GRADUATE STUDIO	(6)
ID 669	ADVANCED COLOR THEORY AND APPLICATION	(3)
ID 700	RESEARCH APPLICATIONS IN INTERIOR DESIGN	(3)
ID 748	MASTER'S THESIS RESEARCH	(0)
ID 759	SPECIAL TOPICS IN INTERIOR DESIGN (SUBTITLE REQUIRED)	(1-3)
ID 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ID 772	CURRENT ISSUES IN DESIGN	(1-3)
ID 785	INDEPENDENT STUDY IN INTERIOR DESIGN	(1-3)
ID 559	SPECIAL TOPIC IN INTERIOR DESIGN (SUBTITLE REQUIRED)	(1-3)
ID 589	RES/PRES I: INTRODUCTORY CONCEPTS OF RESTORATION AND PRESERVATION	(3)
ID 595	INDEPENDENT STUDY IN INTERIOR DESIGN	(1-3)

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## KINESIOLOGY AND HEALTH PROMOTION

The Department of Kinesiology and Health Promotion offers graduate work leading to the Master of Science, Doctor of Education, and Doctor of Philosophy degrees. The Master of Science degree offers concentrations in biomechanics, exercise physiology, health promotion, physical education, teaching/coaching, or sport leadership. The Ed.D. degree has concentrations in health promotion, physical education, teaching/coaching, and sport leadership. The Ph.D. degree in Exercise Science offers specializations in biomechanics or exercise physiology.

### Doctor of Philosophy

The program offers areas of concentration in Biomechanics or Exercise Physiology. The goal of the program is to provide education to qualified students so that they will have a broad understanding of exercise science, as well as an in-depth knowledge of one specific area or discipline. Graduates of this program will be able to conduct exercise science research, teach at the university level, direct discipline specific educational programs, and collaborate with other professionals on various issues related to exercise science.

The Exercise Science Core includes 20 hours and provides the student with a broad understanding of the various disciplines involved in this field. Each student is also required to take a minimum of 7 hours in research/statistic course work and demonstrate proficiency in computer programming. Beyond this minimum, an advisor and committee in consultation with each student set the structure and content of the doctoral program. The number of formal

courses within each area of specialization may vary. It is expected that the depth of knowledge in each area of study comes from independent study and research experiences, in addition to the dissertation, which are all under the direction of the faculty. Each student will demonstrate their depth of knowledge by their qualifying exams. Typically, it will take from 3-5 years for the student to complete the degree requirements including the dissertation.

### **Core Courses (Required 20 credits)**

KHP 610	Muscles in Motor Control	(3)
KHP 615	Biomechanics of Fundamental Movements	(3)
KHP 620	Advanced Exercise Physiology	(3)
KHP 640	Laboratory Methods in Exercise Science	(3)
KHP 782	Independent Research	(3)
PGY 615	Seminar in Teaching Medical Science	(1-2)
KHP-785	Seminar in Exercise Science (1 credit/semester for 4 semesters)	(4)

### **Doctor of Education**

The Ed.D. program in Kinesiology and Health Promotion provides advanced study for those who seek careers in educational, industrial or other appropriate settings. Admission to the program requires a master's degree and satisfactory completion of the Graduate Record Examination. Course work is planned by the student's advisory committee based on their assessment of the student's background and goals. All programs include course work within and outside the department. Additional information about the Ed.D. can be obtained from the Director of Graduate Studies.

### **Master of Science**

The master's program is designed to provide a high-quality graduate program for the following two types of students: 1) active, motivated individuals who desire advanced study to enhance their professional adequacy, and 2) discipline-oriented students completing a master's as an intermediate step toward doctoral work. The objective of the program is to prepare the student to:

- effectively locate, analyze, and use significant elements of the professional literature and research materials,
- permit an in-depth study of a specialized content area within the field, and
- acquire a knowledge of sound research procedures.

The program needed to accomplish this objective involves a combination of departmental course offerings, supporting electives, and a required core of statistics and research methods. Inasmuch as the fields of health promotion and kinesiology draw their principles from a variety of disciplines, it is appropriate that certain electives be chosen from the supportive areas of the biological and physical sciences and the behavioral and social sciences. Master's candidates

with the approval of the department may select either a thesis (Plan A) or a non-thesis option (Plan B).

### **Admission Requirements**

Applicants must meet the requirements set forth in the first part of this Bulletin. Students are expected to have satisfactorily completed the Graduate Record Examination (GRE). In addition, applicants are expected to have a minimum of 21 undergraduate hours in their respective fields. Specific prerequisites for graduate study at the master's level are determined by a committee of the departmental graduate faculty based upon area of emphasis.

### **Degree Requirements**

Regardless of whether the student concentrates in the kinesiology or health promotion areas, all candidates are required to complete one of the following:

#### **PLAN A (Thesis Option)**

EDP/EPE 557	Gathering, Analyzing and Using Educational Data	(3)
<b>OR</b>		
STA 570	Basic Statistical Analysis	(4)
KHP 644	Research Techniques Applied to Kinesiology and Health Promotion	(3)
Supporting Electives		(6)
KHP Area of Concentration		(12)
KHP 768	Residence Credit for the Master's Degree	(6)
<b>TOTAL</b>		<b>(30-31)</b>

#### **PLAN B (Non-Thesis Option)**

EDP EPE 557	Gathering, Analyzing and Using Educational Data	(3)
<b>OR</b>		
STA 570	Basic Statistical Analysis	(4)
KHP 644	Research Techniques Applied to Kinesiology and Health Promotion	(3)
Supporting Electives		(6)
KHP Area of Concentration		(18)
<b>TOTAL</b>		<b>(30-31)</b>

For additional information, write to the Director of Graduate Studies, Department of Kinesiology and Health Promotion.

### **GRADUATE COURSES**

KHP 420G	PHYSIOLOGY OF EXERCISE	(3)
KHP 509	WORKSHOP IN HEALTH AND SAFETY	(1-3)

KHP 515	ANATOMICAL AND MECHANICAL KINESIOLOGY	(3)
KHP 535	SCHOOL HEALTH DILEMMAS OF SPECIAL POPULATIONS	(3)
KHP 546	PHYSICAL EDUCATION WORKSHOP	(1-3)
KHP 547	PSYCHOLOGY OF SPORT AND PHYSICAL ACTIVITY	(3)
KHP 560	MOTOR DEVELOPMENT IN INFANTS AND YOUNG CHILDREN	(3)
KHP 573	MANAGEMENT OF SPORT	(3)
KHP 577	PRACTICUM IN KINESIOLOGY AND HEALTH PROMOTION	(3-6)
KHP 579	ADAPTED PHYSICAL EDUCATION	(3)
KHP 580	INTRODUCTION TO TEAM DEVELOPMENT	(3)
KHP 585	FOUNDATIONS OF SPORT MANAGEMENT	(3)
KHP 592	CHOREOGRAPHY	(2)
KHP 600	EXERCISE STRESS TESTING AND PRESCRIPTION	(3)
KHP 609	SEMINAR IN HEALTH AND SAFETY EDUCATION	(3)
KHP 610	MOTOR CONTROL I: MUSCLES, STRENGTH AND MOVEMENT	(3)
KHP 616	SPORTS BIOMECHANICS	(3)
KHP 615	BIOMECHANICS OF FUNDAMENTAL MOVEMENTS	(3)
KHP 617	GAIT ANALYSIS	(3)
KHP 618	WORK HARDENING AND ERGONOMICS	(3)
KHP 620	ADVANCED EXERCISE PHYSIOLOGY	(3)
KHP 621	EXERCISE AND CORONARY HEART DISEASE	(3)
KHP 640	LAB METHODS IN EXERCISE SCIENCE	(3)
KHP 644	RESEARCH TECHNIQUES APPLIED TO KINESIOLOGY AND HEALTH PROMOTION	(3)
KHP 650	MOTOR CONTROL II: REFLEXES, COGNITION AND MOVEMENT	(3)
KHP 674	FOUNDATIONS OF HEALTH PROMOTION	(3)
KHP 675	HEALTH ASSESSMENTS	(3)
KHP 676	CURRENT ISSUES AND PROBLEMS IN SPORT MANAGEMENT	(3)
KHP 677	PLANNING HEALTH PROMOTION PROGRAMS	(3)
KHP 680	SPORT MARKETING	(3)
KHP 681	FINANCIAL ASPECTS OF SPORT	(3)
KHP 685	SUPERVISION OF SPORT AND FITNESS PERSONNEL	(3)
KHP 686	SPORT MANAGER'S LABORATORY	(3)
KHP 687	PRACTICUM IN SPORT MANAGEMENT	(3-9)
KHP 695	INDEPENDENT STUDY IN KINESIOLOGY AND HEALTH PROMOTION	(1-3)
KHP 715	THREE-DIMENSIONAL BIOMECHANICAL ANALYSIS OF HUMAN MOVEMENT	(3)
KHP 720	SPORTS MEDICINE	(3)
KHP 748	MASTER'S THESIS RESEARCH	(0)
KHP 749	DISSERTATION RESEARCH	(0)
KHP 767	DISSERTATION RESIDENCY CREDIT	(2)
KHP 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
KHP 769	RESIDENCE CREDIT FOR THE DOCTORAL DEGREE	(0-12)
KHP 770	SEMINAR IN PHYSICAL EDUCATION	(3)
KHP 781	PROSEMINAR IN KHP (SUBTITLE REQUIRED)	(1-3)
KHP 782	INDEPENDENT RESEARCH IN KHP	(3)
KHP 785	GRADUATE SEMINAR IN EXERCISE SCIENCE	(0-1)

## LIBRARY SCIENCE

### Master's Program

The School of Library and Information Science ("School") conforms to the University of Kentucky Graduate School in offering three forms of the master's degree: the Master of Science in Library Science (M.S.L.S.) and the Master of Arts (M.A.), plans A and B. Most students elect the M.S.L.S. degree, which requires satisfactory completion of 36 credit hours and of a final examination. The 36 credit hours are distributed in this way: 12 hours of core courses, a qualifying technology course, 21 hours of additional electives. The required core courses are LIS 600 Information in Society, LIS 601 Information Seeking, Retrieval and Services, LIS 602 Information Representation and Access, and LIS 603 Management in Library and Information Science. Qualifying technology courses are LIS 636 Foundations of Information Technology, LIS 637 Information Technology, LIS 638 Internet Technologies and Information Services, and LIS 668 Information Systems Design. With the faculty advisor's prior approval, as many as 6 elective hours may be taken in a cognate area of study. Transfer credit is limited to 9 credit hours and includes any of the School's courses taken while in post-baccalaureate status.

The M.A degree requires satisfactory completion of 42 credit hours (to include the 12 hours of core courses and 3 hours of a qualifying technology course described above) and of a final examination. The 6 additional hours can be used to develop a specialization in library science such as information technology or medical informatics. A minimum of six hours must be in a cognate area. In the case of the MA plan A the 42 credit hours consist of 36 hours of coursework and a thesis, which has a value of 6 credit hours. In the case of the MA plan B there is no thesis. The 42 credit hours are entirely coursework, 6 hours of which must be advanced bibliography or technical services.

Degree requirements allow a student considerable freedom to design her/his program to suit individual needs and interests. The curriculum is sufficiently varied to permit opportunities to build both breadth and depth into the course of study. The student is assisted in this endeavor by a faculty advisor who provides guidance and counsel. Advisor assignment is based, when possible, on student interests and preferences. Ultimately, however, it is the student's responsibility to see that all School and Graduate School requirements are met prior to taking the final written examination.

### Admission Requirements

High enrollment and a continuing large number of applications make it impossible for the School to admit all who meet the admission criteria. The School's budget and number of faculty limit enrollment in the master's program, and meeting the GPA and GRE criteria (see below) does not guarantee admission. Admission decisions are competitive, based on (i) analysis of a variety of relevant factors regarding the applicant and (ii) enrollment in the master's program, which determines the number of applicants who can be admitted. The goal of the admission

criteria is to enable the School to estimate the applicant's potential as a graduate student and information professional.

Three primary factors are considered in deciding whether to admit an applicant to the School: (1) a bachelor's degree from an accredited institution; (2) an undergraduate grade point average of 2.75 or higher, and a grade point average of 3.0 or higher on any prior graduate work, in both cases on a scale with A = 4.0; (3) Graduate Record Examination scores, (a) on the General Test taken before October 1, 2002, of 450 or higher on the verbal section *and* of 400 or higher on the quantitative section *or* on the analytical section; (b) on the General Test taken on or after October 1, 2002, of 450 or higher on the verbal section *and* of 400 or higher on the quantitative section *or* 4.0 on the analytical writing section. Other factors, which are also considered in the admission decision, include personal references, personal interviews, work experience, academic background, other graduate work, progressive academic improvement, and the cultural and geographic origin of the applicant. Applicants for whom English is not the native language must achieve a minimum TOEFL score of 550 (paper based test), 213 (computer based test) or 79 (internet-based test).

A grade point average of 3.00 (B) must be maintained. Failure to do so results in academic probation, and will result in dismissal, if, in the prescribed time, the grade point average is not raised to 3.00 or higher. A student who earns a third C (or lower) grade is dismissed from the program, even though the student may have earned the required minimum 3.00 grade point average and exercised the repeat option to remove one of the C (or lower) grades.

## GRADUATE COURSES

LIS 510	CHILDRENS LITERATURE AND RELATED MATERIALS	(3)
LIS 514	LITERATURE AND RELATED MEDIA FOR YOUNG ADULTS	(3)
LIS 600	INFORMATION IN SOCIETY	(3)
LIS 601	INFORMATION SEEKING, RETRIEVAL AND SERVICES	(3)
LIS 602	INFORMATION REPRESENTATION AND ACCESS	(3)
LIS 603	MANAGEMENT IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 604	LIBRARY AND BOOK HISTORY	(3)
LIS 605	INFORMATION POLICY AND TECHNOLOGY	(3)
LIS 608	METHODS OF RESEARCH IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 609	CURRENT PROBLEMS IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 611	CRITICAL ANALYSIS OF CHILDREN'S LITERATURE	(3)
LIS 613	INFORMATION RESOURCES AND SERVICES FOR CHILDREN	(3)
LIS 615	PROSEMINAR IN COMMUNICATIONS AND INFORMATION SYSTEMS	(3)
LIS 622	SOCIAL SCIENCE INFORMATION	(3)
LIS 623	INFORMATION IN THE HUMANITIES	(3)
LIS 624	INFORMATION IN SCIENCE AND TECHNOLOGY	(3)
LIS 625	INSTRUCTIONAL SERVICES	(3)
LIS 630	ONLINE INFORMATION SYSTEMS AND SERVICES	(3)
LIS 636	FOUNDATIONS OF INFORMATION TECHNOLOGY	(3)
LIS 637	INFORMATION TECHNOLOGY	(3)

LIS 638	INTERNET TECHNOLOGIES AND INFORMATION SERVICES	(3)
LIS 639	INTRODUCTION TO MEDICAL INFORMATICS	(3)
LIS 640	HEALTH INFORMATION RESOURCE SERVICES	(3)
LIS 641	LAW LIBRARIANSHIP	(3)
LIS 642	ORAL HISTORY	(3)
LIS 643	ARCHIVES AND MANUSCRIPTS MANAGEMENT	(3)
LIS 644	ADMINISTRATION OF SCHOOL LIBRARY MEDIA CENTERS	(3)
LIS 645	PUBLIC LIBRARIES	(3)
LIS 646	ACADEMIC LIBRARIES	(3)
LIS 647	CURRENT TRENDS IN SCHOOL MEDIA CENTERS	(3)
LIS 648	TECHNOLOGY IN THE SCHOOL MEDIA CENTER	(3)
LIS 650	TECHNICAL PROCESSING SYSTEMS	(3)
LIS 653	PRESERVATION MANAGEMENT	(3)
LIS 655	ORGANIZATION OF KNOWLEDGE I	(3)
LIS 656	ORGANIZATION OF KNOWLEDGE II	(3)
LIS 659	COLLECTION DEVELOPMENT	(3)
LIS 668	INFORMATION SYSTEMS DESIGN	(3)
LIS 675	PROFESSIONAL FIELD EXPERIENCE	(3)
LIS 676	SCHOOL MEDIA PRACTICUM	(1-12)
LIS 690	SPECIAL TOPICS IN LIBRARY AND INFORMATION SCIENCE	(1-3)
LIS 695	INDEPENDENT STUDY IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 748	MASTER'S THESIS RESEARCH	(0)
LIS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)

## MANUFACTURING SYSTEMS ENGINEERING

The College of Engineering offers a master's degree program in Manufacturing Systems Engineering. Because of its highly multi-disciplinary nature, the Master of Science in Manufacturing Systems Engineering is housed in the College of Engineering rather than in one of the existing departments. The resources and facilities of the UK Center for Manufacturing are a key component in this degree program.

Graduate degree programs in the field of manufacturing systems engineering are important for enhancing manufacturing productivity and quality in the U.S. The Master of Science in Manufacturing Systems Engineering is designed to equip the student for opportunities in modern manufacturing processes and systems. Some of the possible areas of concentration for research and study are: Manufacturing Processes and Equipment, Design for Manufacturing, Plastic and Polymer Processing, Electronics Design and Manufacturing, Computer-aided Design and Manufacturing, Manufacturing Systems Planning and Control, Automated Assembly, and Lean Manufacturing.

The UK Center for Manufacturing, a part of the College of Engineering, conducts graduate-level academic research of the highest quality and transmits that knowledge to industry and



government. Housing a 68,000-square-foot building, completed in the fall of 1989, the Center contains: R & D laboratories and offices including machining research lab, metrology lab, rapid prototyping lab, electronics assembly lab, welding lab, automation equipment lab, CAD/CAM/CAE lab, instructional TV classrooms, and TV satellite uplink and downlink equipment.

### **Admission Requirements**

Applicants normally have a bachelor's degree in engineering from an ABET accredited institution (or equivalent). For students with an undergraduate degree other than engineering, completion of a set of identified courses (or their equivalent) in an Engineering discipline will be required prior to admission to the program with full graduate standing.

A minimum grade point average of 2.8 on undergraduate work is expected, along with minimum GRE scores of 700 quantitative and 500 Analytical. If a student does not meet these criteria, an evaluation of the student's overall education and experience may allow admission, subject to evaluation by the Director of Graduate Studies.

### **Curriculum and Degree Requirements**

The Plan A (thesis option) master's degree requires 24 credit hours of course work, a thesis (12 credits), and the satisfactory completion of a final examination. One-half or more of the course work must be at the 600 level or above. All students are required to complete four specified core courses: Modeling of Manufacturing Processes and Machines; Systems for Factory Information and Control; Seminar and Project in Manufacturing Systems Engineering; and Organizational Behavior. The electives for each student will be developed in conjunction with an advisor to insure that the program provides breadth and depth of content for the student, and meets his or her specific needs and interests. Appropriate electives are drawn from areas of Engineering, Computer Science, Business and Economics, or Mathematics. Two electives are designated as Manufacturing Specialization electives.

The Plan B (non-thesis option) is reserved for students who have significant engineering research or development experience in a manufacturing environment, for which completion of a thesis would be less beneficial than the additional course work involved in Plan B. The program requires 33 credit hours of course work and the satisfactory completion of a final examination. Students must complete the four core courses specified above, as well as MFS 784 Research Project in Manufacturing Systems Engineering, nine credit hours of Manufacturing Specialization electives, and nine credit hours of other appropriate electives. Approval of the student's advisor and of the Director of Graduate Studies is necessary for a student to pursue Plan B.

## GRADUATE COURSES

MFS 503	LEAN MANUFACTURING PRINCIPLES AND PRACTICES (SAME AS ME 503)	(3)
MFS 505	MODELING OF MANUFACTURING PROCESSES AND MACHINES (SAME AS ME 505)	(3)
MFS 507	DESIGN FOR MANUFACTURING (SAME AS ME 507)	(3)
MFS 512	MANUFACTURING SYSTEMS (SAME AS ME 512)	(3)
MFS 525	ORGANIZATIONAL LEARNING FOR LEAN MANUFACTURING	(3)
MFS 526	OPERATIONS MANAGEMENT IN LEAN MANUFACTURING	(3)
MFS 554	CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS (SAME AS MSE/CME/ME 554)	(3)
MFS 563	SIMULATION OF INDUSTRIAL PRODUCTION SYSTEMS (SAME AS MNG 563)	(3)
MFS 599	TOPICS IN MANUFACTURING SYSTEMS ENGINEERING (SUBTITLE REQUIRED)	(3)
MFS 605	SYSTEMS FOR FACTORY INFORMATION AND CONTROL (SAME AS EE 605)	(3)
MFS 606	SEMINAR AND PROJECT IN MANUFACTURING SYSTEMS ENGINEERING (SAME AS ME/EE 606)	(3)
MFS 607	ANALYSIS OF METAL CUTTING PROCESSES (SAME AS ME/MSE 607)	(3)
MFS 608	NONTRADITIONAL MANUFACTURING PROCESSES (SAME AS ME 608)	(3)
MFS 611	ORGANIZATIONAL BEHAVIOR (SAME AS MGT 611)	(3)
MFS 612	DESIGN OF LEAN MANUFACTURING SYSTEMS	(3)
MFS 699	TOPICS IN MANUFACTURING SYSTEMS ENGINEERING (SUBTITLE REQUIRED)	(1-3)
MFS 748	MASTER'S THESIS RESEARCH	(0)
MFS 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
MFS 780	SPECIAL PROBLEMS IN MANUFACTURING SYSTEMS ENGINEERING	(3)
MFS 784	RESEARCH PROJECT IN MANUFACTURING SYSTEMS ENGINEERING	(3)
EGR 537	NUMERICAL ANALYSIS (SAME AS CS/MA 537)	(3)
EGR 599	TOPICS IN ENGINEERING (SUBTITLE REQUIRED)	(1-3)
EGR 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS ME 611)	(3)
EGR 621	FINITE ELEMENT ANALYSIS IN ENGINEERING	(3)

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## MATERIALS SCIENCE AND ENGINEERING

The Department of Chemical and Materials Engineering offers programs leading to the M.S. and Ph.D. degrees in Materials Science and Engineering, with research specialization in the following areas:

Ceramics	Metals and Alloys
Micro-Materials	Nanomaterials
Polymers and Composites	Surfaces and Interfaces
Thin Films	Electronic Materials

### Admission Requirements

Admission to the M.S. and Ph.D. degree programs is on a competitive basis, and financial assistance is available through teaching and research assistantships, as well as a limited number of fellowships. Applicants should have a minimum grade point average of 3.0/4.0 on all undergraduate work. Persons with backgrounds in any physical science or engineering discipline are encouraged to apply, as each applicant's qualifications are reviewed individually. Minimum requirements for admission include a bachelor's degree and four semesters of university-level calculus, calculus-based physics, and chemistry. Please note that meeting the minimum requirements does not guarantee admission, as acceptance is on a competitive and space-available basis.

### Master of Science

The master's degree is offered under Plan A (thesis option) and Plan B (non-thesis option). Candidates for the degree under Plan A must complete 24 credit hours of course work and submit and defend a thesis that demonstrates research ability. The required course work includes the materials science core (MSE 632, 635, 650, 781) as well as appropriate electives selected in consultation with the Director of Graduate Studies. In certain exceptional cases (as determined by the faculty), a non-thesis M.S. may be undertaken (Plan B). The non-thesis option requires 30 hours of course work that includes the materials science core, and is only available to those students with prior research or industrial experience. For both Plan A and Plan B, at least half of all graduate course work must be at the 600 level or above.

### Doctor of Philosophy

The Ph.D. program offers broad training in materials science and engineering while providing options to suit the student's particular interests and designated area of specialization. The student must conduct original and significant research and must submit and defend a dissertation based on that research. Doctoral students complete the materials science core, and work with their doctoral advisory committee to develop a program of elective courses designed to address deficiencies and to enhance the specialization area of interest. In addition, students

must demonstrate proficiency in a minor area selected from the fields of mathematics, physical sciences, or engineering.

In order to advance to candidacy, doctoral students must pass a qualifying examination consisting of both written and oral components. The written component tests the candidate's knowledge in three fundamental areas of Materials Science and Engineering: Structure of Materials, Mechanical Behavior of Materials, and Thermodynamics of Materials. The oral component consists of a presentation and defense of the student's proposed dissertation research; a prospectus prepared by the student must be submitted to the doctoral advisory committee prior to the examination. There is no language requirement for the M.S. or Ph.D. degrees in Materials Science and Engineering.

For more information on degree requirements, financial aid, and research opportunities please contact the Director of Graduate Studies.

### GRADUATE COURSES

MSE 401G	METAL AND ALLOYS	(3)
MSE 402G	ELECTRONIC MATERIALS AND PROCESSING	(3)
MSE 403G	CERAMIC ENGINEERING	(3)
MSE 404G	POLYMERIC MATERIALS (SAME AS CME 404G)	(3)
MSE 506	MECHANICS OF COMPOSITE MATERIALS (SAME AS ME 506)	(3)
MSE 531	POWDER METALLURGY	(3)
MSE 535	MECHANICAL PROPERTIES OF MATERIALS	(3)
MSE 538	METALS PROCESSING	(3)
MSE 542	EXTRACTIVE METALLURGY	(4)
MSE 554	CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS (SAME AS CME/ME/MFS 554)	(3)
MSE 556	INTRODUCTION TO COMPOSITE MATERIALS (SAME AS CME/ME 556)	(3)
MSE 561	ELECTRIC AND MAGNETIC PROPERTIES OF MATERIALS (SAME AS EE 561)	(3)
MSE 569	ELECTRONIC PACKAGING SYSTEMS AND MANUFACTURING PROCESSES (SAME AS EE 569)	(3)
MSE 585	MATERIALS CHARACTERIZATION TECHNIQUES	(3)
MSE 599	TOPICS IN MATERIALS SCIENCE AND ENGINEERING	(1-4)
MSE 607	ANALYSIS OF METAL CUTTING PROCESSES (SAME AS ME/MFS 607)	(3)
MSE 620	COMPUTATIONAL MATERIALS SCIENCE ENGINEERING	(3)
MSE 622	PHYSICS OF POLYMERS (SAME AS CME 622)	(3)
MSE 632	ADVANCED MATERIALS SCIENCE	(3)
MSE 635	ADVANCED MECHANICAL METALLURGY	(3)

MSE 636	DISLOCATION THEORY	(3)
MSE 650	ADVANCED MATERIALS THERMODYNAMICS	(3)
MSE 661	ADVANCED PHYSICAL METALLURGY I	(3)
MSE 662	ADVANCED PHYSICAL METALLURGY II	(3)
MSE 663	OPTOELECTRONIC DEVICES	(3)
MSE 699	ADVANCED TOPICS IN MATERIALS SCIENCE AND ENGINEERING	(3)
MSE 748	MASTER'S THESIS RESEARCH	(0)
MSE 749	DISSERTATION RESEARCH	(0)
MSE 767	DISSERTATION RESIDENCY CREDIT	(2)
MSE 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
MSE 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
MSE 771	SEMINAR	(0)
MSE 781	SPECIAL PROBLEMS, LITERATURE AND LABORATORY	(1-3)
MSE 782	SPECIAL PROBLEMS, LITERATURE AND LABORATORY	(3)
MSE 790	RESEARCH IN MATERIALS SCIENCE	(3-9)

## MATHEMATICS

The Department of Mathematics grants the M.A., M.S., and Ph.D. degrees. There are no specific course prerequisites for admission; however, two semesters of advanced calculus, and at least one semester each of algebra and topology are suggested. Both the M.A. and M.S. degrees are 30-credit-hour programs, offered under either Plan A or Plan B.

The Master of Arts degree, featuring a core program that emphasizes mathematical structures, is designed for prospective community college teachers and for students contemplating studies at the Ph.D. level. The Master of Science degree, through an emphasis on the applications of mathematics and the acquisition of computational skills, focuses on careers in business, industry, and government.

The doctorate is a research degree granted on the basis of broad mathematical knowledge and exhibited creative ability. Course work leading to the doctorate is available in the areas of algebra, analysis (classical and modern), applied mathematics, discrete mathematics, numerical analysis, partial differential equations, and topology. A comprehensive examination is required of each student.

### **Admission Requirements**

The graduate programs in mathematics do not have formal admission requirements other than those of the Graduate School. Admission, however, is competitive. The admission committee reviews transcripts and letters of recommendation seeking evidence of mastery in proof-based mathematics (such as analysis, topology, and modern algebra), the ability to craft mathematical proofs, and general mathematical maturity.

## Degree Requirements

In order to be admitted to candidacy for the Ph.D. degree, a student must pass a proficiency examination in one foreign language chosen from Chinese, French, German or Russian, complete studies in a minor field (either inside or outside the department) and successfully complete the comprehensive examinations. Subsequent work becomes highly specialized through seminars, independent study, and finally, work on a dissertation which penetrates in depth some field of particular interest. Areas in which members of the faculty have active research projects include algebraic topology, group theory, ring theory, algebraic geometry, number theory, complex variables, rational approximation, operator theory, partial differential equations, continuum mechanics, numerical analysis, algebraic combinatorics and optimization.

The ability to communicate mathematics is an increasingly important professional qualification. The department requires all students to complete a teaching or research assignment during each semester of their enrollment in a graduate mathematics program. Students will be assigned to teach courses at the early undergraduate level. Entering students will normally be assigned three semester hours, and continuing ones will normally teach 6 semester hours. With the approval of the Director of Graduate Studies, a student may substitute an equivalent research effort for the teaching activity.

### GRADUATE COURSES

MA 415G	GRAPH THEORY (SAME AS CS 415G)	(3)
MA 416G	PRINCIPLES OF OPERATIONS RESEARCH I (SAME AS CS 416G)	(3)
MA 417G	PRINCIPLES OF OPERATIONS RESEARCH II (SAME AS STA 417G)	(3)
MA 432G	METHODS OF APPLIED MATHEMATICS I	(3)
MA 433G	INTRODUCTION TO COMPLEX VARIABLES	(3)
MA 471G	ADVANCED CALCULUS I	(3)
MA 472G	ADVANCED CALCULUS II	(3)
MA 481G	DIFFERENTIAL EQUATIONS	(3)
MA 483G	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	(3)
MA 485G	FOURIER SERIES AND BOUNDARY VALUE PROBLEMS (SAME AS ME 585)	(3)
MA 501	SEMINAR IN SELECTED TOPICS	(3)
MA 502	SEMINAR IN SELECTED TOPICS	(3)
MA 503	COMBINATORICS	(3)
MA 506	METHODS OF THEORETICAL PHYSICS I (SAME AS PHY 506)	(3)
MA 507	METHODS OF THEORETICAL PHYSICS II (SAME AS PHY 507)	(3)
MA 515	MATHEMATICAL PROGRAMMING AND EXTENSIONS (SAME AS STA 515)	(3)

MA 522	MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA I (SAME AS CS 522)	(3)
MA 527	APPLIED MATHEMATICS IN THE NATURAL SCIENCES I (SAME AS ME 527)	(3)
MA 532	ORDINARY DIFFERENTIAL EQUATIONS	(3)
MA 533	PARTIAL DIFFERENTIAL EQUATIONS	(3)
MA 537	NUMERICAL ANALYSIS (SAME AS CS/EGR 537)	(3)
MA 551	TOPOLOGY I	(3)
MA 561	MODERN ALGEBRA I	(3)
MA 565	LINEAR ALGEBRA	(3)
MA 570	MULTIVARIATE CALCULUS	(3)
MA 575	PRINCIPLES OF ANALYSIS	(3)
MA 611	INDEPENDENT WORK IN MATHEMATICS	(3-9)
MA 613	PROBLEMS SEMINAR IN OPERATIONS RESEARCH (SAME AS EE/STA 619)	(3)
MA 614	ENNUMERATIVE COMBINATORICS	(3)
MA 616	NUMERICAL TECHNIQUES FOR NONLINEAR OPTIMIZATION	(3)
MA 617	MARKOVIAN DECISION PROBLEMS	(3)
MA 618	COMBINATORICS AND NETWORKS	(3)
MA 622	MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA II (SAME AS CS 622)	(3)
MA 625	NUMERICAL METHODS FOR DIFFERENTIAL EQUATIONS	(3)
MA 628	APPLIED MATHEMATICS IN THE NATURAL SCIENCES II	(3)
MA 630	MATHEMATICAL FOUNDATIONS OF STOCHASTIC PROCESSES AND CONTROL THEORY I	(3)
MA 633	THEORY OF PARTIAL DIFFERENTIAL EQUATIONS	(3)
MA 641	DIFFERENTIAL GEOMETRY	(3)
MA 642	DIFFERENTIAL GEOMETRY	(3)
MA 651	TOPOLOGY II	(3)
MA 654	ALGEBRAIC TOPOLOGY I	(3)
MA 655	ALGEBRAIC TOPOLOGY II	(3)
MA 661	MODERN ALGEBRA II	(3)
MA 667	GROUP THEORY	(3)
MA 671	FUNCTIONS OF A COMPLEX VARIABLE I	(3)
MA 672	FUNCTIONS OF A COMPLEX VARIABLE II	(3)
MA 676	ANALYSIS I	(3)
MA 677	ANALYSIS II	(3)
MA 681	FUNCTIONAL ANALYSIS I	(3)
MA 682	FUNCTIONAL ANALYSIS II	(3)
MA 714	TOPICS IN DISCRETE MATHEMATICE (SUBTITLE REQUIRED)	(3)
MA 715	SELECTED TOPICS IN OPTIMIZATION	(3)
MA 721	SELECTED TOPICS IN NUMERICAL ANALYSIS	(3)
MA 732	SELECTED TOPICS IN DIFFERENTIAL AND INTEGRAL EQUATIONS	(3)
MA 748	MASTER'S THESIS RESEARCH	(0)
MA 749	DISSERTATION RESEARCH	(0)
MA 751	SELECTED TOPICS IN TOPOLOGY	(3)

MA 752	SELECTED TOPICS IN TOPOLOGY	(3)
MA 761	HOMOLOGICAL ALGEBRA	(3)
MA 764	SELECTED TOPICS IN ALGEBRA	(3)
MA 765	SELECTED TOPICS IN ALGEBRA	(3)
MA 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
MA 767	DISSERTATION RESIDENCY CREDIT	(2)
MA 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
MA 772	SELECTED TOPICS IN THE THEORY OF COMPLEX VARIABLES	(3)
MA 773	SELECTED TOPICS IN ANALYSIS	(3)
MA 777	MATHEMATICAL SEMINAR	(3)
MA 778	MATHEMATICAL SEMINAR	(3)

## MECHANICAL ENGINEERING

The Department of Mechanical Engineering at the University of Kentucky provides an intellectually challenging environment in which to pursue advanced studies and engage in research. The department offers programs of study leading to the M.S. degree in mechanical engineering as well as the Ph.D. degree. Financial assistance is available to qualified applicants in the form of graduate teaching assistantships, research assistantships or fellowships. Stipends vary depending on the student's program level and type of support.

Graduate students work closely with faculty recognized as renowned authorities in their discipline. Many of these research projects are at the forefront of technology. Graduate work may be focused in any of the following areas:

**Manufacturing:** analytical and numerical modeling, optimization of machining processes and systems, lean manufacturing, sustainable manufacturing, precision manufacturing, and robotics and machine vision.

**Mechanics:** dynamic analysis of solids, contact mechanics, system identification of structures, thermal stress and boundary element methods.

**Systems and Design:** application of nontraditional materials, finite elements, acoustics, vibration and noise prediction, mechatronic systems, rotating machinery dynamics, engineered surfaces, magnetic bearing technology, and boundary element methods in acoustics.

**Thermal-Fluid Sciences:** combustion and fire research, painting technology, nano-technology, computational and experimental fluid dynamics, conduction and convection heat transfer, energy utilization, phase change heat transfer, radiation heat transfer, and optics.

### Admission Requirements

Applicants seeking admission to a graduate program in the Department of Mechanical Engineering (ME) as regular students must have been awarded a baccalaureate degree. Admission to the ME graduate programs normally requires a bachelor's degree in engineering



(not necessarily in mechanical engineering), a grade point average (GPA) of 3.0/4.0 or 70% on all graduate and undergraduate works, and Graduate Record Examination (GRE) scores of at least 1200 for the combined Quantitative and Verbal sections and 3.5 for the Analytical section. An undergraduate degree in mathematics, chemistry or physics combined with a strong interest in engineering topics may be suitable preparation when certain required undergraduate courses are taken (see Appendix A for further details). Exceptions to these requirements may be made if other persuasive evidence indicating the student's potential of success is available.

In addition, all international students (except those with a degree from a U.S. institution) must have a minimum score of 550 (paper) / 213 (computer) / 80 (Internet) on the Test of English as a Foreign Language (TOEFL).

It is possible to directly admit a student with a bachelor's degree to the Ph.D. program if the student's qualifications are exceptional. Under some circumstances, such arrangement can be made with a recommendation of a faculty member. Students are encouraged to contact the departmental faculty if they are interested in going into the Ph.D. program without a Master's degree. Regular admission to the Master's program constitutes admission to candidacy for that degree. Admission to candidacy for the Ph.D. degree is automatically granted when the student passes the Qualifying Examination.

### **The Master of Science Degree (M.S.)**

There are two options for fulfilling the requirements for the M.S. degree, Option A and Option B. Students must choose Option A or Option B upon entering the program. Transfers between Option A and Option B must be approved by the DGS.

#### **a. Option A (Thesis Plan)**

A minimum of 24 semester hours of coursework and a thesis are required. The thesis must be actively supervised by a full or associate member of the Graduate Faculty. In no case will independent work, taken as ME 699, ME 780-783 or ME 790, be counted as part of the 24 hours of coursework when the course material is related to the student's thesis. No more than two (one is typical, two is very rare) special courses such as ME 699, ME 780-783 or ME 790 or independent courses/projects may be counted towards fulfilling requirements for the Master's degree.

In case of an independent course project, the instructor must provide the DGS with a course syllabus in order to obtain approval for the course.

#### **b. Option B (Regular Program)**

A minimum of 30 semester hours of coursework is required for this program. Upon entering the Option B program, students are encouraged to transfer to the Ph.D. program if a research-oriented career is desired.

### **c. Option B (Paducah Program)**

This Option B program is designed for students at the Paducah campus. The admission requirements are the same as the regular Option B program. However, the course requirements are modified to make it more flexible for students to take ITV classes from Lexington to the Paducah campus.

### **The Doctor of Philosophy Degree (Ph.D.)**

Successful completion of the M.S. program does not guarantee automatic admission to the Ph.D. program. Students who wish to continue for the Ph.D. degree must make application by letter to the Director of Graduate Studies and to the Graduate School by no later than the fourth week of the semester in which the M.S. degree is awarded.

To obtain a Ph.D. degree from the Department of Mechanical Engineering, a student must:

(a) Earn 48 graduate credit-hours taken at the University of Kentucky while in graduate standing after receiving a bachelor's degree. Alternatively, those with a M.S. may satisfy this requirement by earning 24 graduate credit-hours taken at UK. Students with a M.S. from another institute are required to obtain a letter from the DGS recommending the transfer of credit.

1. Residency and research courses may not be used to satisfy this requirement.
2. No more than nine (9) hours (including those taken for MS) may be in "Topics" courses (e.g. ME 599, ME 699) in mechanical engineering.
3. No more than six (6) hours (including those taken for MS) may be in "Project" courses (e.g. ME 780) in mechanical engineering.
4. At least half of the required hours must be in mechanical engineering.
5. At least half of the required hours must be at the 600 level.
6. No more than nine (9) credit hours of the above requirement may be waived based on courses taken at other institutions. The decision on this waiver will be made by the DGS upon recommendation of the student's Advisory Committee. These non-UK courses are subject to all of the above conditions.

(b) Satisfy the Ph.D. mathematics requirement.

(c) Pass the Pre-Qualifying Examination after the first semester of the Ph.D. program.

(d) Pass the Ph.D. Written Qualifying Exam. The Preliminary Exam is a written exam and constitutes the written portion of the Qualifying Exam allowed by the Graduate School. This exam tests the student's knowledge in the field of mechanical engineering. This is a uniform exam that is required in three areas (Appendix K). These area exams are given by the corresponding departmental-wide Technical Area Committees. The Ph.D. Preliminary Exam must be taken during or before the student's third Fall Semester (fourth, if admitted without a M.S. from the time of admission to the Ph.D. program. For part time students, this time requirement may be modified with the approval of the student's advisor and the DGS). Failure to attempt the Preliminary Exam within the specified time limit will result in the student's termination from the ME doctoral program.

- (e) Pass the Ph.D. Oral Qualifying Exam. This exam inspects the soundness of the student's proposed doctoral dissertation research. A prospectus prepared by the student and submitted to the student's Advisory Committee is required two (2) weeks in advance of the exam. Only those who have passed the Preliminary Exam and have satisfied the Ph.D. mathematics requirement may sit for this exam. As this is an exam mandated by the Graduate School, all Graduate School regulations regarding this exam must be met.
- (f) Pass the Final Examination. This exam is mandated by the Graduate School, and therefore all Graduate School regulations regarding this exam must be met.
- (g) Meet all applicable Graduate School regulations.

For a more detailed description of these requirements, contact the Director of Graduate Studies.

The Department, in collaboration with the College of Engineering's Center for Manufacturing, has several research laboratories: Acoustics Lab, Advanced Structures Lab, Bearings and Seals Lab, CAD/CAM/CAE Lab, Combustion and Fire Research Lab, Computational Fluid Dynamics Systems (CFD) Lab, Engineering Metrology Lab, Fluid Mechanics Lab, Machine Vision Lab, Machining Dynamics Systems Lab, Machining Research Lab, Manufacturing Simulation and Tribology Research Lab, Nonlinear Dynamics Research Lab, Metal Forming Research Lab, Non-traditional Manufacturing Processes Lab, Phase Change and Microgravity Heat Transfer Lab, Radiative Transfer and Optics Lab, Rapid Prototyping Lab, Robotics Lab, Thermal Sensing Lab, and Welding Research Lab.

### GRADUATE COURSES

ME 501	MECHANICAL DESIGN WITH FINITE ELEMENT METHODS	(3)
ME 503	LEAN MANUFACTURING PRINCIPLES AND PRACTICES (SAME AS MFS 503)	(3)
ME 505	MODELING OF MANUFACTURING PROCESSES AND MACHINES (SAME AS MFS 505)	(3)
ME 506	MECHANICS OF COMPOSITE MATERIALS (SAME AS MSE 506)	(3)
ME 507	DESIGN FOR MANUFACTURING (SAME AS MFS 507)	(3)
ME 510	VIBRO-ACOUSTIC DESIGN IN MECHANICAL SYSTEMS	(3)
ME 512	MANUFACTURING SYSTEMS (SAME AS MFS 512)	(3)
ME 513	MECHANICAL VIBRATIONS	(3)
ME 527	APPLIED MATHEMATICS IN THE NATURAL SCIENCES I (SAME AS MA 527)	(3)
ME 548	AERODYNAMICS OF TURBOMACHINERY	(3)
ME 549	POWER GENERATION	(3)
ME 530	GAS DYNAMICS	(3)
ME 531	FLUID DYNAMICS I	(3)
ME 532	ADVANCED STRENGTH OF MATERIALS	(3)
ME 554	CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS	(3)

ME 556	INTRODUCTION TO COMPOSITE MATERIALS (SAME AS MSE 556)	(4)
ME 560	ENGINEERING OPTICS	(3)
ME 563	BASIC COMBUSTION PHENOMENA	(3)
ME 565	SCALE MODELING IN ENGINEERING	(3)
ME 580	HEATING, VENTILATION AND AIR CONDITIONING	(3)
ME 585	FOURIER SERIES AND BOUNDARY PROBLEMS	(3)
ME 599	TOPICS IN MECHANICAL ENGINEERING (SUBTITLE REQUIRED)	(3)
ME 601	ADVANCED CAE APPLICATIONS	(3)
ME 602	DYNAMICS OF DISTRIBUTED MECHANICAL SYSTEMS	(3)
ME 603	MECHANICS OF PLASTIC SOLIDS I	(3)
ME 604	DYNAMICS OF ROTATING MACHINERY	(3)
ME 606	SEMINAR AND PROJECT IN MANUFACTURING SYSTEMS ENGINEERING (SAME AS EE/MFS 606)	(3)
ME 607	ANALYSIS OF METAL CUTTING PROCESSES (SAME AS MFS/MSE 607)	(3)
ME 610	ENGINEERING ACOUSTICS	(3)
ME 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS EGR 611)	(3)
ME 613	NONLINEAR OSCILLATIONS	(3)
ME 620	ADVANCED ENGINEERING THERMODYNAMICS I	(3)
ME 626	ADVANCED HEAT CONVECTION	(3)
ME 627	RADIATION HEAT TRANSFER	(3)
ME 628	BOILING AND CONDENSATION	(3)
ME 631	FLUID DYNAMICS II	(3)
ME 634	TURBULENT FLOWS	(3)
ME 640	ADVANCED ANALYSIS AND SIMULATION OF DYNAMIC SYSTEMS	(3)
ME 641	FOUNDATIONS OF SOLID MECHANICS	(3)
ME 644	ADVANCED DYNAMICS I	(3)
ME 645	ADVANCED CONTROL SYSTEM ANALYSIS	(3)
ME 647	SYSTEM OPTIMIZATION I (SAME AS AEN 647)	(3)
ME 651	MECHANICS OF ELASTIC SOLIDS I	(3)
ME 690	ADVANCED ALGORITHMS FOR COMPUTATIONAL FLUID DYNAMICS	(4)
ME 691	CFD I - INCOMPRESSIBLE FLOWS	(3)
ME 692	CFD II - INCOMPRESSIBLE FLOWS	(3)
ME 699	TOPICS IN MECHANICAL ENGINEERING (SUBTITLE REQUIRED)	(3)
ME 748	MASTER'S THESIS RESEARCH	(0)
ME 749	DISSERTATION RESEARCH	(0)
ME 767	DISSERTATION RESIDENCY CREDIT	(2)
ME 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ME 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
ME 780	SPECIAL PROBLEMS IN MECHANICAL ENGINEERING	(3)
ME 790	RESEARCH IN MECHANICAL ENGINEERING	(1-9)

## MEDICAL SCIENCES

### Admission Requirements

The M.S. program in Medical Sciences is designed to prepare candidates for research careers in academics, industry and government laboratories. This program may also be used to prepare students for further graduate and professional education. Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience, and when possible, personal interviews. Students should have completed an undergraduate degree in chemistry, biology, biochemistry, engineering, mathematics, neurosciences, physics, pharmacy or psychology. Although there are no formal course requirements, it is recommended that students have completed undergraduate courses in organic chemistry, physical chemistry, calculus, physics, and the biological sciences.

### Degree Requirements

The Medical Sciences program encompasses the disciplines of anatomy and neurobiology; microbiology, immunology and molecular genetics; molecular and biomedical pharmacology; molecular and cellular biochemistry; and physiology. Students are required to select one of the five disciplinary areas. The student, in cooperation with the major professor/thesis advisor and the student's Advisory Committee, will determine the elective course work in the area of specialization and in related basic sciences. Each student, regardless of disciplinary specialization, will take the required 10-11 hour core curriculum and will choose from the list of recommended courses and departmental course work to develop a disciplinary specialization.

The degree requirements will vary with the thesis (Plan A) and the non-thesis (Plan B) option selected by the student. The thesis option requires 24 hours, half of which must be at the 600+ level, as well as an approved thesis based on the candidate's research. The non-thesis option requires a minimum of 30 graduate credit hours, half of which must be at the 600+ level. In addition, the program requires a core curriculum of 10-11 hours in biochemistry and cell and molecular biology. The program does not mandate a language requirement.

Financial support is not provided for students in the M.S. in Medical Sciences program. Inquiries regarding the program should be directed to the Director of Graduate Studies, M.S. in Medical Sciences Program or to the Director, Integrated Biomedical Sciences.

### Core Curriculum

The core curriculum is designed to provide a broad overview of medical sciences at the molecular level, to emphasize the importance of scientific integrity, and to spark an interest in current scientific developments that will establish a pattern of lifelong learning in the student.

IBS 601/BCH 607	Biomolecules and Metabolism	(3)
IBS 602/BCH 608	Biomolecules and Molecular Biology	(3)
IBS 603	Cell Biology	(3)
TOX 600	Ethics in Scientific Research	(1)
IBS 607	Seminar Course	(0)

**OR**

Seminar in department of specialization (ANA 600, BCH 618 OR BCH 619; MI 772, PGY 774, PHA 770)	(1)
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**Recommended Courses**

IBS 604	Cell Signaling	(3)
IBS 605/MI 604	Experimental Genetics	(3)
IBS 606	Integrated Biomedical Sciences	(4)

**Coursework: The minimum requirements are as follows:**

1. Plan A: Twenty-four hours of graduate level courses (50% must be 600+ level; 2/3 in organized courses). Research required for the master's thesis cannot be included in the required 24 credit hours of course work.
2. Plan B: Thirty hours of graduate courses (50% must be 600+ level; 2/3 in organized courses).
3. Ten-eleven hours of core curriculum (see above).
4. The Advisory Committee will determine the remainder of hours in the area of the student's specialization.

## MERCHANISING, APPAREL AND TEXTILES

The graduate program in the Department of Merchandising, Apparel and Textiles offers a M.S. degree. The Program emphases for graduate study and research in textiles and clothing include:

- Consumer Behavior
- Consumer Textiles/Quality Assurance
- Historic Textiles and Costume
- Cultural and Social Issues of Dress
- Textile and Apparel Merchandising/Management

A combination of course work, independent study and research experience is available to provide students with a program of study designed to meet students' career goals. Graduate emphasis is individualized to meet each student's career interests. The student works with an advisory committee in the selection of a thesis or non-thesis option and the appropriate courses

at the 500, 600, and 700 levels. It is expected that the applicant have an undergraduate degree in the major area of interest or a closely related field.

### **Degree Requirements**

The Master of Science in Merchandising, Apparel and Textiles is available under Plan A and Plan B. The thesis option (Plan A) requires 24 hours of course work, six hours of master's residence credit, and a thesis; Plan B requires completion of 30 credit hours, which is to include six hours of MAT 790. A common core of twelve hours, comprised of MAT 600, MAT 650, MAT 772, and STA 570, is required of all students. Students are to complete twelve credits of additional course work in the area of emphasis. Successful completion of a final examination is required.

### **Admission Requirements**

Potential graduate students must:

1. Apply and be accepted to the graduate school and to the department of merchandising, apparel and textiles.
2. Have been granted a baccalaureate degree by an accredited institution with a minimum 3.0 GPA on a 4.0 scale (2.75-3.0 GPA will be considered in relation to other credentials).
3. Have taken the Graduate Record Examination (GRE). For a non-English speaking student, a TOEFL score of 550 or above is required (or a score of 213 on the computer version of TOEFL).
4. Be reviewed by the department.

To be reviewed by the department faculty, complete the MAT Graduate Application at <http://www.ca.uky.edu/hes/?p=28>. Additionally, three letters of recommendation regarding academic ability and a statement regarding how this degree will help the student meet his/her career goals should be sent to the Director of Graduate Studies.

### **GRADUATE COURSES**

MAT 515	SPECIFICATION AND EVALUATION OF TEXTILES AND APPAREL	(3)
MAT 520	TEXTILES FOR INTERIORS	(3)
MAT 522	HISTORY OF TEXTILES	(3)
MAT 533	HISTORY OF COSTUME	(3)
MAT 547	SOCIAL AND PSYCHOLOGICAL ASPECTS OF APPAREL	(3)
MAT 559	SPECIAL TOPICS IN MERCHANDISING, APPAREL AND TEXTILES (SUBTITLE REQUIRED)	(1-3)
MAT 595	INDEPENDENT STUDY IN MERCHANDISING, APPAREL AND TEXTILES	(1-3)
MAT 600	RESEARCH METHODOLOGY IN MERCHANDISING, APPAREL AND TEXTILES (SAME AS HES 600)	(3)
MAT 650	SURVEY OF CURRENT THEORIES AND LITERATURE IN MERCHANDISING, APPAREL AND TEXTILES	(3)

MAT 748	MASTER'S THESIS RESEARCH	(0)
MAT 759	SPECIAL TOPICS IN MERCHANDISING, APPAREL AND TEXTILES (SUBTITLE REQUIRED)	(1-3)
MAT 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
MAT 772	SEMINAR IN MERCHANDISING, APPAREL AND TEXTILES	(1-3)
MAT 785	INDEPENDENT STUDY IN MERCHANDISING, APPAREL AND TEXTILES	(1-3)
MAT 790	RESEARCH PROBLEMS IN MERCHANDISING, APPAREL AND TEXTILES	(3)
HES 600	RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES (SAME AS MAT 600)	(3)

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## MICROBIOLOGY, IMMUNOLOGY AND MOLECULAR GENETICS

The Ph.D. program in Microbiology is designed to prepare candidates for research careers in academics, industry, and government laboratories, as well as teaching careers at major universities and colleges. The program has at its heart a close student-mentor relationship that allows for the maximum flexibility in the development of independent and creative scientists teachers.

### Admission Requirements

Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience, and when possible, personal interviews. Students should have completed an undergraduate degree in chemistry, biology, biochemistry, engineering, mathematics, neurosciences, physics, pharmacy or psychology. It is recommended that students have completed undergraduate courses in organic chemistry, physical chemistry, calculus, physics, and the biological sciences.

Students will have the opportunity to join faculty research programs across a spectrum of topics including: pathogenic microbiology, virology, cancer cell and molecular biology and cellular and molecular immunology. Specific research areas include microbial physiology, bacterial pathogenicity, cellular and molecular immunology, tumor immunology, lymphocyte differentiation, membrane biology, molecular virology, molecular genetics and gene regulation. Students will utilize the techniques of molecular biology, genetic engineering, genomics, proteomics, array technology, transgenic technology, hybridoma technology and fluorescence-activated cell sorting. The program of study is tailored to the individual background and career goals of the student and stresses an interdepartmental approach both in the selection of courses and in the pursuit of research. The most important aspect of the doctoral program is an independent research thesis under the direction of the student's mentor. Students are expected to participate in graduate seminars, journal clubs, research seminars; to interact with visiting scholars; and to present the results of their research at local and national meetings. Financial aid is available for qualified students.



All students pursuing degrees in the biomedical sciences at the University of Kentucky, College of Medicine are admitted through the Integrated Biomedical Sciences Curriculum (IBS). This first-year core curriculum provides broad-based exposure to biochemistry, cell biology, molecular biology, genetics, cell signaling and integrated physiology and flexibility in selecting a research emphasis among 125 faculty in the Biomedical Sciences. Students select their doctoral degree program at the completion of the first year core curriculum from among the departments of Anatomy and Neurobiology; Microbiology, Immunology and Molecular Genetics; Molecular and Biomedical Pharmacology; Molecular and Cellular Biochemistry; Physiology, Toxicology, and the Nutritional Sciences. Inquiries regarding admission should be directed to the Director, Integrated Biomedical Sciences Curriculum, University of Kentucky College of Medicine, Lexington, KY 40536-0298. Information regarding the Microbiology program may be obtained from the Director of Graduate Studies, Department of Microbiology, Immunology and Molecular Genetics, University of Kentucky College of Medicine, Lexington, KY 40536-0298, (800.462.5257) or the Microbiology, Immunology and Molecular Genetics Web site: [www.mc.uky.edu/microbiology/](http://www.mc.uky.edu/microbiology/) .

### GRADUATE COURSES

MI 494G	IMMUNOBIOLOGY (SAME AS BIO 494G)	(3)
MI 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS (SAME AS BIO/BCH/PLS/PPA 601)	(1)
MI 604	EXPERIMENTAL GENETICS (SAME AS IBS 605)	(2)
MI 615	MOLECULAR BIOLOGY (SAME AS BIO/BCH 615)	(3)
MI 616	BIOLOGY AND THERAPY OF CANCER (SAME AS MED 616)	(3)
MI 685	ADVANCED IMMUNOBIOLOGY (SAME AS BIO 685)	(3)
MI 707	CONTEMPORARY TOPICS IN IMMUNOLOGY (SAME AS BIO 707)	(2)
MI 710	SPECIAL TOPICS IN MICROBIOLOGY	(2-3)
MI 710-002	MICROBIAL PATHOGENESIS	(2-3)
MI 720	MICROBIAL STRUCTURE AND FUNCTION (SAME AS BIO/OBI 720)	(4)
MI 748	MASTER'S THESIS RESEARCH	(0)
MI 749	DISSERTATION RESEARCH (SAME AS MB 749)	(0)
MI 767	DISSERTATION RESIDENCY CREDIT	(2)
MI 768	RESIDENCE CREDIT FOR MASTER'S DEGREE (SAME AS MB 768)	(1-6)
MI 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE (SAME AS MB 769)	(0-12)
MI 772	SEMINAR IN MICROBIOLOGY (SAME AS BIO 772)	(0-1)

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## MINING ENGINEERING

The programs leading to the degrees of Master of Science in Mining Engineering, Master of Mining Engineering, and Doctor of Philosophy are offered through the Department of Mining Engineering. The objectives of these programs are to provide an advanced level of applied science for use in the mining industry and to offer specified topics for research specialization.

The Master of Mining Engineering is a professionally-oriented degree intended for the student who wishes to add topics to a basic baccalaureate degree for use in a working career. It is also appropriate for the returning adult student who needs more subject matter for career betterment. The Master of Science in Mining Engineering is a research-oriented degree appropriate for a career in problem solving, research, or technology development. The Doctor of Philosophy is the terminal degree in the subject and is normally required for a career in teaching and research.

The Master of Mining Engineering requires 30 credits of course work capped by a professional paper that reports on a current topic of scientific or technical interest, quite possibly connected to the student's career interests. For the Master of Science in Mining Engineering, 24 credit hours of course work plus an acceptable thesis (Plan A) or 30 credits of course work and a report on one or more research topics (Plan B) are required to fulfill program requirements. Plan B Master of Science degrees will be reserved normally for students who have already demonstrated their ability to conduct and report on independent research.

### Admission Requirements

Enrollment in either master's degree program is open to qualified applicants with an undergraduate degree in mining engineering or other engineering and science fields. A grade point average of 2.8/4.0 is normally required on all undergraduate work. Persons with undergraduate degrees in fields other than mining engineering are required to make up deficiencies in undergraduate mining engineering courses.

Applicants for admission must have a combined score on the verbal and quantitative portions of the Graduate Record Examination (GRE) in excess of 1,000. Scores on the analytical portion are also considered. Foreign applicants whose native language is other than English must take the Test of English as a Foreign Language (TOEFL) and score at least 550 before they can be admitted.

In addition to satisfying general Graduate School and College of Engineering admissions requirements, applicants for admission to the M.Min.E., M.S. in Min.E., and Ph.D. degree programs in mining engineering must have been awarded the Bachelor of Science degree prior to admission to the graduate degree status. Normally, it is expected that applicants will have graduated from an engineering program accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET). For applicants from non-U.S. universities, from related but non-engineering disciplines, and from institutions that do not have accredited engineering programs, an assessment will be made of the comparability of educational background to that prescribed and appropriate remedial course work established as a provision for admission.

The Ph.D. degree has no formal course requirement. Generally, students take a number of courses to prepare for the qualifying examinations and usually need to spend two years to complete a suitable dissertation. Most students find it necessary to take course work beyond the master's degree as necessary preparation for the qualifying examination. There is a language requirement for the Ph.D.

Current research areas include the following: rock mechanics and ground control, operations research, mine ventilation, underground construction, surface mining and reclamation, mine environmental engineering, mine power systems, coal preparation, and mineral economics. In addition to the graduate courses in mining engineering, graduate courses in civil engineering and other disciplines may be used to satisfy degree requirements providing they are appropriate to the student's program of study.

Additional information about the graduate program in mining engineering can be obtained by writing the Director of Graduate Studies, Department of Mining Engineering.

### **GRADUATE COURSES**

MNG 511	MINE POWER SYSTEM DESIGN	(3)
MNG 551	ROCK MECHANICS	(4)
MNG 561	MINE CONSTRUCTION ENGINEERING I	(3)
MNG 563	SIMULATION OF MINE PRODUCTION SYSTEMS (SAME AS MFS 563)	(3)
MNG 572	ADVANCED COAL PREPARATION	(3)
MNG 575	COAL PREPARATION DESIGN	(3)
MNG 580	MINERAL PROCESSING PLANT DESIGN	(3)
MNG 581	GEOSTATISTICS	(3)
MNG 591	MINE DESIGN PROJECT I	(1)
MNG 592	MINE DESIGN PROJECT II	(3)
MNG 599	TOPIC IN MINING ENGINEERING	(2-3)
MNG 611	MINE POWER SYSTEM PROTECTION	(3)
MNG 637	ROCK SLOPE STABILITY AND DESIGN	(3)
MNG 661	MINE CONSTRUCTION ENGINEERING II	(3)
MNG 681	GEOSTATISTICS II	(3)

MNG 690	ADVANCED MINERAL BENEFICIATION ENGINEERING	(3)
MNG 691	SIMULATION OF MINERAL PROCESSING CIRCUITS	(3)
MNG 699	TOPICS IN MINING ENGINEERING (SUBTITLE REQUIRED)	(3)
MNG 748	MASTER'S THESIS RESEARCH	(0)
MNG 749	DISSERTATION RESEARCH	(0)
MNG 767	DISSERTATION RESIDENCY CREDIT	(2)
MNG 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
MNG 769	RESIDENT CREDIT FOR DOCTOR'S DEGREE	(0-12)
MNG 771	SEMINAR IN MINING ENGINEERING	(1)
MNG 780	SPECIAL PROBLEMS IN MINING ENGINEERING	(1-6)
MNG 790	SPECIAL RESEARCH PROBLEMS IN MINING ENGINEERING	(1-9)
EGR 537	NUMERICAL ANALYSIS (SAME AS CS/MA 537)	(3)
EGR 599	TOPICS IN ENGINEERING (SUBTITLE REQUIRED)	(1-3)
EGR 611	BOUNDARY ELEMENT METHODS IN ENGINEERING (SAME AS ME 611)	(3)
EGR 621	FINITE ELEMENT ANALYSIS IN ENGINEERING	(3)

## MOLECULAR AND BIOMEDICAL PHARMACOLOGY

Graduate study in Pharmacology is designed to prepare candidates for research careers in academics, industry or government laboratories and agencies. The Ph.D. program in Pharmacology trains students in the fundamental principles of basic molecular and biochemical science, while also providing training in the principles of drug-receptor interactions, of experimental therapeutics and of drug discovery. Modern pharmacology also emphasizes new directions in gene therapy and pharmacogenetics. Students learn the conceptual and technical basis of research while performing mentored and, subsequently, independent research projects in laboratories equipped with state of the art technology and instrumentation.

Students will have the opportunity to join nationally recognized faculty research programs across a spectrum of topics including Neurobiology of Aging and Alzheimer's Disease, Brain Mechanisms of Memory, Receptor/Signaling Pathways in Cardiovascular Function and Disease, Actions of Hormones in Health and Disease, Molecular Biology of Growth and Carcinogenesis, and Environmental Toxicity, among others.

### **Admission Requirements**

Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience, and when possible, personal interviews. It is recommended that students have completed undergraduate courses in organic chemistry, calculus, physics, and biological

sciences. The program of study is tailored to the individual background and career goals of the student and can often include interdepartmental study and research. Students are expected to participate in journal clubs and research seminars; to interact with visiting scholars; and to present the results of their research at local and national meetings. Financial aid is available for qualified students.

Admission to the Ph.D. program in Pharmacology is through the Integrated Biomedical Sciences (IBS) program. Information about the admissions process is available at <http://www.mc.uky.edu/ibs>. For information about the Ph.D. program in Pharmacology, please contact the Director of Graduate Studies, Department of Molecular and Biomedical Pharmacology, University of Kentucky College of Medicine, Lexington, KY 40536-0298. Information may also be obtained from [www.mc.uky.edu/pharmacology/](http://www.mc.uky.edu/pharmacology/).

### GRADUATE COURSES

PHA 522	SYSTEMS PHARMACOLOGY	(3)
PHA 605	PRINCIPLES OF NEUROBIOLOGY (SAME AS NEU/PGY/BCH/ANA 605)	(4)
PHA 606	MECHANISMS OF NEUROLOGIC DISEASE (SAME AS ANA/NEU 606)	(4)
PHA 612	QUANTITATIVE PHARMACODYNAMICS: PHARMACOKINETICS (SAME AS PHR 612)	(3)
PHA 616	BIOLOGY AND THERAPY OF CANCER (SAME AS MI/MED616)	(3)
PHA 617	PHYSIOLOGICAL GENOMICS	(2)
PHA 621	ADVANCED PHARMACODYNAMICS	(3)
PHA 622	MOLECULAR DRUG TARGETS & THERAPEUTICS	(1-4)
PHA 630	SPECIAL TOPICS IN PHARMACOLOGY	(1-3)
PHA 634	ADVANCED CARDIOVASCULAR PHARMACOLOGY	(2)
PHA 649	ADVANCED MOLECULAR PHARMACOLOGY (SAME AS PHR/TOX 649)	(2)
PHA 658	ADVANCED NEUROPHARMACOLOGY	(2)
PHA 670	CHEMICAL CARCINOGENESIS (SAME AS TOX 670)	(3)
PHA 710	AGING OF THE NERVOUS SYSTEM (SAME AS GRN/PGY/ANA 710)	(3)
PHA 748	MASTER'S THESIS RESEARCH	(0)
PHA 749	DISSERTATION RESEARCH	(0)
PHA 750	RESEARCH IN PHARMACOLOGY	(1-5)
PHA 767	DISSERTATION RESIDENCY CREDIT	(2)
PHA 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
PHA 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
PHA 770	SEMINAR IN PHARMACOLOGY	(1)
PHA 779	MEMBRANE SCIENCES COLLOQUIUM (SAME AS CHE/CME/PHR/BCH 779)	(1)

## MOLECULAR AND CELLULAR BIOCHEMISTRY

Graduate study in biochemistry is designed to prepare candidates for research careers in academics, industry, and government laboratories. Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience and, when possible, personal interviews. Students should have completed an undergraduate degree in chemistry, biology, biochemistry, engineering, mathematics, physics, or pharmacy. It is recommended that students have completed undergraduate courses in organic chemistry, physical chemistry, calculus, physics and biological sciences.

Students will have the opportunity to join faculty research programs studying a spectrum of topics including: signal transduction, protein structure and function, transcriptional regulation, the cytoskeleton, secretion and vesicular fusion, disease mechanisms (atherosclerosis, cancer, infectious disease, diabetes, Alzheimer's), drug design, computational biology, development, nucleic acid dynamics, and membrane biogenesis & function. The program of study stresses an interdepartmental approach both in the selection of courses and in the pursuit of research. Students are expected to participate in graduate seminars, journal clubs, and research seminars; to interact with visiting scholars; and to present the results of their research at local and national meetings. Financial aid is available to all students in the program.

### Admission Requirements

Admission to the Ph.D. program in Molecular and Cellular Biochemistry is through the Integrated Biomedical Sciences (IBS) Curriculum.

Inquiries regarding admission should be directed to the Director of Graduate Studies, Department of Biochemistry, University of Kentucky College of Medicine. Information regarding the Ph.D. program in Biochemistry may also be obtained at [www.mc.uky.edu/biochemistry/](http://www.mc.uky.edu/biochemistry/)

### GRADUATE COURSES

BCH 401G	FUNDAMENTALS OF BIOCHEMISTRY	(3)
BCH 501	GENERAL BIOCHEMISTRY	(3)
BCH 502	GENERAL BIOCHEMISTRY	(3)
BCH 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS (SAME AS BIO/MI/PLS/PPA 601)	(1)
BCH 604	STRUCTURAL BIOLOGY	(3)
BCH 605	PRINCIPLES OF NEUROBIOLOGY (SAME AS NEU/PGY/ANA/ PHA 605)	(4)
BCH 607	BIOMOLECULES AND METABOLISM (SAME AS IBS 601)	(3)

BCH 608	BIOMOLECULES AND MOLECULAR BIOLOGY (SAME AS IBS 602)	(3)
BCH 609	PLANT BIOCHEMISTRY (SAME AS PPA/PLS 609)	(3)
BCH 610	BIOCHEMISTRY OF LIPIDS AND MEMBRANES	(3)
BCH 611	BIOCHEMISTRY AND CELL BIOLOGY OF NUCLEIC ACIDS	(3)
BCH 612	STRUCTURE AND FUNCTION OF PROTEINS AND ENZYMES	(3)
BCH 615	MOLECULAR BIOLOGY (SAME AS BIO/MI 615)	(3)
BCH 618	SEMINAR IN BIOCHEMISTRY	(1)
BCH 619	SEMINAR IN BIOCHEMISTRY	(1)
BCH 640	RESEARCH IN BIOCHEMISTRY	(1-9)
BCH 749	DISSERTATION RESEARCH	(0)
BCH 767	DISSERTATION RESIDENCY CREDIT	(2)
BCH 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
BCH 779	MEMBRANE SCIENCES COLLOQUIUM (SAME AS CHE/CME/ PHR/PHA 779)	(1)
BCH 780	TOPICS IN BIOCHEMISTRY	(1-3)

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## MUSIC

The School of Music offers the Master of Arts (M.A.) with specialty areas or emphases in musicology or theory; Master of Music (M.M.) with specialty areas in performance (including choral or instrumental conducting), composition, sacred music, or music education; Doctor of Musical Arts (D.M.A.) with specialty areas in performance (including choral or instrumental conducting), or composition; and the Doctor of Philosophy (Ph.D.) with specialty areas in musicology, music education or theory. The applicant for the master's degree is expected to have earned an appropriate undergraduate degree, and the applicant for the doctoral degree is expected to have earned an appropriate master's degree or equivalent.

Graduate work is also provided for persons seeking Rank I and Rank II state certification in music education. Requirements for Rank II coincide with those for the M.M. in Music Education; requirements for Rank I may be completed by a planned and approved 30 semester hour program in addition to Rank II requirements or 60 semester hours of planned and approved graduate credit, including the master's degree. The URL for the School of Music Home Page is [www.uky.edu/FineArts/Music](http://www.uky.edu/FineArts/Music).

### Entrance Requirements

Applicants must meet the entrance requirements of The Graduate School as well as those of the School of Music. Applicants to all graduate programs in music are required to take entrance exams in the areas of music theory (aural and written) and music history and literature. Applicants to programs in music education and voice, as well as doctoral study in musicology,

are also required to take an additional exam in the proposed area. Those seeking a degree in performance must audition as well. Applicants can send a video/DVD of a recent concert for preliminary audition. Live auditions should be scheduled by contacting the faculty member in charge of the student's performing area, or filling out an audition request form on the School of Music web page. The purpose of these exams and the audition is to discern the applicant's readiness to pursue graduate work in music. Students who have graduated from or are currently enrolled as undergraduate students at the University of Kentucky are not exempt from these entrance requirements. Applicants must demonstrate a minimum level of skills and knowledge on the entrance exams in order to be accepted into the program. For students who are accepted, the exams indicate whether they need review classes in specific areas before entering into graduate-level course work, but a willingness to take review classes is not a substitute for satisfactory performance on the exams. All applicants should take the exams seriously and attempt to do their best work. Admission of students who need review classes will be admitted conditionally until these requirements have been completed, which should be before the student has completed 12 graduate credit hours, or registration for additional classes may be blocked. Entrance examinations are usually scheduled on 4 dates per year at the School of Music: the 2nd Saturday in November, the first Saturday in February, the 1st Saturday in March, and the 3rd Saturday in June. *The applicant should notify the Music Graduate Office of his/her intention to take the entrance exams and confirm the date at least four weeks prior to the exam.* There is no charge to take the exams on the scheduled dates. Students who cannot arrange to take the exams on one of these dates may hire a private proctor to give them the exams at a mutually convenient time.

**Note:** Persons not applying for financial assistance may choose any of the above dates. Persons who meet the GPA and GRE score requirements for Non-Service Fellowships and wish to be considered for these awards **must** take the examinations (and the audition if applicable) no later than the first Saturday in February. Those applying for teaching assistantships may choose to take the examinations in November or February for application for the subsequent fall semester. Those wishing to begin studies during a summer session must take the examinations no later than the first Saturday of March. Applicants should complete the application online at the Graduate School homepage prior to doing the audition and entrance exams.

### GENERAL REQUIREMENTS FOR MASTER'S DEGREE

**Foreign Language Requirement:** The Master of Arts degree requires a reading knowledge of one foreign language, preferably French or German. Voice Performance majors in the Masters of Music are expected to have taken at least one year each of undergraduate level German, French, and Italian (or the equivalent by petition to the Director of Graduate Studies in the School of Music) as a prerequisite for degree study. If deficient, a student must enroll in language courses each semester of study until the deficiency is removed. Language classes must be passed with a letter grade of B or above.



**Thesis Requirement:** The Master of Arts degree requires a thesis (Plan A: see general requirements). For the Master of Music degree in Performance, a public recital acceptable to the faculty is required in lieu of a thesis. For the Master of Music degree in Composition, a composition of major proportions, acceptable to the composition-theory faculty and publicly performed, must be submitted in lieu of a written thesis. For the Master of Music in Music Education, students may choose the thesis option (Plan A), or the non-thesis option which requires taking six hours of additional course work instead (Plan B).

A final **comprehensive examination** is required for each program. At least fifty percent of all course credits must be at the 600 level or above.

## MASTER OF ARTS

**Prerequisites:** A suitable background in music literature and music theory, and a reading knowledge of one foreign language, normally French or German.

### MASTER OF ARTS (Musicology Emphasis)

Music History and Literature	(9-12)
Theory (including MUS 670, 671, 672, or 676)	(6-9)
Research Methods (MUS 618)	(3)
Directed Electives	(0-6)
Thesis	(6)
<b>Total</b>	<b>(30)</b>

### MASTER OF ARTS (Theory Emphasis)

Theory (including MUS 670, 671, 672, or 676)	(9-12)
Music History and Literature	(6-9)
Research Methods (MUS 618)	(3)
Directed Electives	(0-6)
Thesis	(6)
<b>Total</b>	<b>(30)</b>

### MASTER OF MUSIC (Composition)

**Prerequisites:** Submission of three original compositions.

Advanced Composition (MUS 673)	(4)
Orchestration (MUS 570 and 571)	(4)
Music History and Literature	(6)
Theory (including a minimum of one course from: MUS 670, 671, 672, or 676)	(9)
Directed Electives	(1)
Thesis Composition	(6)

**Total** (30)

The thesis composition must be publicly performed. The student is responsible for the preparation of legible score and parts.

### **MASTER OF MUSIC (Performance)**

**Prerequisites:** Acceptance by the appropriate faculty of applied music.

Music Performance (including recital)	(9)
Music History and Literature	(6)
Theory (including MUS 670, 671, 672, or 676)	(6)
Directed Electives	(9)
Recital	(0)
<b>Total</b>	<b>(30)</b>

A minimum of three full semesters, excluding summer sessions, is necessary for an M.M. in Performance.

This MM degree program is offered in the following specialty areas: piano, piano with emphasis in instrumental or vocal accompanying (see below), voice (see below), organ, violin, viola, cello, bass, guitar, flute, oboe, clarinet, saxophone, bassoon, trumpet, horn, trombone, euphonium, tuba, percussion and conducting (choral or instrumental). Wind, string, percussion, and conducting majors must participate in at least one University-sponsored performing organization for two semesters.

### **MASTER OF MUSIC (Piano Performance: Instrumental Accompanying)**

Piano Performance (MUP 601, including recital)	(9)
Music History and Literature (at 600 level, including MUS 624)	(9)
Theory (including MUS 670, 671, 672, or 676)	(6)
Advanced Chamber Ensemble (MUC 570)	(4)
Electives (MUP 503 or MUP 520 recommended)	(2)
<b>Total</b>	<b>(30)</b>

### **MASTER OF MUSIC (Piano Performance: Vocal Accompanying)**

Piano Performance (MUP 601, including recital)	(9)
Music History and Literature (at 600 level, including MUS 520)	(9)
Theory (including MUS 670, 671, 672, or 676)	(6)
Vocal Coaching for Singers (MUP 530 and MUP 630)	(4)
Electives (MUP 503 or MUP 520 recommended)	(2)
<b>Total</b>	<b>(30)</b>

### MASTER OF MUSIC (Voice Performance)

Voice Performance (including recital)	(9)
Music History and Literature (must include MUS 623 or 627)	(6)
Theory (including MUS 670, 671, 672, or 676)	(6)
Physiology and Functioning of the Singing Voice (MUS 665)	(3)
Materials, Techniques, and Literature of Voice Teaching (MUS 667)	(3)
Advanced Vocal Repertory (MUS 620)	(3)
<b>Total</b>	<b>(30)</b>

A minimum of three full semesters, excluding summer sessions, is necessary for an M.M. in Performance.

### MASTER OF MUSIC (Sacred Music)

#### **UK Requirements:** (27)

MUS 660 Choral Methods	(3)
Music History and Literature	(3)
Music Theory (including MUS 578, 670, 671, 672, or 676)	(3)
Ensemble	(2)
Music Education	(3)
(Choose from MUS 560, MUS 561, MUS 650 or other graduate music education course in consultation with advisor)	
Internship	(3)
Specialized area of study	(10)

#### **Course work at an accredited seminary or other institution specializing in religious studies** (6-9)

(Choose from topics such as Music in Worship, Designing Worship, Congregation, Worship and Spirituality, Worship and Music in the Liturgical Year, or other courses. Credits must be completed with a grade "B" or above and must be transferred to UK officially prior to graduation)

#### **Total** (33)

#### **Specialized areas of study:**

VOICE or KEYBOARD (organ or piano)	
MUP 558 Choral Conducting	(4)
Music Performance (Voice or Keyboard)	(6 +*)
CHORAL CONDUCTING	
MUP 558 & 658 Choral Conducting	(8)
Keyboard, MUP 501 or 503	(2)

+ An audition in the performing area (voice, organ, or piano) is required.

\* A 15-minute jury before either the voice faculty (for vocal emphasis) or the keyboard faculty (for piano or organ emphasis) is required at the end of the applied study.

### **MASTER OF MUSIC (Music Education - Plan A)**

<b>Core Requirements:</b>	(12)
MUS 600 Research I	(3)
MUS 601 Foundations of Music Education	(3)
Music History and Literature	(3)
Music Theory (including MUS 578, MUS 670, MUS 671, or MUS 672)	(3)
Thesis	(6)
Music Education Electives	(6)
The student can select any Music Education courses 500 level or above.	
Music Electives	(6)
The student can select any Music course 500 level or above in Performance, Music History, Music Theory, or Composition.	
<b>Total</b>	<b>(30)</b>

Students planning to earn a doctorate in Music Education should elect Plan A.

(Students planning to obtain a Rank II certification should contact the Chair of Music Teacher Education Program (TEP) to get informed about the latest Rank II requirements.)

### **MASTER OF MUSIC (Music Education - Plan B)**

<b>Core Requirements:</b>	(12)
MUS 600 Research I	(3)
MUS 601 Foundations of Music Education	(3)
Music History and Literature	(3)
Music Theory (including MUS 578, 670, 671, 672, or 676)	(3)
Specialized Area of Study	(12)
(The student will select 12 hours from the five areas described below, Instrumental Teaching, Choral Teaching, General Music, Orff Methods, and Choral or Instrumental Conducting. The student and advisor will determine the general area of emphasis and plan a set of courses which best fulfills the needs of the student).	
Music or Education Electives	(6)
(The student can select any music or education courses 500 level or above.)	
<b>Total</b>	<b>(30)</b>

(Students planning to obtain a Rank II certification should contact the Chair of Music Teacher Education Program (TEP) to get informed about the latest Rank II requirements.)

## Specialized areas of study for Plan B

INSTRUMENTAL TEACHING EMPHASIS - Band or Orchestra (Student and Advisor choose twelve hours from courses below which would best fulfill the student's needs.)

MUP Applied Performance (maximum of 4 hours)	(1-4)
MUP Secondary Applied	(1-2)
MUS 680 Band History and Literature	(3)
MUS 622 Symphonic Literature	(3)
MUS 660 Adv. Methods: Elementary General Music	(3)
MUP 558 Conducting or MUP 658 Conducting	(1-4)
MUS 684 Advanced String Methods and Materials	(3)
MUS 570 Orchestration	(2)
MUS 706 Music Learning and Behavior	(3)

CHORAL TEACHING EMPHASIS (Student and Advisor choose twelve hours from courses below which would best fulfill the student's needs.)

MUP Applied Performance (Maximum of 4 hours)	(1-4)
MUS 660 Adv. Methods: Elementary General Music	(3)
MUS 650 Music Education Workshop	(1-3)
MUS 660 Adv. Methods: Choral Techniques	(3)
MUP 558 Conducting or MUP 658 Conducting	(1-4)
MUS 706 Music Learning and Behavior	(3)

GENERAL MUSIC TEACHING EMPHASIS - Elementary Music, Jr. High, Middle School General Music (Student and Advisor choose twelve hours from courses below which would best fulfill the student's needs.)

MUP Applied Performance (maximum of 4 hours)	(1-4)
MUS 660 Adv. Methods: Elementary General Music	(3)
MUS 560 Orff Schulwerk Workshop	(1-3)
MUS 561 Orff Schulwerk Certification	(2-6)
MUS 650 Music Education Workshop	(1-3)
MUS 766 Seminar in Music Education	(3)
MUS 664 Music and Special Learners	(3)
MUS 706 Music Learning and Behavior	(3)

GENERAL MUSIC TEACHING EMPHASIS – Orff Schulwerk Concentration

This program follows all current requirements leading to the Master of Music Degree specializing in General Music with an Orff Schulwerk emphasis. Students must complete at least nine hours of coursework including MUS 560 Orff Schulwerk and MUS 561 Orff Schulwerk Certification Levels One and Two within the 12-hour general music specialization.

These courses are normally offered only in the summer as part of the Orff Teacher Training Courses. Students desiring to write a master's thesis may do so by choosing a topic related to Orff Schulwerk for the thesis and completing six hours of Orff Schulwerk and achieving Level Two Orff Certification.

This MM degree with Concentration in Orff Schulwerk is part of the Academic Common Market program recognized in the state of West Virginia. Residents of West Virginia can pay Kentucky in-state tuition by submitting an application to their State Academic Common Market Coordinator for approval.

CONDUCTING EMPHASIS - Instrumental or Choral (Student and advisor choose twelve hours from courses below which would best fulfill the student's needs.)

MUP Applied Performance (maximum of 4 hours)	(1-4)
MUP Secondary Applied Performance	(1-2)
MUS 680 Band History and Literature	(3)
MUS 622 Symphonic Literature	(3)
MUS 681 Advanced Rehearsal Techniques - Band	(3)
MUP 558 Conducting or MUP 658 Conducting (4 hours required)	(1-4)
MUS 660 Adv. Methods: Choral Techniques	(3)
MUS 570 Orchestration or MUS 571 Orchestration	(2)
MUS 684 Adv. String Methods & Materials	(3)
MUS 706 Music Learning and Behavior	(3)

### DOCTOR OF MUSICAL ARTS

The Doctor of Musical Arts program offers opportunity for fullest development as a performer, composer, or teacher of music performance or composition. Technical excellence is a prerequisite for admission into the program; doctoral study emphasizes work in adjunct areas of music, related fields, and research as they enhance and support the major area.

Language requirement differs among performance areas. If required and if deficient, a student must enroll in language courses each semester of study until the deficiency is removed.

Language classes must be passed with a grade of B or higher.

Recital requirement differs among performance areas. At least three weeks prior to each recital, the student must do a pre-recital hearing for three members of the applied faculty who must sign and submit a Pre-Recital Hearing Form to be placed in the student's file. The program content of the recitals will be established in cooperation with the student's Advisory Committee. Immediately after each successful recital, a Recital Approval form must be signed by three members of the Advisory Committee and placed in the student's file. The student should complete at least one recital prior to taking the Qualifying Exam.

If the Major Professor of a student in a performance program is an Associate Member of the Graduate Faculty, he/she can serve as co-chair and another member of the Advisory Committee, who is a Full Member of the Graduate Faculty, shall serve as chair. If the major professor of a student in a performance program is not a member of the Graduate Faculty, a Full Member of the Graduate Faculty shall serve as chair and major academic professor; the performance teacher shall serve as an additional, non-voting member of the committee.

DMA students are required to pass a Qualifying Exam (QE) upon completion of all coursework. Part I of the QE (History and Theory, 3 hours each) will be given as a common exam early every semester. Students should Part I prior to taking Part II of the QE which is the Specialty Area portion (six hours) of the QE. Part III of the QE is the oral exam (2 hours maximum) and should be taken last.

Dissertation requirement differs among the performance areas. The Project for the D.M.A. specializing in Composition will consist of two parts. Part 1 is a large-scale original composition. The candidate is responsible for arranging a public performance of the work. Part 2 is an in-depth analysis and discussion of the composition. The composition and in-depth written analysis and discussion are to be approved by the Advisory Committee in the same manner as a Ph.D. dissertation.

### DOCTOR OF MUSICAL ARTS

The minimum course requirements beyond the master's degree are as follows:

MUS 618 Research Methods*	(3)
Music History and Literature	(9)
Advanced Music Theory**	(6)
Performance Major	(12)
Minor (optional)***	(9)
<b>Total</b>	<b>(30-39)</b>

### DOCTOR OF MUSICAL ARTS (Voice Performance)

Research Methods (MUS 618)*	(3)
Music History and Literature (must include MUS 623 or 627*)	(6)
Advanced Music Theory**	(6)
Voice Performance	(12)
Performance Related Study: must include MUS 665*, 667*, and 620* and 6 credits of Directed Research in Vocal Literature (MUS 780)	(6-15)
Minor (Optional)***	(9)
<b>Total</b>	<b>(33-51)</b>

### DOCTOR OF MUSICAL ARTS (Choral Conducting)

Research Methods (MUS 618)*	(3)
Music History and Literature (must include MUS 625)	(9)
Advanced Music Theory**	(6)
Advanced Choral Methods (MUS 660)	(3)
Performance Major****	(12)
Minor (Optional)***	(9)
<b>Total</b>	<b>(33-42)</b>

### DOCTOR OF MUSICAL ARTS (Instrumental Conducting)

Research Methods (MUS 618)*	(3)
Music History and Literature (must include MUS 622 or MUS 680)	(9)
Advanced Music Theory**	(6)
Advanced Rehearsal Techniques (MUS 681)	(3)
Performance Major (6 hours of MUP 658 and 6 hours of MUP 758)	(12)
Minor (Optional)***	
<b>Total</b>	<b>(33-42)</b>

\*If not completed at the master's level.

\*\*MUS 578 cannot be used to fulfill this requirement.

\*\*\*The minor may be taken within or outside the School of Music, and is subject to the approval of the Advisory Committee and the chairman of the department concerned.

\*\*\*\*Must include a minimum of 4 credits of MUP 758

### DOCTOR OF PHILOSOPHY

The School of Music offers courses and research opportunities leading to the Ph.D. Applicants must meet the entrance requirements of The Graduate School as well as those of the School of Music. Applicants must submit a master's thesis or a research paper of sufficient scope and quality to demonstrate competence in research and clarity of expression. The basic core requirements beyond the master's degree are as follows:

Research Methods: MUS 618 (if not taken at the master's level)	(3)
Music History and Literature beyond the master's	(9)
Advanced Music Theory beyond the master's*	(6)
Three seminars (minimum) beyond the master's	
<b>Total</b>	<b>(27)</b>

(24 hours if competency in Research Methods is accepted by the Musicology faculty.)

\*MUS 578 cannot be used to fulfill this requirement.



There is no specific requirement in a minor area, but such work may be required by a student's Advisory Committee if it is essential to the major research or field of concentration.

Satisfaction of **language requirements** will conform to The Graduate School policy; however, specific languages required will vary with individual options. The foreign language requirement(s), if applicable, must be met by the end of the first full year of study in the Ph.D. program. The student's Advisory Committee must be formed and appointed by the Dean of the Graduate School prior to advance registration for the student's third semester. The dissertation topic and prospectus must be approved by the Advisory Committee; the dissertation itself must be the result of original research which adds to or modifies what has previously been known on the subject. Qualifying examinations should be taken no later than one semester after the completion of course work. A student is admitted to candidacy for the Ph.D. degree only after meeting the language requirement(s) and passing the qualifying examinations.

The Ph.D. in music may be pursued in one of three areas: music education, music theory, or musicology. The program outline for each area beyond the core requirements is given below; the student's Advisory Committee advises on and plans the actual program of study.

### **MUSIC EDUCATION**

Music in Higher Education (MUS 762)

Psychology of Music (MUS 770)

At least one graduate level course in statistics

Knowledge of acoustics (PHY 140 or equivalent); Knowledge of specialized research in music education (MUS 600 or equivalent). These requirements must be met by the end of the first year of doctoral study.

A foreign language is not required but student must show competency in computer use and statistical understanding for research purposes.

Additional courses in music education or adjunct subjects as recommended by the Advisory Committee.

### **MUSIC THEORY**

Pedagogy of Theory (MUS 674)

Advanced Analytical Techniques (MUS 676)

History of Music Theory (MUS 678)

Additional courses in music theory or adjunct subjects as recommended by the Advisory Committee

A reading knowledge of French, German, or a language appropriate to the research interest

### **MUSICOLOGY**

Medieval and Renaissance Notation (MUS 700)

Proseminar in Musicological Methods (MUS 703)

Additional courses in musicology or adjunct subjects as recommended by the Advisory Committee

A reading knowledge of at least two foreign languages, normally German and either French or Italian

### **GRADUATE CERTIFICATE IN MUSIC THEORY PEDAGOGY**

The School of Music offers course work leading to the Certificate in Music Theory Pedagogy. The Certificate requires a total of 15 hours consisting of the following courses:

MUS 674 Theory Pedagogy	(3)
MUS 675 Internship	(3)
MUS 676 Advanced Analytic Techniques	(3)
<i>and two elective theory courses selected from the following:</i>	
MUS 572 Counterpoint	(3)
MUS 573 Counterpoint	(3)
MUS 670 Musical Style I	(3)
MUS 671 Musical Style II	(3)
MUS 672 Musical Style III	(3)
MUS 677 Contemporary Music Idioms	(3)
MUS 678 History of Theory	(3)
MUS 772 Seminar in Theory	(3)
MUS 799 Independent Work in Music Theory	(1-3)

The Certificate will be awarded upon completion of the requirements. Students working on the Certificate are expected to earn a grade of B or higher in each certificate requirement.

### **GRADUATE CERTIFICATE IN ORFF SCHULWERK**

The School of Music offers course work leading to the Certificate in Orff Schulwerk. The Certificate requires a total of 12 hours consisting of the following courses:

MUS 561 Orff Schulwerk Certification I	(2-4)
MUS 561 Orff Schulwerk Certification II	(2-4)
MUS 561 Orff Schulwerk Certification III (2-4) or MUS 560 Orff Schulwerk	(1-3)
MUS 750 Independent Project	(1-3)

The content for MUS 750 and MUS 560 must be pre-approved by the UK Director of Orff Schulwerk.

## DISMISSAL POLICY

After admission into a music graduate program, a student **will** be dismissed for any one of the following conditions:

- Review courses not completed (with passing grade at B or higher) by the end of first year of study
- Two “C’s” or lower in grade report for courses in the degree program
- Failure to pass full faculty-jury twice

## MUSIC COURSES

All music performance courses (MUP) may be repeated for credit as needed. Music ensemble courses (MUC) may be repeated indefinitely.

All music performance courses carry from one to four credits, though three credits is the norm for performance majors, during the fall and spring semesters. (Applied music offerings during the summer are limited. Two credits is the maximum allowed, and one credit is the norm.)

## GRADUATE COURSES

MUC 570	ADVANCED CHAMBER MUSIC ENSEMBLE	(1)
MUC 596	OPERA WORKSHOP	(1-3)
MUC 675	JAZZ ENSEMBLE	(1)
MUC 689	WIND ENSEMBLE	(1)
MUC 691	ORCHESTRA	(1)
MUC 692	UNIVERSITY CHORISTERS	(1)
MUP 501	PIANO	(1-4)
MUP 502	VOICE	(1-4)
MUP 503	ORGAN	(1-4)
MUP 504	VIOLIN	(1-4)
MUP 505	VIOLA	(1-4)
MUP 506	CELLO	(1-4)
MUP 507	STRING BASS	(1-4)
MUP 508	FLUTE	(1-4)
MUP 509	OBOE	(1-4)
MUP 510	CLARINET	(1-4)
MUP 511	BASSOON	(1-4)
MUP 512	TRUMPET	(1-4)
MUP 513	FRENCH HORN	(1-4)
MUP 514	TROMBONE	(1-4)
MUP 515	EUPHONIUM	(1-4)
MUP 516	TUBA	(1-4)
MUP 517	SAXOPHONE	(1-4)
MUP 518	PERCUSSION	(1-4)

MUP 520	HARPSICHORD	(1-4)
MUP 521	ENGLISH HORN	(1-4)
MUP 523	CLASSICAL GUITAR	(1-4)
MUP 530	VOCAL COACHING FOR SINGERS	(1-3)
MUP 558	CONDUCTING	(1-4)
MUP 601	PIANO	(1-4)
MUP 602	VOICE	(1-4)
MUP 603	ORGAN	(1-4)
MUP 604	VIOLIN	(1-4)
MUP 605	VIOLA	(1-4)
MUP 606	CELLO	(1-4)
MUP 607	STRING BASS	(1-4)
MUP 608	FLUTE	(1-4)
MUP 609	OBOE	(1-4)
MUP 610	CLARINET	(1-4)
MUP 611	BASSOON	(1-4)
MUP 612	TRUMPET	(1-4)
MUP 613	FRENCH HORN	(1-4)
MUP 614	TROMBONE	(1-4)
MUP 615	EUPHONIUM	(1-4)
MUP 616	TUBA	(1-4)
MUP 617	SAXOPHONE	(1-4)
MUP 618	PERCUSSION	(1-4)
MUP 620	HARPSICHORD	(1-4)
MUP 623	CLASSICAL GUITAR	(1-4)
MUP 630	VOCAL COACHING FOR SINGERS	(1-3)
MUP 658	CONDUCTING	(1-4)
MUP 701	PIANO	(1-4)
MUP 702	VOICE	(1-4)
MUP 703	ORGAN	(1-4)
MUP 704	VIOLIN	(1-4)
MUP 705	VIOLA	(1-4)
MUP 706	CELLO	(1-4)
MUP 708	FLUTE	(1-4)
MUP 709	OBOE	(1-4)
MUP 710	CLARINET	(1-4)
MUP 711	BASSOON	(1-4)
MUP 712	TRUMPET	(1-4)
MUP 713	FRENCH HORN	(1-4)
MUP 714	TROMBONE 0	(1-4)
MUP 716	TUBA	(1-4)
MUP 717	SAXOPHONE	(1-4)
MUP 718	PERCUSSION	(1-4)
MUP 730	VOCAL COACHING FOR SINGERS	(1-3)
MUP 758	CONDUCTING	(1-4)
MUS 400G	MUSIC HISTORY REVIEW	(3)
MUS 470G	REVIEW OF HARMONY	(1)
MUS 471G	REVIEW OF AURAL SKILLS	(1)

MUS 500	MUSIC OF THE MIDDLE AGES	(3)
MUS 501	MUSIC OF THE RENAISSANCE	(3)
MUS 502	MUSIC OF THE BAROQUE ERA	(3)
MUS 503	MUSIC OF THE CLASSIC PERIOD	(3)
MUS 504	MUSIC OF THE NINETEENTH CENTURY	(3)
MUS 505	MUSIC OF THE TWENTIETH CENTURY	(3)
MUS 506	HISTORY OF AMERICAN MUSIC	(3)
MUS 520	VOCAL SOLO LITERATURE	(3)
MUS 521	ORGAN LITERATURE	(3)
MUS 522	PIANO LITERATURE TO 1830	(3)
MUS 523	PIANO LITERATURE SINCE 1830	(3)
MUS 540	APPLICATIONS OF MUSIC TECHNOLOGY	(3)
MUS 550	TOPICS IN MUSIC EDUCATION (SUBTITLE REQUIRED)	(1-3)
MUS 560	ORFF SCHULWERK	(1-3)
MUS 561	ORFF CERTIFICATION: LEVEL I, II, <b>OR</b> III	(2)
MUS 566	PIANO PEDAGOGY	(3)
MUS 570	ORCHESTRATION	(2)
MUS 571	ORCHESTRATION	(2)
MUS 572	COUNTERPOINT	(3)
MUS 573	COUNTERPOINT	(3)
MUS 574	COMPOSITION	(2)
MUS 575	COMPOSITION	(2)
MUS 578	ANALYSIS AND STYLE SURVEY	(3)
MUS 600	RESEARCH I	(3)
MUS 601	FOUNDATIONS IN MUSIC EDUCATION	(3)
MUS 618	RESEARCH METHODS	(3)
MUS 620	ADVANCED VOCAL REPERTORY (SUBTITLE REQUIRED)	(3)
MUS 622	SYMPHONIC LITERATURE	(3)
MUS 623	OPERA LITERATURE I	(3)
MUS 624	CHAMBER MUSIC LITERATURE	(3)
MUS 625	CHORAL LITERATURE	(3)
MUS 627	OPERA LITERATURE II	(3)
MUS 650	MUSIC EDUCATION WORKSHOP	(1-4)
MUS 660	ADVANCED MUSIC EDUCATION METHODS AND MATERIALS (SUBTITLE REQUIRED)	(3)
MUS 664	MUSIC AND SPECIAL LEARNERS	(3)
MUS 665	PHYSIOLOGY AND FUNCTIONING OF THE SINGING VOICE	(3)
MUS 667	MATERIALS, TECHNIQUES AND LITERATURE OF VOICE TEACHING	(3)
MUS 670	MUSICAL STYLE I	(3)
MUS 671	MUSICAL STYLE II	(3)
MUS 672	MUSICAL STYLE III (3)	(3)
MUS 673	ADVANCED COMPOSITION	(2)
MUS 674	PEDAGOGY OF THEORY	(3)
MUS 675	INTERNSHIP IN THEORY PEDAGOGY	(1)
MUS 676	ADVANCED ANALYTICAL TECHNIQUES	(3)
MUS 677	CONTEMPORARY MUSIC IDIOMS	(3)

MUS 678	HISTORY OF THEORY	(3)
MUS 680	BAND HISTORY AND LITERATURE	(3)
MUS 684	ADVANCED STRING METHODS AND MATERIALS	(3)
MUS 690	TOPICS IN MUSICOLOGY (SUBTITLE REQUIRED)	(3)
MUS 694	INTERNSHIP IN SACRED MUSIC	(1)
MUS 695	INDEPENDENT WORK IN MUSIC	(1-3)
MUS 700	MEDIEVAL AND RENAISSANCE NOTATION	(3)
MUS 702	SEMINAR IN MUSICOLOGY	(3)
MUS 703	PROSEMINAR IN MUSICOLOGICAL METHODS	(3)
MUS 704	MUSIC TECHNOLOGIES	(3)
MUS 705	RESEARCH II	(3)
MUS 706	MUSIC LEARNING AND BEHAVIOR	(3)
MUS 707	TESTS AND MEASUREMENTS IN MUSIC	(3)
MUS 719	INDEPENDENT WORK IN MUSICOLOGY	(1-3)
MUS 748	MASTER'S THESIS RESEARCH	(0)
MUS 749	DISSERTATION RESEARCH	(0)
MUS 750	INDEPENDENT WORK IN MUSIC EDUCATION	(1-3)
MUS 762	MUSIC IN HIGHER EDUCATION	(3)
MUS 766	SEMINAR IN MUSIC EDUCATION	(3)
MUS 767	DISSERTATION RESIDENCY CREDIT	(2)
MUS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
MUS 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(1-12)
MUS 770	PSYCHOLOGY OF MUSIC	(3)
MUS 772	SEMINAR IN THEORY	(3)
MUS 780	DIRECTED RESEARCH IN VOCAL LITERATURE	(1-3)
MUS 799	INDEPENDENT WORK IN MUSIC THEORY	(1-3)

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## NURSING

The College of Nursing offers graduate programs leading to the Master of Science in Nursing and to the Doctor of Philosophy. The College also offers a professional clinical doctorate, the Doctor of Nursing Practice.

### Master of Science

The Master of Science in Nursing program builds on a student's undergraduate degree, and prepares the individual for advanced practice nursing in a chosen specialty. Research utilization, evidence-based practice, and leadership are emphasized throughout the program. There are seven specialty tracks:

1. Acute Care Nurse Practitioners focus on diagnosing and managing acute health problems, provide tertiary preventive care and work with interdisciplinary teams.

2. Adult Nursing focuses upon the care of adults across the life span in critical illness, adult health, oncology, rehabilitation, emergency trauma, and gerontological nursing. Students are prepared as clinical nurse specialists.
3. Nurse Managers play a key role in assuring high quality care and a satisfying work environment on individual units, in clinics and departments in all types of health care organizations.
4. Parent-Child Nursing focuses upon children, adolescents, and families, perinatal nursing, and neonatal. Clinical nurse specialist and nurse practitioner subspecialties are available. *The Neonatal Nurse Practitioner subspecialization is available through collaboration with the University of Louisville.*
5. Primary Care Nurse Practitioners focus on providing primary health care. They diagnose and treat common health problems, promote wellness and prevent illness and help clients learn effective self-care. The Women's Health Nurse Practitioner subspecialization is available through collaboration with the University of Louisville.
6. Psychiatric/Mental Health Nursing focuses upon the specialized care of individuals and families with psychiatric and addictive problems in hospital and community settings. Both nurse practitioner and clinical nurse specialist subspecializations are available.
7. Public Health Nursing focuses on preparing nurses to assume positions in public health agencies delivering health and nursing services to specific populations, as public health nurse managers, public health clinical nurse specialists, and nurse care managers.

### **Admission Requirements**

Applicants to the master's degree program must meet the minimum requirements of the Graduate School, as well as the following requirements of the nursing program: satisfactory scores on the Graduate Record Examination (GRE), a minimum undergraduate grade point average of 2.75 on a 4.0 grading scale, a baccalaureate degree in nursing from a school accredited by a nationally recognized organization, a goal statement, three references, an interview, and a graduate-level statistics course (completed prior to admission). Nurse licensure in the state where clinicals take place, and clinical experience prior to the first clinical course, are also required. Final admission recommendations are made on a competitive basis.

The Master of Science in Nursing degree requires a minimum of 40 credit hours of course work and clinicals. Some specialties require more. All students are required to take courses in theoretical basis for practice, assessment, clinical reasoning, research, leadership, and evidence-based nursing practice. In addition, each student must maintain a minimum 3.0 cumulative GPA on all graduate courses and nursing courses and pass a final examination. Students may pursue part-time study through flexible scheduling and selected evening/weekend courses. The College has an outreach site in Morehead, KY. The deadline for receipt of all application materials is February 15 for Fall admission and November 1 for Spring admission. Some MSN specialty areas admit Fall semester only. Late applicants will be considered on a space-available basis.

Nurses with diplomas or associate degrees have the choice of combining their programs of study for the BSN and MSN degrees. The RN/MSN option provides qualified registered nurses with an accelerated approach to career advancement from the associate or hospital diploma in nursing to the master's degree. Applicants to the RN/MSN track must meet the criteria listed for the BSN program and for the MSN program and that of the Graduate School. Admission requirements are: an earned associate degree in nursing from a college accredited by one of the six academic accrediting associations, successful completion of ACT-PEP test for diploma program graduates only, nursing experience, completion of all University Studies Program requirements, a cumulative GPA of 3.0 on a 4.0 scale, satisfactory GRE scores, a written goal statement, three letters of reference, and a personal interview. The MSN degree will not be awarded without concurrent or prior completion of the BSN requirements. The deadline for receipt of all application materials is February 15. Late applicants will be considered on a space-available basis.

The College of Nursing has an articulated RN to MSN degree option with Morehead State University. Individuals interested in this option may contact the College of Nursing office of Graduate Student Affairs for more information.

### **Doctor of Philosophy**

The Doctor of Philosophy in Nursing program prepares nurse scholars to contribute to the development of nursing science through clinical research and the application of knowledge to nursing practice. Graduates assume roles in research, education, and administration.

#### **Admission Requirements**

Applicants to the Ph.D. program must meet the minimum requirements of the Graduate School, as well as the following requirements of the nursing program. An applicant must possess a master's degree in nursing from a nationally accredited school and a 3.3 or higher grade point average on a 4.0 scale for all master's level work. Satisfactory scores on the GRE general test are expected. Personal interviews, a goal statement, and three references are required. Final admission recommendations are made on a competitive basis.

A student enrolled in the master's degree program, who has completed 17 credit hours of MSN course work, can apply for admission to the Ph.D. program. To apply for Ph.D. study, a MSN student must submit a letter to the Assistant Dean for Research and Ph.D. Students expressing a desire to enroll in the doctoral program submit a revised goal statement reflecting interest in doctoral education and research, attach a sample of scholarly work, request the academic advisor to send the Assistant Dean an admission recommendation, and complete an interview with the Assistant Dean and one additional faculty member.

The Doctor of Philosophy degree in nursing requires a minimum of 45 credit hours of course work beyond the master's degree, participation in at least one research project prior to



qualifying examinations, plus a minimum of two semesters of residence credit for dissertation research. Written and oral examinations are required to qualify as a degree candidate. Pre-qualifying residency requirements can be fulfilled using any of the three models approved by the Graduate School. There is a final examination for defense of the dissertation research.

### **B.S.N.- Ph.D in Nursing**

The College of Nursing offers an accelerated degree B.S.N. - Ph.D. option which will allow students to move directly from a baccalaureate degree in nursing to a doctoral degree while earning a master's degree in the process. This post-baccalaureate entry option is designed for exceptional students with research-based career goals who wish to progress rapidly to the PhD.

#### **Admission Requirements**

Applicants to the B.S.N.-Ph.D. program must meet the minimum requirements of the Graduate School, as well as the following requirements of the nursing program. An applicant must possess a bachelor's degree in nursing from a nationally accredited school; a cumulative undergraduate grade point average of 3.5 or higher, on a 4.0 scale; a Kentucky Registered Nurse license; GRE general test scores within the past 5 years with a preferred minimum score of 600 verbal, 600 quantitative and a minimum score of 5.0 on the analytic writing section; three references; personal interview(s); an example of scholarly written work and clinical experience prior to first clinical course.

The combined B.S.N - Doctor of Philosophy degree in nursing requires a minimum of 72 credit hours of course work beyond the B.S.N. degree, successful completion of a comprehensive exam for the M.S.N. degree, participation in at least one research project prior to qualifying examinations, plus a minimum of two semesters of residence credit for dissertation research. Written and oral examinations are required to qualify as a degree candidate. Pre-qualifying residency requirements can be fulfilled using any of the three models approved by the Graduate School. There is a final examination for defense of the dissertation research.

### **Doctor of Nursing Practice**

The College of Nursing also offers a professional clinical doctorate, the Doctor of Nursing Practice. Information about this program may be found on the College of Nursing Web page.

### **GRADUATE COURSES**

NUR 510	OLDER WOMEN AND THEIR HEALTH (SAME AS HSE 510)	(3)
NUR 512	COMPLEMENTARY/ALTERNATIVE APPROACHES TO HEALTH CARE	(3)
NUR 514	ADVANCED HEALTH ASSESSMENT	(2)
NUR 520	SPECIAL TOPICS IN NURSING: (SUBTITLE REQUIRED)	(2-4)
NUR 600	ADVANCED NURSING PRACTICE: ROLES AND ISSUES	(3)
NUR 601	THEORETICAL BASIS FOR ADVANCED PRACTICE NURSING	(2)

NUR 602	RESEARCH METHODS IN ADVANCED PRACTICE NURSING	(3)
NUR 603	CLINICAL REASONING IN ADVANCED PRACTICE NURSING	(3)
NUR 604	LEADERSHIP IN ADVANCED PRACTICE NURSING	(3)
NUR 605	EVIDENCE-BASED NURSING PRACTICE	(3)
NUR 610	CONCEPTS AND THEORIES IN NURSING	(2)
NUR 612	NURSING RESEARCH METHODS	(3)
NUR 613	RESEARCH APPLICATIONS IN NURSING	(3)
NUR 614	PRACTICUM IN CLINICAL NURSING I	(4)
NUR 615	PRACTICUM IN CLINICAL NURSING II	(5)
NUR 620	PROBLEMS IN CLINICAL NURSING	(2-6)
NUR 624	PEDIATRIC HEALTH SCREENING AND HEALTH PROMOTION	(2)
NUR 628	POPULATION FOCUSED PRACTICE IN THE COMMUNITY	(2)
NUR 629	EPIDEMIOLOGICAL PRINCIPLES APPLIED TO HEALTH CARE AND NURSING PRACTICE	(3)
NUR 631	APPLICATIONS OF ADVANCED HEALTH ASSESSMENT	(2)
NUR 632	COMPREHENSIVE PATIENT MANAGEMENT I	(2)
NUR 633	COMPREHENSIVE PATIENT MANAGEMENT II	(4)
NUR 650	ADVANCED PHYSICAL AND HEALTH ASSESSMENT	(2-6)
NUR 651	DIAGNOSTIC LABORATORY PROCEDURES	(2)
NUR 652	PHARMACOLOGIC APPLICATIONS IN PRIMARY CARE	(3)
NUR 653	PATHOPHYSIOLOGY	(3)
NUR 654	COMMON HEALTH PROBLEMS OF YOUNG, MIDDLE AND OLDER ADULTS I	(3)
NUR 655	COMMON HEALTH PROBLEMS OF YOUNG, MIDDLE AND OLDER ADULTS II	(3)
NUR 656	HEALTH PROBLEMS OF THE PEDIATRIC CLIENT	(2)
NUR 657	HEALTH ISSUES OF THE CHILD AND ADOLESCENT CLIENT	(2)
NUR 658	RISKY BEHAVIORS AND HEALTH	(3)
NUR 662	CLINICAL NURSING PRACTICE IN EXPANDED ROLES I	(1-4)
NUR 668	PSYCHOTHERAPEUTICS FOR ADVANCED NURSING PRACTICE (SAME AS PHR 668)	(3)
NUR 672	CLINICAL NURSING PRACTICE IN EXPANDED ROLES II	(3-4)
NUR 673	MANAGEMENT OF CLINICAL NURSING PRACTICE II	(4)
NUR 676	WOMEN'S HEALTH: A PUBLIC HEALTH PERSPECTIVE (SAME AS PM 676)	(3)
NUR 682	CLINICAL NURSING PRACTICE IN EXPANDED ROLES III	(3-8)
NUR 700	BEHAVIORAL RESPONSES TO HEALTH PROBLEMS	(2)
NUR 701	BIOLOGICAL RESPONSES TO HEALTH PROBLEMS	(2)
NUR 702	BIOLOGICAL PHENOMENA IN ACUTE ILLNESS	(3)
NUR 703	BIOLOGICAL AND BEHAVIORAL PHENOMENA IN CHRONIC ILLNESS	(2)
NUR 704	ACUTE AND CHRONIC ILLNESS AND NURSING THERAPEUTICS I	(3)
NUR 705	ACUTE AND CHRONIC ILLNESS AND NURSING THERAPEUTICS II	(6)
NUR 706	ADVANCED PRACTICE NURSING CARE OF ACUTELY ILL ADULTS	(2)
NUR 707	ADVANCED PRACTICE NURSING CARE OF CRITICALLY ILL ADULTS	(6)
NUR 708	MEASURING AND DOCUMENTING NURSING PRACTICE	(4)
NUR 710	ADVANCED PARENT-CHILD NURSING I	(2)
NUR 711	ADVANCED PARENT-CHILD NURSING II	(2)
NUR 712	ADVANCED PARENT-CHILD SEMINAR	(3)

NUR 713	ADVANCED NURSING CARE FOR FAMILIES, PRE-CONCEPTION THROUGH ADOLESCENCE I	(4-6)
NUR 714	ADVANCED NURSING CARE FOR FAMILIES, PRE-CONCEPTION THROUGH ADOLESCENCE II	(2-4)
NUR 720	ADVANCED PSYCHIATRIC/MENTAL HEALTH NURSING I	(2)
NUR 721	ADVANCED PSYCHIATRIC/MENTAL HEALTH NURSING II	(2)
NUR 722	CLINICAL TOPICS IN ADVANCED PRACTICE PSYCHIATRIC MENTAL HEALTH NURSING	(3)
NUR 723	ADVANCED PRACTICE PSYCHIATRIC NURSING I	(6)
NUR 724	ADVANCED PRACTICE PSYCHIATRIC NURSING II	(4)
NUR 725	ADVANCED PRACTICE NURSING SEMINAR FOR NURSE PRACTITIONERS	(3)
NUR 726	PRIMARY CARE ADVANCED PRACTICE NURSING SEMINAR	(3)
NUR 727	PRIMARY CARE ADVANCED PRACTICE NURSING SEMINAR	(2-5)
NUR 730	NURSING MANAGEMENT IN THE ORGANIZATION I	(3)
NUR 731	NURSING MANAGEMENT IN THE ORGANIZATION II	(3)
NUR 732	ADVANCED PRACTICE IN PUBLIC HEALTH NURSING ASSESSMENT SPECIALTY SEMINAR	(3)
NUR 733	ADVANCED PRACTICE IN PUBLIC HEALTH NURSING PRACTICUM I: POLICY AND PROGRAM DEVELOPMENT	(6)
NUR 734	ADVANCED PRACTICE IN PUBLIC HEALTH NURSING: PRACTICUM II: ASSURANCE	(4)
NUR 735	FAMILY AND COMMUNITY HEALTH PROMOTION	(3)
NUR 737	NURSING CARE MANAGEMENT - RESOURCE MANAGEMENT	(3)
NUR 738	MODELS AND PROCESSES OF NURSING CARE MANAGEMENT	(3)
NUR 739	NURSING CARE MANAGEMENT - CLINICAL OUTCOMES AND QUALITY IMPROVEMENT	(2-3)
NUR 740	NURSE-MIDWIFERY MANAGEMENT: NEONATE	(2)
NUR 744	NURSE-MIDWIFERY MANAGEMENT: WOMAN WITH PROBLEMS	(2)
NUR 745	NURSE-MIDWIFERY PRACTICE ORGANIZATIONS	(2)
NUR 748	MASTER'S THESIS RESEARCH	(0)
NUR 749	DISSERTATION RESEARCH	(0)
NUR 752	CULTURALLY COMPETENT HEALTH CARE – CLIENT CLINICIAN, AND ORGANIZATIONAL PERSPECTIVES	(3)
NUR 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
NUR 767	DISSERTATION RESIDENCY CREDIT	(2)
NUR 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
NUR 776	SPECIAL TOPICS SEMINAR (SUBTITLE REQUIRED)	(2-4)
NUR 778	PROSEMINAR IN CONTEMPORARY HEALTH AND NURSING POLICY ISSUES	(3)
NUR 779	DOCTORAL SEMINAR	(1-3)
NUR 781	INDEPENDENT STUDY IN NURSING	(1-3)
NUR 790	KNOWLEDGE DEVELOPMENT IN NURSING	(3)
NUR 791	QUALITATIVE METHODS IN NURSING RESEARCH	(3)
NUR 792	QUANTITATIVE METHODS IN NURSING RESEARCH	(3)
NUR 793	MEASUREMENT OF NURSING PHENOMENA	(4)
NUR 794	ANALYSIS, INTERPRETATION, AND PRESENTATION OF QUANTITATIVE DATA	(3)

## NUTRITIONAL SCIENCES

The multidisciplinary Graduate Program in Nutritional Sciences provides opportunity for advanced study leading to the M.S. in Nutritional Sciences and Ph.D. degrees. The aim of the program is to develop nutritional scientists who are able to function in a variety of sophisticated academic, industrial and professional settings. Educational opportunities exist in agricultural, biological, clinical, medical, social and basic nutritional sciences. The program is organized on an interdepartmental and inter-college basis. More than 38 faculty members from various academic units of the university including Animal Sciences, Anthropology, Behavioral Science, Biochemistry, Clinical Sciences, Endocrinology, Horticulture and Landscape Architecture, Internal Medicine, Neurology, Nutrition and Food Science, Oral Health Science, Plant and Soil Science, Psychiatry, Surgery and Toxicology are involved in the teaching and research activities of the program. The program is diversified and systematic, yet highly flexible. Individualized professional training and extensive research opportunities are available to students.

Program faculty have modern research laboratory facilities for conducting human, animal, and cell culture studies using state-of-the-art molecular biology, trace mineral, vitamin, lipid, amino acid, enzyme, hormone, stable and radioactive isotope, microcirculatory, and energy assessment analysis. Clinical facilities for training and research include the University of Kentucky Hospital, Veterans Administration Hospital, Sanders-Brown Center on Aging, University of Kentucky Medical Center Outpatient Clinics, and the Markey Cancer Center. Clinical research units are present at both the University of Kentucky Medical Center and the Veterans Administration Medical Center, and on-going nutritional studies are performed at both units. All facilities are within walking distance of each other. Nutritional support teams are established at both the University and Veterans Administration Hospitals. Opportunities for community-based research exist locally, throughout the state, and in international settings. Further information may be obtained by writing to the Director of Graduate Studies, Multidisciplinary Ph.D. Program in Nutritional Sciences, 203A Health Sciences Building, University of Kentucky, Lexington, KY 40506-0003.

### Admission Requirements

Admission to the Ph.D. degree program requires:

1. An M.S. Degree with a GPA of 3.2 or above on a 4.0 scale.
2. A B.S. Degree with a GPA of 3.0 or above on a 4.0 scale.
3. An average GRE score, on all three sections, greater than the 50th percentile; Writing section greater than 3.0.
4. For international applicants a TOEFL score of 550 or better is required; all applicants must demonstrate proficiency in verbal and written English communication.
5. Submission of a brief essay (not in excess of 3 pages) describing long-term career goals and how she/he feels the Program in Nutritional Sciences would advance these goals.
6. Three letters of reference.

Admission to the M.S. degree program requires:

1. A baccalaureate degree from a fully accredited institution of higher learning.
2. A minimum undergraduate grade point average of 2.9 and 3.0 on all graduate work.
3. An average GRE score on the Verbal, Quantitative, and Analytical portions of the Graduate Record Examination greater than the 30th percentile.
4. For international applicants a TOEFL score of 550 or better is required; all applicants must demonstrate proficiency in verbal and written English communication.
5. Submission of a brief essay (not in excess of 3 pages) describing long-term career goals and how she/he feels the Program in Nutritional Sciences would advance these goals.
6. Three letters of reference.

## Degree Requirements

Students are required to complete the core curriculum. Elective courses to be taken will be recommended by the advisory committee.

### I. Ph.D. – Core Curriculum

#### NUTRITION CORE COURSES

NS/CNU 601	MACRONUTRIENT METABOLISM	(4)
NS/ASC 602	MICRONUTRIENT METABOLISM	(4)
NS/CNU/NFS 771	GRADUATE SEMINAR IN NUTRITIONAL SCIENCES	(0-1*)
NS/CNU/NFS 704	CURRENT TOPICS IN NUTRITION	(1)

\*Minimum of (2) hours required.

#### OTHER CORE COURSES

STA 570	BASIC STATISTICAL ANALYSIS	(4)
BCH 607	GENERAL BIOCHEMISTRY I	(3)
BCH 608	GENERAL BIOCHEMISTRY II	(3)
PGY 502	PRINCIPLES OF PHYSIOLOGY	(5)

#### NUTRITION SELECTIVES

6 hours to be selected from:

NS/ANT/BS/NFS 607	FOOD-RELATED BEHAVIORS	(3)
NS/CNU 701	NUTRITION AND CHRONIC DISEASES	(4)
ASC 580	PHYSIOLOGY OF NUTRIENT DIGESTION AND ABSORPTION	(3)
ASC 681	ENERGY METABOLISM	(2)
ASC 683	PROTEIN METABOLISM	(2)
NS/CNU 604	LIPID METABOLISM	(3)
TOTAL		<u>(30-32)</u>

## II. M.S. in Nutritional Sciences – Core Curriculum

### PLAN A – (THESIS OPTION)

NS/CNU 601	MACRONUTRIENT METABOLISM	(4)
NS/ASC 602	MICRONUTRIENT METABOLISM	(4)
NS/CNU/NFS 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES	(1)
STA 570	BASIC STATISTICAL ANALYSIS	(4)
BSC/ANT/NFS 607	FOOD-RELATED BEHAVIORS	(3)
NS 771	GRADUATE SEMINAR IN NUTRITIONAL SCIENCES	(0-1*)
EMPHASIS REQUIREMENTS		(12)
<b>TOTAL MINIMUM HOURS REQUIRED (PLUS THESIS RESEARCH)</b>		<b><u>(29)</u></b>
THESIS RESEARCH	NS/CNU/NFS 790 RESEARCH IN NUTRITIONAL SCIENCES	(0-6)

\*Students are required to register twice for (0) credits and once for (1) credit.

### PLAN B (NON-THESIS OPTION)

NS/CNU 601	MACRONUTRIENT METABOLISM	(4)
NS/ASC 602	MICRONUTRIENT METABOLISM	(4)
NS/CNU/NFS 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES	(1)
STA 570	BASIC STATISTICAL ANALYSIS	(4)
BSC/ANT/NFS 607	FOOD RELATED BEHAVIORS	(3)
NS 771	GRADUATE SEMINAR IN NUTRITIONAL SCIENCES	(0-1**)
NS/CNU/NFS 782	SPECIAL PROBLEMS	(1-6)
EMPHASIS REQUIREMENTS AND ELECTIVES		(18)
<b>TOTAL MINIMUM HOURS REQUIRED</b>		<b><u>(35)</u></b>

\*\* Students are required to register twice for (0) credits

## III. M.S. in Nutritional Sciences – Emphasis Area Requirements

### CLINICAL NUTRITION

NS/CNU 701	NUTRITION AND CHRONIC DISEASES	(4)
NS/CNU 702	CLINICAL NUTRITION PROBLEM BASED CASE STUDIES	(4)
NS/NFS 640	HUMAN NUTRITION ASSESSMENT	(3)
ELECTIVES PLAN A OR PLAN B		(1 or 7)

### COMMUNITY NUTRITION

NS/NFS 630	ADVANCED COMMUNITY NUTRITION	(3)
NS/NFS 640	HUMAN NUTRITION ASSESSMENT	(3)
HES 600	RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES	(3)
NFS 516	MATERNAL AND CHILD NUTRITION	(3)
<b>(OR)</b>		
NS/NFS 620	NUTRITION AND AGING	(2)
ELECTIVES PLAN B ONLY		(6-7)

## MOLECULAR & BIOCHEMICAL NUTRITION

BCH 607	GENERAL BIOCHEMISTRY I	(3)
BCH 608	GENERAL BIOCHEMISTRY II	(3)
PGY 412G	PRINCIPLES OF HUMAN PHYSIOLOGY	(4)
NS/CNU 606	MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION	(2)
ELECTIVES PLAN B ONLY		(6)

## WELLNESS/SPORTS NUTRITION

NS/CN 605	WELLNESS AND SPORTS NUTRITION	(3)
NS/NFS 630	ADVANCED COMMUNITY NUTRITION	(3)
NS/NFS 640	HUMAN NUTRITION ASSESSMENT	(3)
KHP 620	ADVANCED EXERCISE PHYSIOLOGY	(3)
ELECTIVES PLAN B ONLY		(6)

## GRADUATE COURSES

NS 601	MACRONUTRIENT METABOLISM (SAME AS CNU 601)	(4)
NS 602	MICRONUTRIENT METABOLISM (SAME AS ASC 602)	(4)
NS 604	LIPID METABOLISM (SAME AS CNU 604)	(3)
NS 605	WELLNESS AND SPORTS NUTRITION (SAME AS PT/CNU 605)	(3)
NS 606	MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION (SAME AS CNU 606)	(2)
NS 607	FOOD RELATED BEHAVIORS (SAME AS NFS/ANT/BSC 607)	(3)
NS 608	NUTRITIONAL IMMUNOLOGY (SAME AS CNU 608)	(3)
NS 609	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS CNU 609)	(1)
NS 620	NUTRITION AND AGING (SAME AS NFS 620)	(2)
NS 630	ADVANCED COMMUNITY NUTRITION (SAME AS NFS 630)	(3)
NS 640	HUMAN NUTRITION: ASSESSMENT (SAME AS NFS 640)	(3)
NS 651	TOPICS IN NUTRITIONAL SCIENCES I	(2)
NS 652	TOPICS IN NUTRITIONAL SCIENCES II	(2)
NS 680	LABORATORY METHODS IN NUTRITIONAL SCIENCES (SAME AS ASC 680)	(4)
NS 701	NUTRITION AND CHRONIC DISEASES (SAME AS CNU 701)	(4)
NS 702	CLINICAL/WELLNESS PROBLEM-BASED CASE STUDIES	(1-3)

NS 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES (SAME AS CNU/NFS 704)	(1)
NS 748	MASTER'S THESIS RESEARCH (SAME AS NFS 748)	(0)
NS 749	DISSERTATION RESEARCH	(0)
NS 767	DISSERTATION RESIDENCY CREDIT	(2)
NS 768	RESIDENCE CREDIT FOR THE MASTERS DEGREE (SAME AS NFS 768)	(1-6)
NS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
NS 771	GRADUATE SEMINAR IN NUTRITIONAL SCIENCES	(0-1)
NS 782	SPECIAL PROBLEMS (SAME AS CNU/NFS 782)	(1-6)
NS 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS CNU/NFS 790)	(0-6)
CNU 601	MACRONUTRIENT METABOLISM (SAME AS NS 601)	(4)
CNU 604	LIPID METABOLISM (SAME AS NS 604)	(3)
CNU 605	WELLNESS AND SPORTS NUTRITION (SAME AS NS/PT 605)	(3)
CNU 606	MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION (SAME AS NS 606)	(2)
CNU 608	NUTRITIONAL IMMUNOLOGY (SAME AS NS 608)	(3)
CNU 609	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS NS 609)	(1)
CNU 701	NUTRITION AND CHRONIC DISEASES (SAME AS NS 701)	(4)
CNU 702	CLINICAL/WELLNESS PROBLEM-BASED CASE STUDIES	(1-3)
CNU 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES (SAME AS NFS/NS 704)	(1)
CNU 782	SPECIAL PROBLEMS (SAME AS NFS/NS 782)	(1-6)
CNU 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS NFS/NS 790)	(0-6)

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## PHARMACEUTICAL SCIENCES

### Admission Requirements

For admission to graduate study in pharmaceutical sciences a student should have a sound background in biology, chemical engineering, chemistry, or pharmacy, with a mastery of mathematics through calculus. Entry into the program will require an undergraduate or professional program GPA of at least 3.2 for the Ph.D. degree. We also require three letters of



recommendation from current or former college professors addressing the scientific research skills and motivation of the applicant.

The Pharmaceutical Sciences Graduate Program was established in 1967 to prepare motivated individuals for academic and industrial careers in pharmaceutical and biomedical research. It has trained more than 250 Ph.D. graduates. The program offers three training options: a traditional option, in which most of the students have been enrolled, a track focused on clinical research, and a newly developed policy track.

#### **Traditional Pharmaceutical Science Track**

The goal is to develop scientists who possess a blend of contemporary basic science skills and an understanding of their role in the development of new drugs. This is achieved through intense laboratory experiences in a biomedical science of interest, such as pharmacology, medicinal chemistry or pharmaceuticals that lead to a laboratory-based dissertation research project.

#### **Clinical and Experimental Therapeutics Track**

The goal is to develop scientists who possess a blend of contemporary clinical and basic science skills. This is achieved through research in the clinically oriented pharmaceutical sciences that includes intense clinical experience in a medical specialty of interest, such as cardiology, neuroscience, critical care, neonatal/pediatric medicine or oncology and an integrated laboratory-based and clinical dissertation research project. A Pharm.D., M.D., D.D.S., D.V.M. or other professional health degree is required for admission into this training track.

#### **Pharmaceutical Policy Track**

The goal is to train research specialists who will work in the pharmaceutical industry and governmental positions on projects related to pharmaceuticals, the policies for managing them, and the associated costs. The Pharmaceutical Policy track is offered in conjunction with the Martin School of Public Policy and Administration (<http://www-martin.uky.edu>) and is the newest track within the Pharmaceutical Sciences Ph.D. program. This unique collaboration between a college of pharmacy and a school of public policy and administration provides the graduates of this program with opportunities in a variety of settings working with interesting and pressing public policy issues. For information regarding recommended coursework for this track, please contact Dr. Jeffrey Talbert ( [jtalb1@email.uky.edu](mailto:jtalb1@email.uky.edu)).

The Traditional Pharmaceutical Science Track is focused into two divisions.

#### **Drug Discovery Division**

##### **Discovery and Design**

Research in this area emphasizes chemical, biochemical, biophysical, computational, and molecular approaches toward the design and development of new therapeutic entities. Specific areas of focus include the development of anti-cancer agents, anti-inflammatory drugs, anti-

thrombotic drugs, novel opiate analgesics, anti-convulsants, anti-Alzheimer and anti-Parkinson drugs, agents for the treatment of alcohol, tobacco, and psychostimulant abuse, neuroprotective agents, and drugs that interact with nicotinic receptors. Research is also being carried out on cell signaling pathways, to facilitate development of strategies to correct such signaling defects.

### **Pharmacology**

Research in this area utilizes molecular, cellular and animal models to study drug response mechanisms in healthy and diseased states. It includes study of substrate/receptor interactions and intracellular pathways that trigger physiological, pharmacological and toxicological responses.

### **Drug Development Division**

#### **Pharmaceutics, Drug Delivery and Analysis**

Research in this area focuses on discovery and evaluation of novel drug delivery systems, with an emphasis on physical, chemical, and biochemical properties of a therapeutic agent. It includes the development and optimization of intravenous, transdermal, and extravascular delivery systems for synthetic organic molecules, bioengineered proteins, and anti-sense oligonucleotides.

#### **Pharmacodynamics, Pharmacokinetics and Drug Metabolism**

The focus of research in this area is on characterizing and assessing the relationship between drug concentration and response. It is supported by studies on the fundamental mechanisms by which drugs and other bioactive substances are absorbed, transported, metabolized, and excreted from the body. It utilizes state-of-the-art techniques to understand the cellular and molecular basis for the effect that disease, genetic variation and drug-drug interactions may have on these processes.

### **Required Course Work**

The following courses will be taken by all students enrolled in the program, although courses may be waived or other courses substituted given the background of the individual student.

PHR 760	Introduction to Pharmaceutical Sciences	(2)
IBS 601	Biomolecules and Metabolism	(3)
IBS 602	Biomolecules and Molecular Biology	(3)
STA 570	Basic Statistical Analysis	(4)
PHR 778	Seminar in Pharmaceutical Sciences II (Departmental Seminar Series)	(1)

### **Electives:**

Students choose from among the following courses, depending on their participation in the Traditional or Clinical Tracks, their choice of Division, their specific dissertation research

project, and their career goals. Pharmaceutical Sciences graduate students should consult with the Division Directors for up-dated course recommendations.

BCH 401G	Fundamentals of Biochemistry	(3)
BCH 608	General Biochemistry II	(3)
CHE 440G	Physical Chemistry	(3)
CHE 538	Advanced Organic Chemistry	(3)
CHE 548	Principles Of Physical Chemistry II	(3)
CHE 552	Biological Chemistry II	(3)
IBS 604	Cell Signaling	(3)
IBS 605	Experimental Genetics	(3)
IBS 606	Integrated Biomedical Science	(4)
MA 213	Calculus III	(4)
PGY 502	Physiology	(5)
PHA 522	Systems Pharmacology	(3)
PHR 510	Modern Methods in Pharmaceutical Analysis	(5)
PHR 520	Special Topics in Pharmacy Law	(2)
PHR 530	Radiopharmaceutics	(3)
PHR 545	Sterile Parenterals and Devices	(2-3)
PHR 612	Quantitative Pharmacodynamics: Pharmacokinetics	(3)
PHR 622	Advanced Biopharmaceutics	(2)
PHR 630	Pharmaceutical Rate Processes	(3)
PHR 631	Equilibrium Phenomena in Pharmaceutical Systems	(3)
PHR 647	Introduction to Molecular Pharmacotherapeutics	(3)
PHR 649	Advanced Molecular Pharmacology	(2)
PHR 665	Ethical issues in Clinical Research	(3)
PHR 762	Bioorganic Mechanisms	(3)
PHR 764	Drug Development, Regulation and Clinical Research	(3)

For further information visit our Web site: [www.mc.uky.edu/Pharmacy/](http://www.mc.uky.edu/Pharmacy/) .

### GRADUATE COURSES

PHR 510	MODERN METHODS IN PHARMACEUTICAL ANALYSIS	(5)
PHR 520	SPECIAL TOPICS IN PHARMACY LAW	(2)
PHR 530	RADIOPHARMACEUTICS	(3)
PHR 545	STERILE PARENTERALS AND DEVICES	(2-3)
PHR 612	QUANTITATIVE PHARMACODYNAMICS: PHARMACOKINETICS (SAME AS PHA 612)	(3)
PHR 620	BIOSYNTHESIS OF NATURAL PRODUCTS	(3)
PHR 622	ADVANCED BIOPHARMACEUTICS	(2)
PHR 630	PHARMACEUTICAL RATE PROCESSES	(3)
PHR 631	EQUILIBRIUM PHENOMENA IN PHARMACEUTICAL SYSTEMS	(3)
PHR 647	INTRODUCTION TO MOLECULAR PHARMACOTHERAPEUTICS	(3)
PHR 649	ADVANCED MOLECULAR PHARMACOLOGY (SAME AS PHA/TOX 649)	(2)

PHR 665	ETHICAL ISSUES IN CLINICAL RESEARCH	(3)
PHR 748	MASTER'S THESIS RESEARCH	(0)
PHR 749	DISSERTATION RESEARCH	(0)
PHR 760	TOPICS IN PHARMACEUTICAL SCIENCES	(1-4)
	Topics covered in recent years include:	
	Advanced Pharmacology	
	Techniques in Pharm Analysis	
	Drug Targets and Actions	
	Molecular Neurobiology	
	Practical Applications of Drug Metabolism	
	Cardiology Journal Club	
	Neuroscience Journal Club	
	Pharmacogenomics Journal Club	
	Pharmacokinetics, Pharmacodynamics and Drug Metabolism Literature Discussion Group	
	Solid State Chemistry Review	
	Transport Proteins Journal Club	
PHR 762	BIOORGANIC MECHANISMS	(3)
PHR 764	DRUG DEVELOPMENT, REGULATION AND CLINICAL RESEARCH	(3)
PHR 767	DISSERTATION RESIDENCY CREDIT	(2)
PHR 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PHR 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PHR 776	SEMINAR IN PHARMACEUTICAL SCIENCES I	(1)
PHR 778	SEMINAR IN PHARMACEUTICAL SCIENCES II	(1)
PHR 780	SPECIAL PROBLEMS IN PHARMACEUTICAL SCIENCES	(1-6)
PHR 790	RESEARCH IN PHARMACEUTICAL SCIENCES	(1-12)

## PHILOSOPHY

### Admission Requirements

It is expected that candidates admitted to the graduate program in philosophy will: (1) provide proof of completion of a B.A., B.S., or M.A.; (2) have given evidence of superior skills on the GRE; (3) have achieved an overall grade-point average of at least 3.2 (4.0 scale) in all undergraduate course work; and (4) have achieved an overall grade-point average of at least 3.5 in all graduate course work.

### Degree Requirements

The Department of Philosophy offers programs of study leading to the Doctor of Philosophy and the Master of Arts degrees. Ordinarily, applicants for graduate study in philosophy at the University of Kentucky will enter the Ph.D. program. The purpose of the Ph.D. program is to develop the student's ability to do serious, advanced research in philosophy. The program is

designed to accommodate the needs of individual students at an advanced level to pursue a traditional degree in philosophy, engage in interdisciplinary research to prepare for professions outside of philosophy itself, or prepare for the profession of teaching philosophy. The Ph.D. program requires the completion of 66 hours of course work, or 36 hours of course work beyond course work done for an M.A. in philosophy at the University of Kentucky or elsewhere. Normally, 18 of the 36 required post-M.A. hours will be taken for writing the dissertation, leaving 18 of the required hours for non-dissertation course work. Students will need to demonstrate reading competence in at least one foreign language, as well as competence in logic. They will also complete a three course requirement in 20th century philosophy. In addition, all Ph.D. students will need to pass comprehensive examinations in metaphysics and epistemology and in value theory. A Qualifying Examination in each student's area of specialization precedes the writing of the dissertation. Students entering the Ph.D. program without an M.A. in philosophy from the University of Kentucky are expected to complete their degree work within five years. Every effort will be made to see that all students entering the Ph.D. program without an M.A. in philosophy from the University of Kentucky are offered five years of financial support (teaching assistantships and/or fellowships), with ongoing funding for those years contingent on the availability of funds and the student's continuing to make satisfactory progress through the program. Ph.D. students who have completed all requirements for the M.A. in philosophy at the University of Kentucky will be eligible to receive the M.A. in philosophy *en passant*.

## GRADUATE COURSES

PHI 500	TOPICS IN PHILOSOPHY (SUBTITLE REQUIRED)	(3)
PHI 503	TOPICS IN ANCIENT PHILOSOPHY	(3)
PHI 504	ISLAMIC AND JEWISH PHILOSOPHY AND THE CLASSICAL TRADITION	(3)
PHI 506	TOPICS IN MEDIEVAL PHILOSOPHY	(3)
PHI 509	TOPICS IN THE HISTORY OF MODERN PHILOSOPHY	(3)
PHI 513	NINETEENTH CENTURY PHILOSOPHY	(3)
PHI 514	AMERICAN PHILOSOPHY	(3)
PHI 515	CONTEMPORARY PHILOSOPHY: THE ANALYTIC TURN	(3)
PHI 516	CONTEMPORARY PHILOSOPHY: PHENOMENOLOGICAL DIRECTIONS	(3)
PHI 517	EXISTENTIALISM	(3)
PHI 519	CRITICAL SOCIAL THOUGHT	(3)
PHI 520	SYMBOLIC LOGIC II	(3)
PHI 530	ETHICAL THEORY	(3)
PHI 531	ADVANCED TOPICS IN ETHICS (SUBTITLE REQUIRED)	(3)
PHI 535	SOCIAL AND POLITICAL PHILOSOPHY	(3)
PHI 537	PHILOSOPHY OF LAW (SAME AS LAW 837)	(3)
PHI 540	FEMINIST PHILOSOPHY	(3)
PHI 545	PHILOSOPHY OF RELIGION (3)	(3)
PHI 550	PHILOSOPHICAL PROBLEMS IN KNOWLEDGE AND REALITY	(3)

PHI 560	PHILOSOPHY OF SCIENTIFIC METHOD	(3)
PHI 561	PHILOSOPHICAL PROBLEMS IN THE NATURAL SCIENCES (SUBTITLE REQUIRED)	(3)
PHI 562	PHILOSOPHICAL PROBLEMS IN THE SOCIAL AND BEHAVIORAL SCIENCES	(3)
PHI 565	PHILOSOPHY OF LANGUAGE	(3)
PHI 575	PHILOSOPHY OF MIND	(3)
PHI 592	AESTHETICS (SAME AS A-H 592)	(3)
PHI 630	SEMINAR IN VALUE THEORY	(3)
PHI 650	SEMINAR IN METAPHYSICS AND EPISTEMOLOGY (SUBTITLE REQUIRED)	(3)
PHI 680	SPECIAL TOPICS IN PHILOSOPHY	(3)
PHI 700	SEMINAR IN ANCIENT PHILOSOPHY	(3)
PHI 705	SEMINAR IN MEDIEVAL PHILOSOPHY	(3)
PHI 710	SEMINAR IN MODERN PHILOSOPHY	(3)
PHI 715	SEMINAR IN RECENT PHILOSOPHY	(3)
PHI 749	DISSERTATION RESEARCH	(0)
PHI 755	TUTORIAL IN INTERDISCIPLINARY ISSUES	(1-6)
PHI 767	DISSERTATION RESIDENCY CREDIT	(2)
PHI 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PHI 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)
PHI 790	RESEARCH IN PHILOSOPHY	(3)

## PHYSICIAN ASSISTANT STUDIES

The University of Kentucky, Division of Physician Assistant Studies offers a Plan B, non-thesis, physician assistant master's degree program that is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). The Master of Science in Physician Assistant Studies (M.S.P.A.S.) program is designed for 1) students who wish to become PAs and hold a baccalaureate or will have earned a baccalaureate degree by the time they enter the program and for 2) PAs who already hold a baccalaureate degree in Physician Assistant Studies from an accredited Physician Assistant program. The M.S.P.A.S. program is offered at the Lexington campus and at the campus of Morehead State University.

The goal of the M.S.P.A.S. program is to develop well-educated and highly skilled primary care physician assistants who will extend the physician's effectiveness and improve access to health care. The physician assistant functions under the supervision and responsibility of a licensed physician and is competent to elicit a comprehensive health history, perform a physical examination, interpret and evaluate diagnostic data, establish basic treatment plans, counsel and educate, and respond appropriately to commonly encountered emergency care situations.

The M.S.P.A.S. program prepares highly qualified graduates. Physician assistants may serve in a variety of health care settings, such as primary care practices, geriatric long-term care facilities, hospitals, correctional institutions and community-based clinics. The M.S.P.A.S. program also prepares graduates to be competitive for positions in clinical research, health care administration and higher education. Graduates of the program are eligible to take the Physician Assistant National Certifying Examination. After successful completion of the exam, they are eligible for state certification/licensure to practice as certified physician assistants.

Admission to the M.S.P.A.S. program occurs annually, with a new class beginning each January. Qualified applicants must simultaneously apply to both the University of Kentucky Graduate School [www.gradschool.uky.edu/](http://www.gradschool.uky.edu/) and to the M.S.P.A.S. program at the University of Kentucky College of Health Sciences. Applicants interested in attending the Morehead campus apply to the University of Kentucky Graduate School and the M.S.P.A.S. program by the same process as Lexington campus applicants.

### **Admission Requirements**

In addition to satisfying the general requirements for admission to the Graduate School, applicants to the M.S.P.A.S. program must have achieved a minimum combined score of 800 on the verbal and quantitative portions of the Graduate Record Examination taken within the last five years of application to the program. Applicants must hold a baccalaureate degree from an accredited college or university (or will have earned a baccalaureate degree by the time of entry into the program) with a minimum undergraduate GPA of 3.0 and a C grade or better earned in the following prerequisite courses:

### **Prerequisite Courses**

General Chemistry with laboratory	1 semester
Organic Chemistry with laboratory (Pre-med or Chemistry major level)	1 semester
General Psychology	1 semester
Developmental Psychology	1 semester
Microbiology with laboratory	1 semester
Biology/Zoology with laboratory	1 semester
Human Physiology	1 semester
Human Anatomy	1 semester
Sociology/Anthropology	1 semester
Medical Terminology	1 semester

In addition, three (3) letters of recommendation from people acquainted with the applicant for at least one year and familiar with his/her professional goals must be submitted with the application packet, along with an admission essay of graduate quality that reflects the applicant's commitment to primary care. The applicant must be certified in Basic Life Support by the American Heart Association, and be in compliance with the Technical Standards

established by the College of Health Sciences. Competitive applicants will be granted an interview.

Applicants must instruct the GRE testing agency to send a copy of the score report to the University of Kentucky Graduate School. Prior health care experience is not required but is deemed beneficial to students entering the M.S.P.A.S. program and is highly recommended.

For more information, contact  
The Office of Student Affairs at the College of Health Sciences:  
COLLEGE OF HEALTH SCIENCES  
900 S. Limestone, 111 Charles T. Wethington Building  
Lexington, KY 40536-0200  
859.323.1100 x 80473

### **DEADLINE FOR APPLICATION IS JUNE 1**

Admission to the M.S.P.A.S. program is selective. Competitive applicants will be granted an interview. In the interview, the applicant must demonstrate an understanding of and commitment to the role and responsibilities of a PA. The applicant also must comply with Technical Standards of the Physician Assistant Studies Program as established by the College of Health Sciences. Proof of current certification in Basic Life Support from the American Heart Association must be provided at the time of the interview and certification must be maintained throughout the program.

### **M.S.P.A.S. Program Curriculum Requirements**

All students enrolled in the program will take the following courses:

#### **Spring 09**

ANA 611	Human Gross Anatomy	(5)
PAS 851	Introduction to PA Profession	(2)
HSM 601	Overview of the Health Care Delivery System	(3)
PGY 412G	Human Physiology	(4)

#### **4-Week Intersession 09**

STA 570	Basic Statistical Analysis	(4)
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#### **8-Week Intersession 09**

PAS 680	Seminar in PA Studies I	(2)
PAS 853	Introduction to Human Disease	(3)
PAS 610	Research Methods and Epidemiology	(3)



**Fall 09**

PAS 654	Clinical Lecture Series	(4)
PAS 672	Pharmacology I	(3)
PAS 857	Clinical Laboratory Procedures	(3)
PAS 850	Clinical Methods	(3)
PAS 645	Master's Project I	(1)

**Spring 10**

PAS 658	Clinical Lecture Series II	(4)
PAS 673	Pharmacology II	(3)
PAS 655	Psychosocial Factors in Primary Care	(3)
PAS 856	Patient Evaluation and Management	(3)
PAS 646	Master's Project II	(2)

**4-Week Intersession 10**

PAS 640	Survey of Geriatric Medicine	(3)
CNU 800	Applied Nutrition	(1)

**8-Week Intersession 10, Begin Clinical Year  
Program Clerkship Requirements**

All students will complete the following clerkship requirements:

PAS 660	Family Medicine Clerkship	(6)
PAS 661	Pediatrics Clerkship	(6)
PAS 862	Obstetrics and Gynecology Clerkship	(3)
PAS 663	Surgery Clerkship	(6)
PAS 864	Geriatrics Clerkship	(3)
PAS 669	Internal Medicine Clerkship	(6)
PAS 870	Emergency Medicine Clerkship	(3)
PAS 842	Elective Clerkship I	(3)
PAS 680	Seminar in PA Studies II	(2)
PAS 871	Psychiatry Clerkship	(3)

After successfully completing the course work and clerkship requirements with a minimum 3.0 GPA, students who receive a passing score on a written final examination will be awarded a Master of Science in Physician Assistant Studies (M.S.P.A.S.) degree. Graduates of the program are eligible to take the Physician Assistant National Certifying Examination. After successful completion of the exam, they are eligible for state certification/licensure to practice as certified physician assistants.

## **M.S.P.A.S. for Graduates of Programs in Physician Assistant Studies**

PA's applying to the M.S.P.A.S. program and who already hold a baccalaureate degree in Physician Assistant Studies from an accredited Physician Assistant program, must have maintained a 3.0 GPA in their prior PA program coursework and achieved a combined score of 800 on the verbal and quantitative portions of the GRE taken within the last five years of application to the program. To satisfy the M.S.P.A.S. curriculum, these students are required to complete a 24 credit hour core of M.S.P.A.S. courses and a minimum of 9 credit hours in an academic concentration of their choosing for a total of 33 credit hours.

### **M.S.P.A.S. Program Core Courses**

STA 570	Basic Statistical Analysis	(4)
PAS 610	Research Methods and Epidemiology	(3)
HSM 601	Overview of the Health Care Delivery System	(3)
PAS 673	Pharmacology II	(3)
PAS 640	Survey Of Geriatric Medicine	(3)
PAS 680	Seminar in PA Studies II	(2)
PAS 646	Master's Project II	(2-6)
PAS 690	Physician Assistant Clerkship	(3-6)

A minimum of nine credit hours of elective courses will be completed with a concentration in gerontology, health care administration, or clinical nutrition.

### **Elective Courses in Areas of Concentration:**

#### **Gerontology Concentration**

GRN 643	Biomedical Aspects of Aging	(3)
BIO/GRN 612	Biology of Aging	(3)
BSC 770	Psychosocial Issues of Aging and Health	(3)
BSC 772	Women, Health and Aging	(3)
NUR 510	Older Women and Their Health	(3)
BSC 779	Behavioral Factors in Death and Dying	(3)
HSM 510	Organization of Long Term Care Sector	(3)
NFS680	Nutrition and Aging	(3)
GRN 513	Geriatric Pharmacy	(3)

#### **Health Care Administration Concentration:**

HSM 602	Strategic Planning and Management of Health Care Organizations	(3)
HA 636	Health Economics	(3)
HA 637	Health Finance	(3)

HSM 603	Legal Aspects of Health Administration	(3)
HSM 642	Management of Public Health Organizations	(3)

### **Clinical Nutrition Concentration**

CNU 601	Clinical Nutrition	(4)
CNU701	Advanced Clinical Nutrition	(4)
CNU 602	Current Topics in Clinical Nutrition	(1)
CNU 605	Wellness and Sports Nutrition	(3)
KHP 624	Exercise and Heart Disease	(3)
CNU 782	Independent Study	(1)

For more information contact the M.S.P.A.S. Program: [www.mc.uky.edu/pa/](http://www.mc.uky.edu/pa/)

Or write:

Director of Graduate Studies  
 Division of Physician Assistant Studies  
 College of Health Sciences Building  
 900 S. Limestone  
 Lexington, KY 40536-0200  
 Phone: 859.323.1100

### **GRADUATE COURSES**

PAS 610	RESEARCH METHODS AND EPIDEMIOLOGY	(3)
PAS 640	SURVEY OF GERIATRIC MEDICINE	(3)
PAS 645	MASTER'S PROJECT I	(1)
PAS 646	MASTER'S PROJECT II	(2-6)
PAS 654	CLINICAL LECTURE SERIES	(4)
PAS 655	PSYCHOSOCIAL FACTORS IN PRIMARY CARE	(3)
PAS 658	CLINICAL LECTURE SERIES II	(4)
PAS 660	FAMILY MEDICINE CLERKSHIP	(6)
PAS 661	PEDIATRICS CLERKSHIP	(6)
PAS 663	SURGERY CLERKSHIP	(6)
PAS 669	INTERNAL MEDICINE CLERKSHIP	(6)
PAS 672	PHARMACOLOGY I	(3)
PAS 673	PHARMACOLOGY II	(3)
PAS 680	SEMINAR IN PA STUDIES II	(2)
PAS 690	PHYSICIAN ASSISTANT CLERKSHIP	(3-6)

## PHYSICS AND ASTRONOMY

The Department of Physics and Astronomy offers courses and research opportunities leading to the M.S. and Ph.D. degrees in the areas of astronomy and astrophysics, atomic and molecular physics, low and intermediate energy nuclear physics, condensed matter physics, and particle physics. More detailed descriptions of each of these options will be sent on request. Both experimental and theoretical work is being pursued in all the above mentioned areas except particle physics, where only theoretical research is carried out. Excellent laboratory facilities and library materials are available. Major experimental facilities located within the Department are the six-million volt Van de Graaff accelerator and the Center for Advanced Materials

### Admission Requirements

In addition to the admissions requirements of the Graduate School, the Department of Physics & Astronomy requires graduate applicants to have a sound foundation in undergraduate physics. This foundation will normally include advanced courses in classical mechanics, electromagnetism and quantum mechanics. Applicants are encouraged to take the GRE physics subject exam. Applicants wishing to apply for financial aid in the form of a teaching assistantship, research assistantship or fellowship must supply letters of recommendation from three individuals familiar with their academic capabilities. Such applicants must also submit a written statement of their interests and background in physics.

Admissions requirements are the same for the M.S. and the Ph.D. programs except that applicants for the Ph.D. must possess an interest in carrying out original research at the advanced level.

### Degree Requirements

An M.S. student must pass the Physics GRE at the 50<sup>th</sup> percentile or higher before taking the M.S. oral exam, which covers course work and thesis research (for plan A students). The M.S. program can include an emphasis on education or applied physics, and students are encouraged to take courses in related programs that satisfy the appropriate academic objectives.

The Ph.D. degree is a research degree granted on the basis of broad knowledge of physics and in-depth research in a specific area leading to a dissertation (and generally publications in appropriate refereed journals). Students may perform this research at the University of Kentucky or appropriate collaborating institutions, such as Thomas Jefferson National Laboratory, Oak Ridge National Laboratory, and the National Radio Astronomical Observatory. Before taking the Ph.D. qualifying exam, the student must pass the Physics GRE at the 50<sup>th</sup> percentile or higher and satisfactorily pass core courses in graduate classical mechanics, electromagnetism, quantum mechanics, and statistical mechanics, as well as electives in topical areas of modern physics.

## GRADUATE COURSES

PHY 401G	SPECIAL TOPICS IN PHYSICS AND ASTRONOMY FOR ELEMENTARY, MIDDLE, AND HIGH SCHOOL TEACHERS	(1-4)
PHY 402G	ELECTRONIC INSTRUMENTATION AND MEASUREMENTS (SAME AS EE 402G)	(3)
PHY 404G	MECHANICS	(3)
PHY 416G	ELECTRICITY AND MAGNETISM	(3)
PHY 417G	ELECTRICITY AND MAGNETISM	(3)
PHY 472G	INTERACTION OF RADIATION WITH MATTER (SAME AS RM 472G)	(3)
PHY 504	ADVANCED MECHANICS	(3)
PHY 506	METHODS OF THEORETICAL PHYSICS I (SAME AS MA 506)	(3)
PHY 507	METHODS OF THEORETICAL PHYSICS II (SAME AS MA 507)	(3)
PHY 520	INTRODUCTION TO QUANTUM MECHANICS	(3)
PHY 522	THERMODYNAMICS AND STATISTICAL PHYSICS	(3)
PHY 524	SOLID STATE PHYSICS (SAME AS EE 524)	(3)
PHY 525	CONDENSED MATTER PHYSICS	(3)
PHY 535	EXPERIMENTAL PHYSICS: ADVANCED PHYSICS LABORATORY	(2)
PHY 545	RADIATION HAZARDS AND PROTECTION (SAME AS RM/RAS 545)	(3)
PHY 546	GENERAL MEDICAL RADIOLOGICAL PHYSICS (SAME AS RM/RAS 546)	(3)
PHY 554	FUNDAMENTALS OF ATOMIC PHYSICS	(3)
PHY 555	FUNDAMENTAL NUCLEAR PHYSICS	(3)
PHY 556	FUNDAMENTAL PARTICLE PHYSICS	(3)
PHY 567	INTRODUCTION TO LASERS AND MASERS (SAME AS EE 567)	(3)
PHY 570	SEMINAR ON TEACHING PHYSICS	(1)
PHY 571	SEMINAR ON TEACHING PHYSICS LABORATORIES	(1)
PHY 591	ASTROPHYSICS I - STARS (SAME AS AST 591)	(3)
PHY 592	ASTROPHYSICS II - GALAXIES AND INTERSTELLAR MATERIAL (SAME AS AST 592)	(3)
PHY 600	SELECTED TOPICS IN ADVANCED PHYSICS	(2-3)
PHY 611	ELECTROMAGNETIC THEORY I	(3)
PHY 613	ELECTROMAGNETIC THEORY II	(3)
PHY 614	QUANTUM MECHANICS I	(3)
PHY 615	QUANTUM MECHANICS II	(3)
PHY 616	QUANTUM FIELD THEORY I	(3)
PHY 624	CONDENSED MATTER THEORY	(3)
PHY 630	TOPICS IN NUCLEAR AND INTERMEDIATE ENERGY PHYSICS (SUBTITLE REQUIRED)	(3)
PHY 632	STATISTICAL MECHANICS	(3)

PHY 639	PHYSICAL PROCESSES IN ASTROPHYSICS (SAME AS AST 639)	(3)
PHY 716	QUANTUM FIELD THEORY II	(3)
PHY 748	MASTER'S THESIS RESEARCH	(0)
PHY 749	DISSERTATION RESEARCH	(0)
PHY 767	DISSERTATION RESIDENCY CREDIT	(2)
PHY 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PHY 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PHY 770	COLLOQUIUM	(1)
PHY 781	INDEPENDENT WORK IN PHYSICS	(1-9)
PHY 790	RESEARCH IN PHYSICS	(3)
PHY 791	RESEARCH IN PHYSICS	(5)
AST 591	ASTROPHYSICS I – STARS (SAME AS PHY 591)	(3)
AST 592	ASTROPHYSICS II - THE GALAXY (SAME AS PHY 592)	(3)
AST 639	PHYSICAL PROCESSES IN ASTROPHYSICS (SAME AS PHY 639)	(3)

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## PHYSIOLOGY

Graduate study in physiology is designed to prepare candidates for careers as independent scientists in academics, industry, and government positions. Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on the Graduate Record Examination (GRE), experience, and when possible, personal interviews. Applicants should complete an undergraduate degree in biological sciences, chemical sciences, physical sciences, mathematics, psychology, or engineering. It is recommended that applicants complete courses in organic chemistry, physical chemistry, calculus, physics, and the biological sciences, as well as have some research experience.

Students will have the opportunity to join faculty research programs across a spectrum of topics such as neural, endocrine, cardiovascular, renal, respiratory, sensory, and muscle physiology. Research activities employ systems, cellular, and molecular approaches. The program of study is tailored to the individual background and career goals of the student and stresses an interdepartmental approach both in the selection of courses and in the pursuit of research. Students are expected to participate in graduate seminars, journal clubs, research seminars; to interact with visiting scholars; and to present the results of their research at local and national meetings. Teaching opportunities leading to a graduate certificate in teaching is also available. Financial aid is available to the students accepted to the program.

## Admission Requirements

Admission to the Ph.D. program in Physiology is through the Integrated Biomedical Sciences (IBS) Curriculum. Inquiries regarding admission should be directed to Director, Integrated Biomedical Sciences Curriculum, University of Kentucky, College of Medicine [www.mc.uky.edu/ibs/](http://www.mc.uky.edu/ibs/). For information about the Ph.D. program in Physiology, please contact the Director of Graduate Studies, Department of Physiology. Information may also be obtained from the department Web site: [www.mc.uky.edu/physiology/](http://www.mc.uky.edu/physiology/).

### GRADUATE COURSES

PGY 412G	PRINCIPLES OF HUMAN PHYSIOLOGY LECTURES	(4)
PGY 502	PRINCIPLES OF SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY (SAME AS BIO 502)	(5)
PGY 504	INDEPENDENT WORK IN PHYSIOLOGY	(2-4)
PGY 535	COMPARATIVE NEUROBIOLOGY AND BEHAVIOR (SAME AS BIO 535)	(3)
PGY 560	PATHOPHYSIOLOGY: INTEGRATIVE STUDY IN PHYSIOLOGY AND MEDICINE	(1)
PGY 590	CELLULAR AND MOLECULAR PHYSIOLOGY (SAME AS MI 590)	(4)
PGY 601	MAMMALIAN ENDOCRINOLOGY (SAME AS ASC 601)	(3)
PGY 602	READINGS IN SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY	(3)
PGY 603	DESIGN AND ANALYSIS	(3)
PGY 604	ADVANCED CARDIOVASCULAR PHYSIOLOGY	(3)
PGY 606	ADVANCED NEUROPHYSIOLOGY	(3)
PGY 608	ADVANCED RENAL PHYSIOLOGY	(3)
PGY 609	ADVANCED RESPIRATORY PHYSIOLOGY	(3)
PGY 611	ADVANCED MEDICAL PHYSIOLOGY	(3)
PGY 612	BIOLOGY OF AGING (SAME AS BIO/ANA/GRN 612)	(3)
PGY 615	SEMINAR IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING I) (SAME AS GRN 615)	(2)
PGY 616	PRACTICUM IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING II)	(2)
PGY 617	PHYSIOLOGICAL GENOMICS	(2)
PGY 618	MOLECULAR NEUROBIOLOGY (SAME AS MI/ANA/BIO 618)	(4)
PGY 627	PROSEMINAR IN PHYSIOLOGICAL PSYCHOLOGY (SAME AS PSY 627)	(3)
PGY 630	ADVANCED TOPICS IN PHYSIOLOGY	(1-3)
PGY 638	DEVELOPMENTAL NEUROBIOLOGY (SAME AS BIO/ANA/PSY 638)	(3)

PGY 650	ANIMAL PHYSIOLOGY LABORATORY (SAME AS BIO 650)	(2)
PGY 660	BIOLOGY OF REPRODUCTION (SAME AS ASC /ANA 660)	(3)
PGY 710	AGING OF THE NERVOUS SYSTEM (SAME AS PHA/GRN/ANA 710)	(3)
PGY 748	MASTER'S THESIS RESEARCH	(0)
PGY 749	DISSERTATION RESEARCH	(0)
PGY 766	TOPICAL SEMINAR BEHAVIORAL NEUROSCIENCE (SAME AS PSY 766)	(3)
PGY 767	DISSERTATION RESIDENCY CREDIT	(2)
PGY 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PGY 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PGY 771	PROSEMINAR IN CELL PHYSIOLOGY	(2)
PGY 774	GRADUATE SEMINAR IN PHYSIOLOGY	(1)
PGY 791	RESEARCH IN PHYSIOLOGY	(1-15)

## PLANT AND SOIL SCIENCE

The Plant and Soil Science graduate program offers graduate work leading to the Master of Science degree. This interdisciplinary program is jointly administered by faculty from the Departments of Horticulture and Plant and Soil Science. Most of the graduate faculty in Plant and Soil Science also participate in doctoral programs in Crop Science, Plant Physiology or Soil Science, which are separately listed.

The program is designed to allow students to specialize in one of the diverse aspects of plant/soil systems; specialization areas include: Crop Science, Horticultural Science, Plant Physiology, and Soil Science. The curriculum will accommodate the needs of students directed either towards further doctoral work and research careers, or towards post-M.S. employment in horticultural, crops or soils related professions.

### **Degree Requirements**

Plan A requires the completion of 24 hours of graduate course work and submission of an approved thesis. Plan B substitutes an additional six hours of graduate credit for the thesis requirement. The core curriculum consists of disciplinary as well as basic science/research methods courses. Plan A requires twelve hours of designated core course work, (Plan B, fifteen hours) of which at least three-quarters must be at the 600-level or above, distributed in the following manner:



## Disciplinary Courses

(Plan A: 6-9 Credits; Plan B: 9-12 Credits)

PLS 502	Ecology of Economic Plants	(3)
PLS 573	Soil Morphology and Classification	(3)
PLS 601	Special Topics in Molecular and Cellular Genetics	(1)
PLS 602	Principles of Yield Physiology	(3)
PLS 605	Physiological Mechanisms of Horticultural Plants	(3)
PLS 622	Physiology of Plants I	(1-3)
PLS 623	Physiology of Plants II	(3)
PLS 640	Identification of Plant Diseases	(3)
PLS 650	Soil-Plant Relationships	(3)
PLS 664	Plant Breeding	(1-3)
PLS 671	Soil Chemistry	(4)
PLS 772	Plant and Soil Science Seminar	(1)
PLS 772	Horticulture Seminar	(1-2)

### Basic Science/Research Methods

(Plan A or B: 4-6 Credits)

STA 570	Basic Statistical Analysis	(4)
STA 671/672	Regression/Correlation/Design	(4)

### Area of Specialization

At least twelve hours of graduate courses (fifteen hours for plan B) are required which support the designated area of specialization; Crop Science, Horticultural Science, Plant Physiology or Soil Science. Consult the Director of Graduate Studies for a listing of appropriate courses.

## GRADUATE COURSES

BIO 430G	PLANT PHYSIOLOGY	(3)
PLS 450G	BIOGEOCHEMISTRY (SAME AS NRC 450G)	(3)
PLS 455G	WETLAND DELINEATION (SAME AS NRC 455G)	(3)
PLS 456G	CONSTRUCTED WETLANDS (SAME AS NRG 456G)	(3)
PLS 468G	SOIL USE AND MANAGEMENT	(3)
PLS 470G	SOIL NUTRIENT MANAGEMENT	(3)
PLS 477G	LAND TREATMENT OF WASTE (SAME AS NRC 477G)	(3)
PLS 501	RECLAMATION OF DISTURBED LAND	(3)
PLS 510	FORAGE MANAGEMENT AND UTILIZATION	(3)
PLS 514	GRASS TAXONOMY AND IDENTIFICATION	(3)
PLS 515	TURF MANAGEMENT	(3)
PLS 520	FRUIT AND VEGETABLE PRODUCTION	(3)

PLS 525	GREENHOUSE FLORAL CROP MANAGEMENT	(3)
PLS 531	FIELD SCHOOLS IN CROP PEST MANAGEMENT	(2)
PLS 556	SEED PRODUCTION AND TECHNOLOGY	(3)
PLS 564	FOREST SOILS (SAME AS FOR 564)	(3)
PLS 566	SOIL MICROBIOLOGY	(3)
PLS 575	SOIL PHYSICS	(3)
PLS 576	LABORATORY IN SOIL PHYSICS	(1)
PLS 582	SPECIAL PROBLEMS IN HORTICULTURE	(1-4)
PLS 597	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTOPIC REQUIRED)	(1-3)
PLS 599	SPECIAL PROBLEMS IN PLANT AND SOILS SCIENCE	(1-4)
PLS 602	PRINCIPLES OF YIELD PHYSIOLOGY	(3)
PLS 609	PLANT BIOCHEMISTRY (SAME AS BCH/PPA 609)	(3)
PLS 619	CYTOGENETICS	(4)
PLS 620	PLANT MOLECULAR BIOLOGY (SAME AS BIO 620)	(3)
PLS 640	IDENTIFICATION OF PLANT DISEASES (SAME AS PPA 640)	(3)
PLS 657	SEED BIOLOGY	(3)
PLS 658	ADVANCED WEED SCIENCE	(4)
PLS 660	ADVANCED SOIL BIOLOGY	(2)
PLS 671	SOIL CHEMISTRY	(4)
PLS 676	QUANTITATIVE INHERITANCE IN PLANT POPULATIONS (SAME AS STA 676)	(3)
PLS 697	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTITLE REQUIRED)	(1-3)
PLS 712	ADVANCED SOIL FERTILITY	(4)
PLS 721	PEDOGENIC PROCESSES	(4)
PLS 741	CLAY MINERALOGY (SAME AS GLY 741)	(3)
PLS 748	MASTER'S THESIS RESEARCH	(0)
PLS 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
PLS 799	RESEARCH IN PLANT AND SOIL SCIENCE	(1-4)

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## PLANT PATHOLOGY

The department offers work leading to the M.S. and Ph.D. degrees. For the Ph.D. degree, individual programs of study must conform to the requirements established by the Graduate School; a minor is not required.

## Admission Requirements

The Graduate School's requirements for admission are likewise the minimum requirements for acceptance into the M.S. and Ph.D. programs of the Department of Plant Pathology. However, additional materials are required for application to the Plant Pathology graduate programs. Each applicant must arrange for three letters of recommendation to be sent, and must also provide a curriculum vitae and a written statement identifying the applicant's reasons for desiring to undertake studies in this department, to the Plant Pathology DGS. These materials, and those submitted to the Graduate School, are considered on a case-by-case basis by the department's Academic Program Committee, which then makes a recommendation on admission. Admission to a graduate program in Plant Pathology does not guarantee financial assistance to the student. Applicants who are admitted will also be informed of any financial offer in a contract that they must sign in order to be admitted to the Graduate School.

### Required Courses for both MS and Ph.D.:

PPA 400G	(3) (if not taken previously)	PPA 500	(2)
PPA 600	(2)	PPA 640	(3)
PPA 641	(1)	PPA 770	(1)

At least two from the following list are also required for the Ph.D. degree:

PPA 650	(2)	PPA 670	(1)
PPA 671	(2)	PPA 672	(1)
PPA 673	(1)		

## GRADUATE COURSES

PPA 400G	PRINCIPLES OF PLANT PATHOLOGY	(3)
PPA 500	PHYSIOLOGY OF PLANT HEALTH AND DISEASE	(2)
PPA 600	CRITICAL METHODS IN PLANT-MICROBE INTERACTIONS	(2)
PPA 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS (SAME AS PLS/BIO/BCH/MI 601)	(1)
PPA 609	PLANT BIOCHEMISTRY (SAME AS BCH/PLS 609)	(3)
PPA 640	IDENTIFICATION OF PLANT DISEASES (SAME AS PLS 640)	(3)
PPA 641	PLANT DISEASE, POPULATION BIOLOGY, AND BIOTECHNOLOGY	(1)
PPA 650	FUNGAL BIOLOGY	(2)
PPA 670	PLANT BACTERIOLOGY	(1)
PPA 671	ADVANCED PLANT VIROLOGY	(2)
PPA 672	ADVANCED PLANT MYCOLOGY	(1)
PPA 673	ADVANCED PLANT DISEASE RESISTANCE	(1)
PPA 700	PLANT PATHOLOGY LABORATORY VISITS	(1-3)
PPA 748	MASTER'S THESIS RESEARCH	(0)

PPA 767	DISSERTATION RESIDENCY CREDIT	(2)
PPA 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PPA 770	PLANT PATHOLOGY SEMINAR	(1)
PPA 784	SPECIAL PROBLEMS IN PLANT PATHOLOGY	(1-3)
PPA 794	RESEARCH IN PLANT PATHOLOGY	(1-9)
PPA 799	TEACHING IN PLANT PATHOLOGY	(1-2)

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## PLANT PHYSIOLOGY

This University-wide, interdepartmental graduate program offers a plan of study leading to the Doctor of Philosophy degree. The aim of this program is train students for careers in plant biology. Faculty members of the program are from the Departments of Forestry, Horticulture, Plant Pathology and Plant and Soil Sciences in the College of Agriculture. Areas of research pursued by the faculty members include plant biotechnology, enzymology and protein chemistry, plant-pathogen interactions, plant tissue culture and plant transformation, plant gene expression, and physiological and environmental regulation of plant production and quality. Details regarding curriculum, financial aid, faculty research interests, and the application process may be found at <http://www.uky.edu/Ag/Agronomy/PlantPhys/plph.html/>

### Admission Requirements

Admission to the Plant Physiology Program is competitive and based on the applicant's undergraduate and graduate records, performance on standardized exams, and letters of recommendation. It is expected that applicants to the Plant Physiology Program will meet the minimum standards established by the University of Kentucky Graduate School. An adequate preparation for graduate study in Plant Physiology includes courses in general biology, general chemistry, organic chemistry, and calculus. In addition, courses in biochemistry and physical chemistry are recommended. As part of the application process, applicants to the Plant Physiology Program should arrange to have at least three letters of recommendation forwarded to the Director of Graduate Studies.

In addition to satisfying Graduate School residency requirements, candidates for the Ph.D. must complete IBS 601, IBS 602, BCH 609, PLS 620, PLS 622, PLS 623, PLS 773, PLS 601, and an acceptable dissertation. A plant physiology minor requires PLS 622, PLS 623, and nine additional credit hours of prescribed course work. For additional information, contact: Dr. Arthur G. Hunt, Director of Graduate Studies, 301A Plant Sciences Building, Lexington, KY 40546-0312.

## GRADUATE COURSES

PLS 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS	(1)
PLS 609	PLANT BIOCHEMISTRY	(3)

PLS 620	PLANT MOLECULAR BIOLOGY (SAME AS BIO 620)	(3)
PLS 622	PHYSIOLOGY OF PLANTS I (SAME AS BIO/FOR 622)	(3)
PLS 623	PHYSIOLOGY OF PLANTS II (SAME AS BIO/FOR 623)	(3)
PLS 767	DISSERTATION RESIDENCY CREDIT	(2)
PLS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PLS 773	SEMINAR	(1)

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## POLITICAL SCIENCE

### Admission Requirements

Candidates for admission to the graduate program in political science must provide the information required by the Graduate School, and must also submit the following *directly to the Department of Political Science*: 1. the Political Science Department Application form, available on the department's Web site at [www.as.uky.edu/polisci/polisci\\_grad\\_admissions.htm](http://www.as.uky.edu/polisci/polisci_grad_admissions.htm) ; 2. a one- to three-page Statement of Purpose explaining why you wish to pursue an MA or Ph.D. degree; and 3. three letters of recommendation from persons familiar with the applicant's academic performance. Applicants are also encouraged to submit to the department a sample of their writing on a topic relevant to political science.

Applicants will be evaluated on the basis of the Department's judgment of the likelihood of their success in the program, as compared with other applicants and considering the limited number of applicants accepted to the program. In evaluating candidates, the Department will consider the totality of their records, including grades, test scores, letters of recommendation, relevant work experience, and other relevant information. Applicants to the MA and Ph.D. programs will be evaluated according to the different demands and expectations for the two degrees. Students who do not have political science undergraduate majors are welcome in this program.

### Degree Requirements

The Political Science Department offers both the M.A. and Ph.D. degrees. The M.A. degree may be earned under either of two plans: Plan A requires at least 24 hours of course work and a thesis; Plan B requires at least 30 hours of course work and examination in three fields of political science, or in two fields of political science and one outside field. Under either plan, the student must take at least two-thirds of the required semester hours in political science, and at least half of the political science work must be in courses open only to graduate students. A candidate for the Plan B master's degree must pass a foreign language requirement or an analytical skills requirement.

The Ph.D. program is divided into a general phase and a specialized phase. Entering students spend their first year in the general phase, which includes proseminars in methodology and in at least four major fields of political science. (Students who have previously taken graduate work may be exempt from some of these proseminars.) At the end of the first year of graduate work, the student is evaluated by a departmental committee which determines whether the general phase has been satisfactorily completed.

During the specialized phase of the graduate program, the student's work is based on a program prepared with the Advisory Committee. The student takes advanced work in at least two substantive fields in political science. The qualifying examination in political science consists of a written and oral examination in each of the two substantive fields specified in the student's program. The examination is given by the Advisory Committee. Following this examination the student writes a prospectus for the dissertation and is examined orally on this by the Advisory Committee. The student then writes a dissertation and defends it in a final oral examination.

Candidates for the Ph.D. in political science must demonstrate proficiency in a research skill. The required research skill will consist of additional quantitative skills or proficiency in a foreign language that is directly pertinent to the student's research interests.

Additional details concerning departmental requirements may be secured from the Department of Political Science.

### **GRADUATE COURSES**

PS 411G	COMPARATIVE GOVERNMENT-PARLIMENTARY DEMOCRACIES I	(3)
PS 415G	COMPARATIVE JUDICIAL POLITICS	(3)
PS 417G	SURVEY OF SUB-SAHARAN POLITICS (SAME AS AAS 417G)	(3)
PS 419G	THE GOVERNMENTS AND POLITICS OF EASTERN ASIA	(3)
PS 420G	GOVERNMENTS AND POLITICS OF SOUTH ASIA	(3)
PS 428G	LATIN AMERICAN GOVERNMENT AND POLITICS	(3)
PS 429G	GOVERNMENT AND POLITICS IN RUSSIA AND THE POST-SOVIET STATES	(3)
PS 430G	THE CONDUCT OF AMERICAN FOREIGN RELATIONS	(3)
PS 431G	NATIONAL SECURITY POLICY	(3)
PS 433G	POLITICS OF INTERNATIONAL ECONOMIC RELATIONS	(3)
PS 436G	INTERNATIONAL ORGANIZATION	(3)
PS 437G	DYNAMICS OF INTERNATIONAL LAW	(3)
PS 439G	CONTEMPORARY INTERNATIONAL PROBLEMS	(3)
PS 441G	EARLY POLITICAL THEORY	(3)
PS 442G	MODERN POLITICAL THEORY	(3)
PS 456G	APPALACHIAN POLITICS	(3)
PS 461G	CIVIL LIBERTIES	(3)
PS 463G	JUDICIAL POLITICS	(3)
PS 465G	CONSTITUTIONAL LAW	(3)

PS 470G	AMERICAN POLITICAL PARTIES	(3)
PS 472G	POLITICAL CAMPAIGNS AND ELECTIONS	(3)
PS 473G	PUBLIC OPINION	(3)
PS 474G	POLITICAL PSYCHOLOGY	(3)
PS 475G	POLITICS AND THE MASS MEDIA	(3)
PS 476G	LEGISLATIVE PROCESS	(3)
PS 480G	GOVERNMENT AND THE ECONOMY	(3)
PS 489G	THE ANALYSIS OF PUBLIC POLICY	(3)
PS 538	CONFLICT AND COOPERATION IN LATIN AMERICAN RELATIONS	(3)
PS 545	AMERICAN POLITICAL THOUGHT	(3)
PS 557	KENTUCKY GOVERNMENT AND POLITICS	(3)
PS 566	CONSTITUTIONAL INTERPRETATION	(3)
PS 584	THE AMERICAN PRESIDENCY	(3)
PS 620	COMPARATIVE POLITICS: THEORY AND METHOD	(3)
PS 671	STRATEGIES OF INQUIRY IN POLITICAL SCIENCE	(3)
PS 672	INTRODUCTION TO TECHNIQUES OF POLITICAL RESEARCH	(3)
PS 674	PROSEMINAR IN THEORIES OF INTERNATIONAL POLITICS	(3)
PS 680	PROSEMINAR IN POLITICAL INSTITUTIONS AND PROCESS	(3)
PS 681	AMERICAN POLITICAL BEHAVIOR	(3)
PS 684	PROSEMINAR IN POLICY STUDIES	(3)
PS 685	PROSEMINAR IN PUBLIC ADMINISTRATION AND POLICY	(3)
PS 690	PROSEMINAR IN CONTEMPORARY POLITICAL THEORY	(3)
PS 711	TOPICAL SEMINAR IN POLITICAL SCIENCE (SUBTITLE REQUIRED)	(3)
PS 731	INTERNATIONAL SECURITY/CONFLICT ANALYSIS	(3)
PS 732	COMPARATIVE FOREIGN POLICY (SUBTITLE REQUIRED)	(3)
PS 733	INTERNATIONAL POLITICAL ECONOMY	(3)
PS 734	GREAT BOOKS OF WORLD POLITICS	(3)
PS 735	DEMOCRACY AND INTERNATIONAL AFFAIRS	(3)
PS 737	TRANSNATIONAL ORGANIZATIONS AND PROCESSES	(3)
PS 748	MASTER'S THESIS RESEARCH	(0)
PS 749	DISSERTATION RESEARCH	(0)
PS 750	POLITICAL PARTIES AND ELECTIONS IN AMERICA	(3)
PS 756	REGIONAL POLITICS (SUBTITLE REQUIRED)	(3)
PS 759	COMPARATIVE POLITICAL BEHAVIOR	(3)
PS 760	SEMINAR IN JUDICIAL POLITICS	(3)
PS 767	DISSERTATION RESIDENCY CREDIT	(2)
PS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PS 772	ADVANCED PROBLEMS IN RESEARCH METHODS	(3)
PS 775	SEMINAR IN PUBLIC POLICY	(3)
PS 780	LEGISLATIVE BEHAVIOR	(3)
PS 795	SPECIAL PROBLEMS IN POLITICAL SCIENCE	(1-3)
PS 796	DIRECTED RESEARCH IN POLITICAL SCIENCE	(1-3)

## PSYCHOLOGY

The department offers one Ph.D. degree in psychology in two programs: clinical psychology and experimental psychology, the latter subdivided into cognitive/developmental studies, behavioral neuroscience/psychopharmacology, and social psychology. The major goal of the doctoral programs in psychology is to prepare the student for a career in research in both academic and non-academic settings and in teaching.

The area of specialization in clinical psychology provides academic courses, practica, and internships which permit students to combine their teaching and research activities with a clinical career in the mental health field. Special areas of expertise among clinical faculty include psychological assessment, child clinical psychology, health psychology, neuropsychology, personality, psychopathology and diagnosis, psychotherapy, research methodologies, and substance abuse. Clinical training is facilitated by early placement of students at a variety of sites including medical centers, a federal corrections facility, community mental health centers, state and private psychiatric hospitals, and the department's own psychological clinic. The clinical program is fully accredited by the American Psychological Association.

The concentration in behavioral neuroscience and psychopharmacology is designed to train students broadly, through integrated course work and individualized training, in the general theoretical principles and technical approaches used to investigate the biological and behavioral mechanisms of alcohol and drug abuse. Psychopharmacological approaches to understanding basic principles of learning are also emphasized. Numerous collaborative efforts exist between faculty including those in other departments and these are strongly encouraged. Students receive a concentrated laboratory experience ranging from cell culture models, animal models (birds, mice or rats) or human subjects.

The cognitive/developmental studies area provides integrated course work and individualized training designed to prepare students for a career in research and teaching. Emphasis is placed on theoretical analysis and empirical studies involving adult cognition, cognitive development, the application of cognitive theories to everyday cognition, typical and atypical development in human infancy and childhood, and animal cognition. Scholarship in basic theory is the primary focus of training, but students interested in applying their training to nonacademic settings (e.g., business, law) may do so.

The area in social psychology is designed to provide intensive experience in research with members of the social psychology faculty, with the aim of developing in the student a strong theoretical and research competence with complex social phenomena. Traditions of both experimental laboratory research and naturalistic study are utilized; emphases include theoretical and applied significance of research. Each student's course of study is individually designed to fit that student's particular needs and interests. Research experience in related behavioral sciences (for example, communication, marketing, behavioral sciences) is encouraged. During the first year of the doctoral program, students in all areas gain experience



in the major content areas of psychology and in psychological statistics. Thereafter, the student and the advisor construct a program of study consistent with the academic interests and professional goals of the student.

The M.A. and M.S. degrees are awarded under Plan A only, as one component of doctoral training.

### **Admission Requirements**

The minimum departmental standards for admission to graduate work in psychology include an undergraduate overall average of B or better, a satisfactory score on the verbal and quantitative portions of the Graduate Record Examination (GRE) and three letters of recommendation. All admissions are on a competitive basis. For additional information concerning the program in psychology and such matters as financial support, contact the Director of Graduate Studies, Department of Psychology or see <http://www.uky.edu/ArtsSciences/Psychology> on the Web.

### **GRADUATE COURSES**

PSY 500	HISTORY AND SYSTEMS OF PSYCHOLOGY	(3)
PSY 533	ABNORMAL PSYCHOLOGY	(3)
PSY 534	CHILD PSYCHOPATHOLOGY	(3)
PSY 535	PSYCHOLOGICAL TESTING	(3)
PSY 552	ANIMAL BEHAVIOR	(4)
PSY 558	BIOLOGY OF MOTIVATION	(3)
PSY 561	ADVANCED TOPICS IN FOUNDATIONS OF CLINICAL PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
PSY 562	ADVANCED TOPICS IN COGNITIVE PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
PSY 563	ADVANCED TOPICS IN DEVELOPMENTAL PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
PSY 564	ADVANCED TOPICS IN LEARNING (SUBTITLE REQUIRED)	(3)
PSY 565	ADVANCED TOPICS IN NEUROSCIENCE (SUBTITLE REQUIRED)	(3)
PSY 566	ADVANCED TOPICS IN SOCIAL PSYCHOLOGY (SUBTITLE REQUIRED)	(3)
PSY 603	PSYCHOPATHOLOGY	(3)
PSY 610	PSYCHOMETRICS	(3)
PSY 611	PSYCHOLOGICAL RESEARCH	(3)
PSY 613	BEHAVIORAL ECOLOGY AND COMPARATIVE NEUROBIOLOGY (SAME AS BIO/ENT/PGY/ANA 613)	(2)
PSY 614	TECHNIQUES IN BEHAVIORAL ECOLOGY AND COMPARATIVE NEUROBIOLOGY (SAME AS BIO/PGY/ENT/ANA 614)	(2)
PSY 616	RESEARCH DESIGN IN CLINICAL PSYCHOLOGY	(3)

PSY 620	PROSEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY (SAME AS EDP 615)	(3)
PSY 621	PROSEMINAR IN LEARNING	(3)
PSY 622	PROSEMINAR IN PERSONALITY	(3)
PSY 623	PROSEMINAR IN SENSATION AND PERCEPTION	(3)
PSY 624	PROSEMINAR IN SOCIAL PSYCHOLOGY	(3)
PSY 625	PROSEMINAR IN DEVELOPMENTAL PSYCHOLOGY	(3)
PSY 626	SURVEY OF HEALTH PSYCHOLOGY (SAME AS BSC 626)	(3)
PSY 627	PROSEMINAR IN PHYSIOLOGICAL PSYCHOLOGY (SAME AS PGY 627)	(3)
PSY 628	PROSEMINAR IN COGNITIVE PROCESSES	(3)
PSY 629	INTRODUCTION TO CLINICAL PSYCHOLOGY	(2)
PSY 630	CLINICAL METHODOLOGY I	(2)
PSY 631	PRACTICUM IN CLINICAL METHODOLOGY I	(2)
PSY 632	CLINICAL METHODOLOGY II	(2)
PSY 633	PRACTICUM IN CLINICAL METHODOLOGY II	(2)
PSY 636	SYSTEMS OF PSYCHOTHERAPY	(3)
PSY 637	PRACTICUM IN PSYCHOLOGICAL ASSESSMENT AND INTERVENTION	(1-3)
PSY 638	DEVELOPMENTAL NEUROBIOLOGY (SAME AS BIO/ANA/PGY 638)	(3)
PSY 708	INTERNSHIP IN CLINICAL PSYCHOLOGY	(0)
PSY 710	TOPICAL SEMINAR IN CLINICAL PSYCHOLOGY	(3)
PSY 748	MASTER'S THESIS RESEARCH	(0)
PSY 749	DISSERTATION RESEARCH	(0)
PSY 766	TOPICAL SEMINAR IN BEHAVIORAL NEUROSCIENCE (SAME AS PGY 766)	(3)
PSY 767	DISSERTATION RESIDENCY CREDIT	(2)
PSY 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PSY 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PSY 772	TOPICAL SEMINAR IN LEARNING	(3)
PSY 776	SEMINAR IN DEPENDENCY BEHAVIOR (SAME AS BSC/SOC/ANT 776)	(3)
PSY 778	TOPICAL SEMINAR IN DEVELOPMENTAL PSYCHOLOGY	(3)
PSY 779	TOPICAL SEMINAR IN SOCIAL PSYCHOLOGY (SAME AS SOC 779)	(3)
PSY 780	PROBLEMS IN PSYCHOLOGY	(1-3)
PSY 781	RESEARCH PARTICIPATION	(1)
PSY 790	RESEARCH IN PSYCHOLOGY	(1-12)

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## PUBLIC ADMINISTRATION

The Martin School of Public Policy and Administration, a research, academic and service unit of the Graduate School, offers the Ph.D., the M.P.A., the M.P.P. and the M.H.A. degrees. The Ph.D. in Public Administration and Policy designed to prepare students to function at a high level of

analytic sophistication in academic and administrative positions. The M.P.A. is a 42-credit-hour program designed for those seeking careers in the public, non-profit, and private sectors. The M.P.P. is a 40-hour program designed to prepare individuals for careers as professional policy analysts in government and non-profit organizations. The M.H.A. is a two-year, 44-hour degree that prepares individuals for managerial and administrative careers in health policy and health services.

The interdisciplinary faculty have primary or joint appointments in the Martin School and in one of the academic departments of the College of Business and Economics, the College of Arts and Sciences, the College of Agriculture, or the Medical Center.

### **Doctor of Philosophy**

The curriculum of the Ph.D. program provides knowledge of the principles of organizational behavior, an understanding of the public policy process and policy issues, and an ability to analyze policy and administrative problems through research and analytical methods.

#### **Admission Requirements**

In addition to the Graduate School Admission Requirements, applicants must submit the following items to be considered for admission to the Doctoral program in Public Administration. A writing sample, while optional, is encouraged.

1. Three letters of recommendation.
2. A one to three page statement explaining why you wish to pursue a Ph.D. degree.
3. The Applicant Information Form.

Entering students are expected to have at least a 3.0 grade point average in undergraduate work (on a 4.0 scale), a 3.5 in all graduate level work, a cumulative score of 1200 or more on the quantitative and verbal sections of the GRE, or a minimum of 600 on the GMAT, and 3 letters of recommendation that provide convincing evidence about the applicant's ability and potential. However, the Martin School considers all aspects of the student's record, including evidence of improving performance during the student's academic career.

#### **Pre-Requisites and Exemptions**

Many incoming students will hold a master's degree in public administration or public policy. Other students with master's degrees in such areas as political science, economics, agricultural economics or business administration will be evaluated with respect to their background in public administration. All students are expected to have taken four University of Kentucky courses: PA 652 (Public Policy Economics), PA 631 (Public Financial Management), PA 642 (Public Organizational Theory and Behavior), and PA 651 (The Policy Process), or their equivalents from a NASPAA accredited program. All students are also expected to have a strong background in research methodology.

All Ph.D. students must demonstrate proficiency in basic computer skills. These basic computer skills will be supplemented by computer-based assignments throughout the curriculum.

### **Degree Requirements**

Students are required to take 42 hours of graduate course work beyond the master's degree or its equivalent. The program of study includes 12 credit hours of core courses, 15 credit hours in the area of concentration, 6 credit hours of theory related to and supporting the student's area of concentration, and 9 credit hours of research methodology courses.

In addition to course work, students complete two examinations and a dissertation. The dissertation involves research on a public management or public policy issue. An internship is necessary for students without significant public experience.

Financial support is available to qualified students through fellowships, assistantships, and research grants. Inquiries should be made through the Director of Graduate Studies, 415 Patterson Tower.

### **Core Courses**

PA 731	Fiscal and Budgetary Policy	(3)
PA 742	Theory of Public Organizations	(3)
PA 750	Introduction to Economics of Public Policy	(3)
PA 751	Public Policy Formulation	(3)
PA 752	The Economics of Policy Analysis	(3)

In addition to 750, all students must choose an additional three hours of theory courses selected with the approval of the Advisory Committee.

### **Master of Public Administration**

The M.P.A. program offers a professional degree that prepares students for careers of leadership in the public service as analysts and managers in the public, not-for-profit, and private sectors. Students enter the program with diverse academic backgrounds.

### **Admission Requirements.**

Applicants must meet the admission standards of both the Graduate School and the Martin School. Applicants must submit the following items to be considered for admission to the Master of Public Administration program, in addition to the documents required by the Graduate School.

1. Three letters of recommendation.
2. A one to three page statement explaining why you wish to pursue this master's degree.

3. The Applicant Information Form which can be found on the Web at [www.martin.uky.edu/~web/admissions/applications.html](http://www.martin.uky.edu/~web/admissions/applications.html) .

The final selection of students for admission will be subject to the discretion of the admissions committee of the M.P.A. program. Competitive admission is based on a consideration of the documents listed above. Conditional admission may be offered to students who do not meet the above criteria but who show the potential to succeed in the program. Students are admitted from various academic disciplines. If not previously exposed to business disciplines, students should develop an understanding of the concepts of microeconomics.

### **Deadlines**

Deadlines for the program are the same as the Graduate School admission deadlines. Applications completed by February 1 will have priority for financial aid.

Generally, courses are offered in the late afternoon and evening to accommodate working students.

The Martin School M.P.A. program is accredited by the National Association of Schools of Public Administration (NASPAA). For additional information contact:

Student Affairs Office

The Martin School

415 Patterson Office Tower

University of Kentucky

Lexington, KY 40506-0027

Two dual degree programs are offered: a dual J.D./M.P.A. program and a dual Pharm.D./M.P.A. degree. For more information about those programs, see *Graduate Admission*.

The M.P.A. program incorporates:

1. an Administrative Core of 30 semester hours covering the areas of public policy formulation and analysis, public policy economics, organization and management, budgeting, finance, and analytical methods;
2. an area of concentration of 6 semester hours in one of six areas of specialization (public financial management, policy analysis, environmental management, health policy, gerontology, or transportation systems management) or in an individually designed concentration;
3. a 3-hour Capstone Course and Capstone Project;
4. an administrative internship for 3 semester hours of credit. Students with a significant professional experience may substitute an independent study policy paper or an additional graduate course.

## Course Requirements

Completion of a minimum of 42 semester hours of graduate work is required.

### A. Administrative Core (30 Semester Hours)

HA 602	Organizational Change and Strategic Planning	(3)
PA 621	Quantitative Methods of Research	(3)
PA 622	Public Program Evaluation	(3)
PA 623	Decision Analysis	(3)
PA 624	Information Systems in Government	(2)
PA 631	Public Financial Management	(3)
PA 632	Public Funds Management	(3)
PA 642	Public Organization Theory and Behavior	(3)
PA 651	The Policy Process	(3)
PA 652	Public Policy Economics	(3)
PA 691	Ethics in Public Policy	(1)

### B. Area of Concentration (6 Semester Hours)

#### Public Financial Management

Students completing this specialization will be prepared for an entry-level professional position in public and not-for-profit organizations.

Select 6 hours from:

PA 633	Municipal Securities	(3)
FIN 585	Bank Management	(3)
FIN 680	Money, Interest and Capital	(3)
ECO 611	Business Conditions Analysis	(3)

#### Policy Analysis

This concentration provides students the ability to analyze and interpret qualitative and quantitative data, conduct and present results of quantitative and qualitative analyses, and communicate complex ideas in a concise, straightforward manner.

Select 6 hours from:

PA 680	Benefit-Cost Analysis	(3)
PA 690	Public Policy Analysis Overview	(3)
A Course in Quantitative or Qualitative Analysis		(3)
A Course in a Substantive Policy Area, PA 775, PA 796, OR PA 722		(3)

## **Environmental Management**

Martin School graduates with a concentration in environmental management will be ready to contribute to the design and implementation of environmental policy.

Complete 2 of the following courses:

PA 727	Environmental Economics, Regulation and Policy	(3)
ES 610	Engineering and Physical Sciences in Environmental Systems	(3)
ES 620	Natural, Biological, Medical Sciences in Environmental Systems	(3)

## **Health Policy**

The health policy concentration prepares students for careers as managers and analysts of health policy in federal, state, and local agencies, not-for-profit organizations, and the private sector.

Select 6 hours from:

PA 636	Health Economics	(3)
PA 673	Health Policy Development	(3)
PA 785	Independent Study in Health Administration	(3)
<b>OR</b>		
PA 680	Benefit-Cost Analysis	(3)

## **Gerontology**

This concentration prepares students for professional careers in policy analysis and management of programs for the elderly. Students must complete 6 hours of courses from the Gerontology Graduate Certificate selected in consultation with a faculty advisor.

## **Transportation Systems Management**

This area of specialization consists of 6 semester hours of classes offered through the Interdisciplinary Certificate in Transportation. It prepares students for careers as policy analysts and managers working in diverse transportation settings, including consulting firms, not-for-profit organizations, and government agencies at the federal, state, and local level.

### **C. Capstone Course and Capstone Project (3 Semester Hours)**

All students must take the 3-hour capstone class and successfully complete and defend a capstone project developed in that class. The purpose of the course and the project is to integrate the learning experience of the MPA program and apply knowledge and skills acquired in the program to a policy issue or management problem. The project's oral presentation serves as the final master's exam.

PA 681	Capstone in Public Administration	(3)
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## D. Internship

PA 711 Internship in Public Administration

(3)

### Master of Public Policy

The M.P.P. program offers a professional degree that prepares students for careers as professional policy analysts in government and non-profit organizations in government and the not-for-profit. Students enter the program with diverse academic backgrounds.

#### Admission Requirements

Applicants must meet the admission standards of both the Graduate School and the Martin School. Applicants must submit the following items to be considered for admission to the Master of Public Administration program, in addition to the documents required by the Graduate School.

1. Three letters of recommendation.
2. A one-to three-page statement explaining why you wish to pursue this master's degree.
3. The Applicant Information Form which can be found on the Web at [www.martin.uky.edu/~web/admissions/applications.html](http://www.martin.uky.edu/~web/admissions/applications.html) .

The final selection of students for admission will be subject to the discretion of the admissions committee of the M.P.A. program. Competitive admission is based on a consideration of the documents listed above. Conditional admission may be offered to students who do not meet the above criteria but who show the potential to succeed in the program. Students are admitted from various academic disciplines. If not previously exposed to business disciplines, students should develop an understanding of the concepts of macroeconomics.

#### Deadlines

Deadlines for the program are the same as the Graduate School admission deadlines.

Applications completed by February 1 will have priority for financial aid.

For additional information go to <http://www.Martin.uky.edu> or contact:

Student Affairs Office

The Martin School

413 Patterson Office Tower

University of Kentucky

Lexington , KY 40506-0027

The M.P.P. program incorporates:

1. an Administrative Core of 31 semester hours covering the areas of statistics, public policy formulation and analysis, public policy economics, organization and management, budgeting, finance, and analytical methods;



2. 3 semester hours in a functional area such as Health, Transportation, Education, Environmental Financial, Social Welfare, Gerontology Policy or another approved area.
3. a 3-hour Capstone Course and Capstone Project;
4. an administrative internship for 3 semester hours of credit. Students with a significant professional experience may substitute an independent study policy paper or an additional graduate course.

### **Course Requirements**

Completion of a minimum of 40 semester hours of graduate work is required

#### **A. Administrative Core (31 Semester Hours)**

STA 671	Regression and Correlation
STA 672	Design and Analysis of Experiments
PA 622	Public Program Evaluation
PA 631	Public Financial Management
PA 642/HA 642	Public Organization, Theory and Behavior
PA 650	Economics for Public Policy*

\*Currently offered as PA 795 Special Topics in Public Administration: Economics for Public Policy

PA 651	The Policy Process
PA 652 HA/ECO 652	Public Policy Economics
PA 680	Benefit-Cost Analysis
PA 681	Capstone in Public Administration
PA 690	Public Policy Analysis Overview
PA 692	Research Methods for Public Policy and Administration
PA 711	Internship in Public Administration

#### **B. Area of Specialization (3 Semester Hours)**

#### **C. Capstone Course and Capstone Project (3 Semester Hours)**

All students must take the 3-hour capstone class and successfully complete and defend a capstone project developed in that class. The purpose of the course and the project is to integrate the learning experience of the MPP program and apply knowledge and skills acquired in the program to a policy issue. The presentation of the Capstone project serves as the final Master's exam.

PA 681	Capstone in Public Administration	(3)
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#### **E. Internship (3 Semester Hours)**

PA 711	Internship in Public Administration	(3)
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## GRADUATE COURSES

PA 621	QUANITITATIVE METHODS OF RESEARCH (SAME AS HA 621)	(3)
PA 622	PUBLIC PROGRAM EVALUATION	(3)
PA 623	DECISION ANALYSIS AND SUPPORT SYSTEMS (SAME AS HA 623)	(3)
PA 628	PERSONNEL MANAGEMENT IN THE PUBLIC SECTOR	(3)
PA 631	PUBLIC FINANCIAL MANAGEMENT	(3)
PA 632	PUBLIC FUNDS MANAGEMENT (SAME AS HA 632)	(3)
PA 633	MUNICIPAL SECURITIES	(3)
PA 636	HEALTH ECONOMICS (SAME AS HA 636/ECO 653)	(3)
PA 637	HEALTH FINANCE (SAME AS FIN/HA 637)	(3)
PA 641	POLITICAL ENVIRONMENT OF PUBLIC ORGANIZATIONS	(3)
PA 642	PUBLIC ORGANIZATION THEORY AND BEHAVIOR (SAME AS HA 642)	(3)
PA 651	THE POLICY PROCESS	(3)
PA 652	PUBLIC POLICY ECONOMICS (SAME AS ECO/HA 652)	(3)
PA 653	LOCAL ECONOMIC DEVELOPMENT (SAME AS AEC 653)	(3)
PA 656	MANAGERIAL EPIDEMIOLOGY (SAME AS HA 656)	(3)
PA 660	PUBLIC POLICY OF THE NONPROFIT SECTOR	(3)
PA 661	FINANCIAL MANAGEMENT OF NONPROFIT ORGANIZATION	(3)
PA 671	OVERVIEW OF THE HEALTH CARE DELIVERY SYSTEM	(3)
PA 673	HEALTH POLICY DEVELOPMENT (SAME AS HA 673)	(2)
PA 680	BENEFIT-COST ANALYSIS (SAME AS ECO 654)	(3)
PA 681	CAPSTONE IN PUBLIC ADMINISTRATION	(3)
PA 690	POLICY ANALYSIS OVERVIEW	(3)
PA 691	ETHICS AND PUBLIC POLICY	(1)
PA 711	INTERNSHIP IN PUBLIC ADMINISTRATION (3)	
PA 727	ENVIRONMENTAL ECONOMICS, REGULATION AND POLICY (SAME AS ECO 721)	(3)
PA 731	FISCAL AND BUDGETARY POLICY	(3)
PA 742	THEORY OF PUBLIC ORGANIZATIONS	(3)
PA 749	DISSERTATION RESEARCH	(0)
PA 750	INTRODUCTION TO ECONOMICS FOR PUBLIC POLICY	(3)
PA 751	PUBLIC POLICY FORMULATION AND IMPLEMENTATION	(3)
PA 752	THE ECONOMICS OF POLICY ANALYSIS (SAME AS ECO 752)	(3)
PA 767	DISSERTATION RESIDENCY CREDIT	(2)

PA 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PA 775	SPECIAL TOPICS IN HEALTH ADMINISTRATION (SAME AS HA 775)	(1-3)
PA 785	INDEPENDENT STUDY IN HEALTH ADMINISTRATION (SAME AS HA 785)	(1-3)
PA 795	SPECIAL TOPICS IN PUBLIC ADMINISTRATION	(1-3)
PA 796	INDEPENDENT STUDY IN PUBLIC ADMINISTRATION	(1-3)

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## PUBLIC HEALTH

A defining characteristic of the area of public health is its focus on population groups rather than individuals. Public health professionals are concerned with the health of communities, relying heavily on collaboration with local, state, and national entities to improve the health status of their targeted populations. With the current interest in health care reform, bioterrorism and preparedness, concerns over managed care, and other factors impacting the nation's health care system, the need for highly trained public health professionals is increasing. The College of Public Health offers the Master of Public Health degree. The M.P.H. is an applied professional/graduate degree designed for highly motivated students who either have either a previously earned professional degree or a baccalaureate degree and substantial interest in public health. Unique sequencing of courses, community-based program activities, and field/laboratory research provide students with multiple opportunities to define their course of study in the five areas of concentration, Biostatistics, Epidemiology, Environmental/Occupational Health, Health Behavior, or Health Services Management. The M.P.H. degree is designed to prepare graduates for entry and advancement in public health careers in public, non-profit and proprietary health care organizations. The schedule of courses is developed to meet the needs of non-traditional and part-time students as well as full-time students. Most courses are offered in the late afternoon or evening, meeting one day per week.

Professionals with the M.P.H. hold important roles in a variety of public and private settings, e.g., local, state, and national health departments, health care facilities, social service agencies, private industry, universities, and community-centered health education facilities. In these positions, they can be involved directly with the development, implementation and assessment of efforts to improve the health of the public and prevention of disease. The curriculum is designed to provide skills and knowledge upon which to build or enhance a career in public health. Unique sequencing of courses, community-based program activities, and field/laboratory research provide students with multiple opportunities to define their public health specialty and provide a broad overview of the disciplines of public health.

The Master of Public Health degree requires a minimum of 42 credit hours of study for completion. As an interdisciplinary degree, the M.P.H. curriculum utilizes an array of courses offered by other university departments including Environmental Science, Statistics, Behavioral Science, and Communications. All students must complete a minimum of 15 semester hours of

required core course work and at least 15 hours of specialty work in one of the five areas of concentration. In addition, a three hour public health overview course (CPH 663), three hours of field practicum experience (CPH 609), and a three hour final integrative Capstone Project (CPH 608) are required, A dual M.D./M.P.H. degree is currently available and additional dual degrees are under development.

### **Admission Requirements**

Admission into the M.P.H. program is competitive, and consideration is given to academic background, a history of service, interest in the field, a personal statement, career plans, and letters of recommendation. Applicants must also have achieved an acceptable score on the Graduate Record Examination (GRE) or the Graduate Management Admission test (GMAT).

Applicants must complete a UK Graduate School Application and make a separate application through the Schools of Public Health Application Service (SOPHAS.org), the centralized application process for accredited schools/colleges of public health. For additional information concerning the University of Kentucky College of Public Health and its degrees, call (859) 257-5678 ext. 82096, send e-mail to [ukcph@uky.edu](mailto:ukcph@uky.edu), or go to <http://www.mc.uky.edu/PublicHealth>.

### **GRADUATE COURSES**

CPH 535	DATABASES AND SAS PROGRAMMING	(3)
CPH 601	OCCUPATIONAL AND ENVIRONMENTAL HEALTH	(3)
CPH 602	OVERVIEW OF THE HEALTH CARE DELIVERY SYSTEM	(3)
CPH 604	PUBLIC HEALTH AND DISEASE PREVENTION	(3)
CPH 605	EPIDEMIOLOGY	(3)
CPH 608	CAPSTONE PROJCT	(3)
CPH 609	PUBLIC HEALTH PRACTICUM	(3)
CPH 610	INJURY EPIDEMIOLOGY & CONTROL	(3)
CPH 611	ADVANCED EPIDEMIOLOGY	(3)
CPH 612	INFECTIOUS/EMERGING DISEASE EPIDEMIOLOGY	(3)
CPH 614	MANAGERIAL EPIDEMIOLOGY	(3)
CPH 616	CARDIOVASCULAR DISEASE EPIDEMIOLOGY	(3)
CPH 617	ENVIRONMENTAL AND OCCUPATIONAL EPIDEMIOLOGY	(3)
CPH 618	EPIDEMIOLOGY OF AGING	(3)
CPH 620	OCCUPATIONAL & ENVIRONMENTAL HEALTH II	(3)
CPH 621	WORKPLACE VENTILATION	(3)
CPH 630	BIostatISTICS II	(3)
CPH 631	DESIGN & ANALYSIS OF HEALTH SURVEYS	(3)
CPH 632	MIXED MODELS IN PUBLIC HEALTH	(3)
CPH 636	DATA MINING IN PUBLIC HEALTH	(3)
CPH 645	FOOD SYSTEMS, MALNUTRITION, AND PUBLIC HEALTH	(3)
CPH 646	SPEC TOPS IN BEHAVIORAL HEALTH	(3)
CPH 647	RESEARCH METHODS FOR PUBLIC HEALTH	(3)
CPH 648	HEALTH AND CULTURE	(3)

CPH 649	INDEPENDENT STUDIES IN HEALTH BEHAVIOR	(3)
CPH 650	MANAGEMENT OF PUBLIC HEALTH ORGANIZATIONS	(3)
CPH 652	PUBLIC HEALTH FINANCE AND ACCOUNTING	(3)
CPH 653	PUBLIC HEALTH LAW AND POLICY	(3)
CPH 660	GEOGRAPHIC INFORMATION SYSTEMS IN PUBLIC HEALTH	(3)
CPH 661	BIOETHICS FOR PUBLIC HEALTH PROFESSIONS	(3)
CPH 662	PUBLIC HEALTH RESPONSE TO TERRORISM, DISASTERS	(3)
CPH 663	PUBLIC HEALTH PRACTICE AND ADMINISTRATION	(3)
CPH 664	DESIGN & ANALYSIS OF CLINICAL TRIALS	(3)
CPH 665	ETHICAL ISSUES IN CLINICAL RESEARCH	(3)
CPH 666	PRACTICUM IN CLINICAL RESEARCH I	(3)
CPH 667	PRACTICUM IN CLINICAL RESEARCH II	(3)
CPH 668	PRACTICUM IN CLINICAL RESEARCH III	(3)
CPH 695	PUBLIC HEALTH PRACTICE THROUGH SERVICE LEARNING	(3)
CPH 711	CHRONIC DISEASE EPIDEMIOLOGY	(3)
CPH 712	ADVANCED EPIDEMIOLOGY	(3)
CPH 718	SPECIAL TOPICS IN EPIDEMIOLOGY	(1-3)
CPH 719	INDEPENDENT STUDIES IN EPIDEMIOLOGY	(1-3)
CPH 728	SPEC TOPS IN OCCUPATIONAL/ENVIRONMENTAL	(1-3)
CPH 729	INDEPENDENT STUDIES IN OCCUPATIONAL/ENVIRONMENTAL HEALTH	(1-3)
CPH 738	SPECIAL TOPICS IN BIostatISTICS	(1-3)
CPH 739	INDEPENDENT STUDIES IN BIostatISTICS	(1-3)
CPH 758	SPECIAL TOPICS IN HEALTH SERVICES MANAGEMENT	(1-3)
CPH 759	INDEPENDENT STUDIES IN HEALTH SERVICES MANAGEMENT	(1-3)
CPH 768	RESEARCH CREDIT MASTER DEGREE	(1-3)
CPH 778	SPEC TOPS IN PUBLIC HEALTH	(1-3)
CPH 779	INDEPENDENT STUDIES IN PUBLIC HEALTH	(1-3)
HSM 635	MANAGEMENT FOR HEALTH CARE ORGANIZATIONS	(3)
PM 651	WORK PLACE VENTILATION	
PM 661	INDUSTRIAL HYGIENE SAMPLING	(3)
PM 663	PRACTICUM IN ADVANCED INDUSTRIAL HYGIENE	(1-3)

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## RADIATION SCIENCE

The Division of Radiation Sciences, Department of Clinical Sciences, offers the program in Radiation Science with the degree of Master of Science in Radiological Medical Physics. This program is one of a small number of academic medical physics offerings in North America accredited by CAMPEP, the Commission on Accreditation of Medical Physics Educational Programs.

### **Admission Requirements**

Graduates of accredited colleges with an appropriate baccalaureate degree (a physics major or strong physics minor) may become candidates for this degree. Applicants must meet the

minimum requirements of the Graduate School. Course work prerequisites include physics through modern physics, several intermediate-level physics courses, mathematics through differential equations, and individual courses in computer science, scientific statistics, human physiology, and human anatomy. Students lacking certain course prerequisites may be admitted while completing them, if so approved by the Director of Graduate Studies. Applicants are strongly urged to supply three letters of recommendation and are encouraged to visit campus and interview in person (telephone interviews may be arranged if necessary). GRE General Test scores must be submitted. An overall undergraduate grade point average of at least 3.0 (on a 4.0 scale) is recommended.

### **Degree Requirements**

Both degree options are interdisciplinary. Plan B (non-thesis) is utilized for the graduate work, incorporating specific courses in several departments. There is no language requirement. A core of courses is common to both options. Additional special course work is prescribed for each option.

#### **Core Program**

RM/BIO 740	Mammalian Radiation Biology	(2)
PHY/RM 472G	Interaction of Radiation with Matter	(3)
RAS/RM/PHY 545	Radiation Hazards and Protection	(3)
RAS/RM/PHY 546	General Medical Radiological Physics	(3)
RAS/RM 601	Advanced Radiation Dosimetry	(2)
RAS 710	Radiation Science Seminar (subtitle required)	(1)
RAS/RM 695	Research in the Health-Related Radiation Sciences	(2)
<b>Subtotal</b>		<b>(16)</b>

#### **Master of Science in Radiological Medical Physics**

#### **Additional Program Requirements**

RAS/RM 647	Physics of Diagnostic Imaging I	(3)
RAS/RM 648	Physics of Diagnostic Imaging II	(3)
RAS/RM 649	Physics of Radiation Therapy	(3)
RAS 651	Advanced Laboratory in Diagnostic Imaging Physics	(2)
PHY/EE 402G	Electronic Instrumentation and Measurements	(3)
<b>TOTAL</b>		<b>30 (minimum)</b>

### Available Electives (Partial Listing)

CHE 520	Radiochemistry	(3)
RM 660	Graduate Practicum in Radiation Medicine	(1-6)
RM 842	Radiation Oncology	(1)
RM 848	Practicum in Brachytherapy Physics	(1-3)
RM 849	Practicum in External Beam Therapy Physics	(1-6)
RAS 610	Ethics in Clinical Sciences Research	(1)

### GRADUATE COURSES

RAS 545	RADIATION HAZARDS AND PROTECTION (SAME AS PHY/RM 545)	(3)
RAS 546	GENERAL MEDICAL RADIOLOGICAL PHYSICS (SAME AS RM/PHY 546)	(3)
RAS 601	ADVANCED RADIATION DOSIMETRY (SAME AS RM 601)	(2)
RAS 610	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS CD/CLS/PT 610)	(1)
RAS 647	PHYSICS OF DIAGNOSTIC IMAGING I (SAME AS RM 647)	(3)
RAS 648	PHYSICS OF DIAGNOSTIC IMAGING II (SAME AS RM 648)	(3)
RAS 649	PHYSICS OF RADIATION THERAPY (SAME AS RM 649)	(3)
RAS 651	ADVANCED LABORATORY IN DIAGNOSTIC IMAGING PHYSICS	(1-3)
RAS 695	RESEARCH IN HEALTH-RELATED RADIATION SCIENCES (SAME AS RM 695)	(1-4)
RAS 710	RADIATION SCIENCE SEMINAR (SUBTITLE REQUIRED)	(1)
RM 472G	INTERACTION OF RADIATION WITH MATTER (SAME AS PHY 472G)	(3)
RM 545	RADIATION HAZARDS AND PROTECTION (SAME AS PHY/RAS 545)	(3)
RM 546	GENERAL MEDICAL RADIOLOGICAL PHYSICS (SAME AS PHY/RAS 546)	(3)
RM 601	ADVANCED RADIATION DOSIMETRY (SAME AS RAS 601)	(2)
RM 647	PHYSICS OF DIAGNOSTIC IMAGING I (SAME AS RAS 647)	(3)
RM 648	PHYSICS OF DIAGNOSTIC IMAGING II (SAME AS RAS 648)	(3)
RM 649	PHYSICS OF RADIATION THERAPY (SAME AS RAS 649)	(3)
RM 660	GRADUATE PRACTICUM IN RADIATION MEDICINE	(1-6)

RM 695	RESEARCH IN HEALTH-RELATED RADIATION SCIENCES (SAME AS RAS 695)	(1-4)
RM 740	MAMMALIAN RADIATION BIOLOGY (SAME AS BIO 740)	(2)

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## REHABILITATION COUNSELING

The Graduate Program in Rehabilitation Counseling is an interdisciplinary master's degree program in the Department of Special Education and Rehabilitation Counseling. The curriculum, in accordance with the guidelines of accreditation and certification organizations in rehabilitation counseling, provides for flexible programming in response to individual student needs and interests. The program is accredited by the Council on Rehabilitation Education and fulfills national certification requirements in rehabilitation counseling. Program graduates are eligible to sit for the Rehabilitation Counseling Certification Examination and other national and state certification.

The program trains students to understand the physical, psychological, social, cultural and economic factors of persons with disabilities and barriers to employment in terms of vocational adjustment, independent living, and employment. Rehabilitation counseling is a challenging and expanding profession. The rehabilitation counselor provides and coordinates services to persons with emotional, physical, learning, and developmental disabilities which interfere with productive functioning and independent living. The counselor must demonstrate competencies in ethics, in establishing and conducting counseling relationships, assessment procedures, vocational placement, program planning and coordination; have an awareness of professional and community resources that can be utilized in the rehabilitation process; have knowledge of persons from culturally diverse backgrounds, and, understand how rehabilitation engineering and technology can be utilized to help clients achieve their goals. Emphasis is placed on severe disability and its consequences, independent living, job development and placement, technology, business and industry, and consumer issues and rights. Graduates of the program are employed in a wide range of public, private rehabilitation and human service settings.

Students who express an interest in employment in public rehabilitation are eligible, when available, for a federal personnel preparation scholarship. This scholarship pays tuition and provides a monthly stipend. Scholarship recipients are required to become employed in a public rehabilitation agency or a program which procures services from a public rehabilitation agency. The program also has a scholarship program to train students for practice in rural rehabilitation environments. In addition, an Endorsement Curriculum in conjunction with Kentucky State University facilitates the enrollment of persons from culturally diverse backgrounds.



## **Admission Requirements**

The rehabilitation counseling program has the following admission requirements. Students are required to have a minimum undergraduate grade point average of 2.75, submit three letters of reference, complete a statement of professional goals and objectives, complete a program application, provide a writing sample, and participate in an interview with faculty. Under certain circumstances the program may petition the Graduate School to request a waiver of the undergraduate grade point average. The program faculty considers all of this information in making admissions decisions.

Students are admitted from a wide range of backgrounds and academic disciplines. It is anticipated, however, that most students entering the program will have a background in psychology, education, sociology, rehabilitation, criminal justice, or other social-behavioral sciences. Students who have other educational backgrounds are also considered.

## **Program Requirements**

Course and field work total a minimum of 45 credit hours if the student has a bachelor's degree in rehabilitation or related course work. The typical program for other students is 57 hours, up to a maximum of 60 hours. At least 75% of the credit hours must be taken at the University of Kentucky. Courses are offered in the late afternoon and early evening to accommodate full- and part-time students. Students who attend the program on a full-time basis can complete the program in 16 months. The program is also offered on a state-wide distance education basis using satellite, compressed video, and internet technologies.

The curriculum is composed of three levels of courses: basic core, advanced core, and support areas.

### **Basic Core**

The Basic Core courses or their equivalent are required for students without a background in the field of rehabilitation or who have not otherwise had these courses:

RC 510	Orientation to Rehabilitation Resources
RC 515	Medical and Psychosocial Aspects of Disabilities I
RC 516	Medical and Psychosocial Aspects of Disabilities II
RC 520	Principles of Rehabilitation Counseling
RC 530	Cultural Diversity in Rehabilitation
RC 540	Chemical Dependency in Rehabilitation Counseling
RC 640	Rehabilitation in Business and Industry
RC 650	Rehabilitation Counseling Theory and Techniques I
RC 660	Rehabilitation Counseling Theory and Techniques II

## **Advanced Core**

Advanced Core courses or their equivalent are required for all students enrolled in the degree program:

RC 610	Case Management in Rehabilitation Counseling
RC 620	Vocational Evaluation/Work Adjustment of the Severely Disabled
RC 630	Placement Services and Techniques in Rehabilitation Counseling
RC 710	Practicum
RC 720	Internship
RC 740	Administration, Supervision, and Program Evaluation in Rehabilitation Counseling
RC 750	Rehabilitation Research
RC 760	Contemporary Practices in Rehabilitation

Students who have taken any of the above courses or their equivalent may consult with faculty to request waiver of the required course and to substitute an approved elective.

## **Other Rehabilitation Courses**

RC 558	Special Topics in Rehabilitation Counseling
RC 782	Directed Independent Study

## **Support Areas**

A support area will be chosen by the student in conjunction with a faculty advisor. Students are encouraged to use their electives to develop 'support areas.' A support area is defined as a group of two to three courses, focusing on one theme, to enhance specific skills or knowledge related to rehabilitation. Courses comprising a support area may be offered by one or more departments. Support areas available through interdisciplinary planning include: learning disabilities, mental retardation, developmental disabilities, gerontology, mental health, administration and management, family studies, research and evaluation, group counseling, policy and planning, criminal justice, hearing impairment, visual impairment, recreation, drugs and alcoholism, business and industry, technology, and advocacy. Cooperating disciplines include Educational and Counseling Psychology, Social Work, Special Education, Sociology, Public Administration, Family Studies, Psychology, Therapeutic Recreation, and Health Sciences.

## **Admission to Field Work**

Admission to field work will be considered after the student has completed two semesters (full-time) of graduate study or when the student has completed 24 hours of graduate study. The decision to advance to field work includes successful completion of the admission to field work

examination, demonstrated skill in academic areas, and a judgment by the faculty that the student possesses the professional, ethical, personal, and social characteristics necessary for providing professional rehabilitation counseling services. In addition, the student must have no "I" (incomplete) grades.

### **Field Work**

The first field work component is a three credit practicum, which consists of 200 clock hours of supervised experience in a rehabilitation or rehabilitation-related setting, a weekly seminar, and individual supervision. Students who receive training support from the Rehabilitation Services Administration must have involvement with business and industry as part of the practicum. Such students are required to be employed with a public rehabilitation program upon graduation. The practicum is generally taken during the eight-week summer session. However, this course is offered every semester to accommodate part-time students. A student must be admitted to field work prior to enrolling in the practicum.

In accordance with national accreditation and certification requirements, students then complete 600 clock hours of supervised internship in a rehabilitation or rehabilitation-related setting. Every intern student also participates in a weekly seminar and individual supervision. Internship is three credits per 200 clock hours, and may be taken in the summer, fall, or spring semesters following practicum. The internship is taken in one semester; or, due to extenuating circumstances, it may be divided into two semesters. It is recommended, however, that the internship be completed in one semester.

Students must successfully complete their internship, and demonstrate competence in working with individuals with disabilities in the context of a professional rehabilitation counseling relationship in order to graduate. A final written examination is given at the completion of all course work. Graduation is contingent upon the successful completion of this examination.

### **GRADUATE COURSES**

RC 510	ORIENTATION TO REHABILITATION RESOURCES	(3)
RC 515	MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES I (SAME AS SW 515)	(3)
RC 516	MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES II (SAME AS SW 516)	(3)
RC 520	PRINCIPLES OF REHABILITATION COUNSELING	(3)
RC 530	CULTURAL DIVERSITY IN REHABILITATION COUNSELING	(2)
RC 540	CHEMICAL DEPENDENCY IN REHABILITATION COUNSELING	(3)
RC 546	TRANSDISCIPLINARY SERVICES FOR STUDENTS WITH MULTIPLE DISABILITIES (SAME AS EDS 546)	(3)
RC 547	COLLABORATION AND INCLUSION IN SCHOOL AND COMMUNITY SETTINGS (SAME AS EDS 547)	(3)

RC 558	SPECIAL TOPICS IN REHABILITATION (SAME AS EDS 558)	(1-3)
RC 610	CASE MANAGEMENT IN REHABILITATION COUNSELING	(3)
RC 613	LEGAL AND PARENTAL ISSUES IN SCHOOL ADMINISTRATION	(3)
RC 620	VOCATIONAL EVALUATION AND WORK ADJUSTMENT FOR THE SEVERELY DISABLED	(3)
RC 630	PLACEMENT SERVICES AND TECHNIQUES IN REHABILITATION COUNSELING	(3)
RC	640 REHABILITATION IN BUSINESS AND INDUSTRY	(3)
RC 650	REHABILITATION COUNSELING THEORY AND PRACTICE I	(3)
RC 660	REHABILITATION COUNSELING THEORY AND PRACTICE II	(3)
RC 710	PRACTICUM IN REHABILITATION COUNSELING	(3)
RC 720	INTERNSHIP IN REHABILITATION COUNSELING	(3-9)
RC 740	ADMINISTRATION, SUPERVISION AND PROGRAM EVALUATION IN REHABILITATION COUNSELING	(1-3)
RC 750	REHABILITATION RESEARCH	(1-3)
RC 760	CONTEMPORARY PRACTICES IN REHABILITATION	(1-3)
RC 782	DIRECTED INDEPENDENT STUDY	(1-3)

## REHABILITATION SCIENCES

The Divisions of Athletic Training, Communication Disorders, and Physical Therapy at UK, in cooperation with Occupational Therapy and Communication Disorders programs at Eastern Kentucky University, and Communication Disorders programs at Murray State University and Western Kentucky University, offer a Doctor of Philosophy Degree in Rehabilitation Sciences. This program has a unique interdisciplinary, inter-institutional emphasis for rehabilitation professionals in the disciplines of *athletic training*, *communication disorders*, *occupational therapy*, and *physical therapy*.

The focus of the program is to prepare academic leaders in Rehabilitation Sciences through interdisciplinary academic, clinical, and research experiences. The program is designed to prepare graduates to conduct rehabilitation-related research, teach at the university level, direct discipline-specific educational programs, work in the rehabilitation services field, and collaborate with other professions to provide leadership on various issues related to rehabilitation and health.

### Admission Requirements

Individuals applying for admission must be eligible for state licensure or national certification in Athletic Training, Communication Disorders, Occupational Therapy, or Physical Therapy. They must also have a professional or post-professional master's degree and submit GRE scores, transcripts from *all* universities attended, a comprehensive resume, and three letters of recommendation. International students must submit an official TOEFL score. Students must

apply to both the University of Kentucky Graduate School and the Rehabilitation Sciences Doctoral Program. An interview is strongly encouraged. Program application materials can be obtained from [www.mc.uky.edu/rehabsciences](http://www.mc.uky.edu/rehabsciences).

### **Area of Specialization**

Students in the Program have the unique opportunity to study with professionals from all three disciplines and take courses from faculty from all four institutions. Distance technologies are used to deliver some portions of the program, thus making it more widely accessible.

Physical therapists, occupational therapists, speech-language pathologists and audiologists, and athletic trainers who have a master's degree and are eligible for certification or licensure in one of the disciplines may apply for admission to the program. Students can choose from several areas of concentration to focus their research interests.

### **Degree Requirements**

Each candidate for the Ph.D. must pass a written and oral Qualifying Examination, submit and defend a dissertation based on original and significant research and satisfy the Graduate School requirements. The courses expected of all students in the doctoral degree curriculum include the following:

#### **Core Courses**

RHB 701	Rehabilitation Theories and Application through the Life Span	(3)
RHB 712	Critical Appraisal of Research in Rehabilitation Sciences	(3)
RHB 720	Research in Rehabilitation Sciences	(3)
RHB 770	Professional Seminar in Rehabilitation Sciences	(6)

(Must be taken for six semesters during the student's academic program.)

#### **Research Methodologies**

(Minimum of 10 Credits) Examples below:

STA 671	Regression and Correlation	(2)
STA 672	Design and Analysis of Experiments	(2)
CPH630	Biostatistics II	(3)
CPH 664	Design and Analysis of Clinical Trials	(3)
EDS 633	Single Subject Research Design	(3)
Professional Discipline Specific Course Work		(9)
Cognate Coursework		(9)
RHB 787	Teaching Apprenticeship in Rehabilitation Sciences	(2) (minimum)

## Research Apprenticeship

A research apprenticeship is required for students. Minimum of 9 credits - individually designed based on student's past research experience.

RHB 789	Research Apprenticeship In Rehabilitation Sciences	(1-4)
RHB 769	Residence Credit for the Doctoral Degree (2 Credits per semester for a maximum of 5 years)	(4)

For Additional Information, contact:

Patrick Kitzman, PhD, PT  
Director of Graduate Studies  
Rehabilitation Sciences Doctoral Program  
University of Kentucky  
Charles T. Wethington Jr. Building  
900 S. Limestone  
Lexington, KY 40536-0200  
859.323.1100 ext. 80580

Occupational Therapy courses are available through our partnership with the Department of Occupational Therapy at Eastern Kentucky University

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## SOCIAL WORK

### Master of Social Work

The College of Social Work offers a graduate curriculum of full-time and part-time study, leading to the Master of Social Work degree in accordance with Plan B. This program is accredited by the Council on Social Work Education. The MSW degree is designed to prepare students for advanced practice in the field of social work.

### Admission Requirements

Students must meet the general requirements of the Graduate School, as listed elsewhere in this Bulletin, as well as other specific requirements of the College of Social Work for the Master of Social Work degree as indicated below.

1. Applicants who do not qualify for advanced standing must earn 60 hours of credit with a grade-point average of 3.0 or above and no more than one course grade below a "B". Fifty-four of these credits must be in the required social work courses for the Family/Community Concentration and students complete six hours of electives. Fifty-seven credits in required

social work courses are needed for the Mental Health Concentration and students complete three hours of electives.

Minimum academic requirements for admission to the 60-hour program are: baccalaureate degree from an accredited institution of higher learning with a grade point average of 3.0 and a grade point average of 3.0 on all graduate work attempted. Applicants with less than a 3.0 UGPA will be placed in a "Waiting List" pool where the minimum GPA requirement for admission is the Graduate School's 2.75 GPA. Only a limited number of applicants will be admitted from this pool. These students must submit a "Petition for Exceptional Consideration". It is recommended that they take the Graduate Record Exam (GRE) as well.

All applicants must complete the College's application form and the Graduate School's application form, submit transcripts from all colleges or universities attended, three letters of recommendation, resume, as well as autobiographical and values statements.

2. Advanced standing of 22 credit hours may be granted in the Master of Social Work program to graduates of social work programs accredited by the Council on Social Work Education who earned:

- a) an overall 3.0 GPA, and
- b) a 3.5 GPA in their social work major.

Additionally, some work experience is preferred.

### **Degree Requirements**

All MSW students must complete the final comprehensive examination. This examination covers the foundation and concentration areas of the student's educational program to determine the breadth and depth of knowledge acquired for professional practice.

### **Doctor of Philosophy**

The College offers a program leading to a Ph.D. degree through the Joint UK-U of L Ph.D. in Social Work Program which draws upon the academic resources of the University of Kentucky and the University of Louisville. Faculty from both schools participate on students' dissertation committees.

The program consists of a minimum of 44 credits of post-master's course work plus 4 hours of dissertation research. Students are required to complete a core curriculum of 26 hours and to pass the Preliminary Exam. Students work on an individualized plan of study of 15 credit hours that includes scholarly study of an area of social work practice or research (9 credit hours) and pertinent research and teaching practica (6 credit hours). These courses assist the student in developing a dissertation research area. Students are also required to complete a course on teaching (3 credit hours). After meeting these requirements, students take the Qualifying

Examination which consists of a defense of the dissertation proposal. After successfully passing the Qualifying Exam, 4 hours of dissertation research and a dissertation must be completed.

The major aim of the program is to produce scholars with skills to expand the base of tested knowledge that can guide the profession of social work in addressing major social problems as well as to meet the challenges facing the doctoral level researcher and educator. The program emphasizes theory development and research.

### **Core Curriculum (29 credit hours)**

Theory Development in the Social Work Profession	(3)
Advanced Analysis of Social Welfare Problems	(3)
Human Behavior & Change Theories	(3)
Ethics, Social Work & Society	(3)
Social Work Research I	(3)
Social Work Research II	(3)
Statistics (e.g., STA 570)	(3-4)
Statistics for Social Work II	(3)
Professional Seminar I	(1)
Professional Seminar II	(1)
Teaching in Social Work	(3)

### **Preliminary Examination**

#### **Individualized Plan of Study (15 credit hours)**

Course work in an area of scholarly study	(9)
Research/Teaching Practica (3 hrs. must be in research)	(6)

### **Qualifying Exam**

<b>Dissertation Research</b>	(4)
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### **Admission Requirements**

Applicants must have career objectives consistent with the social work profession and demonstrate strong potential to complete a vigorous academic program as evidenced in the following:

- a master's degree in social work from a program accredited by or judged to be equivalent by CSWE (applicants with other master's degrees can also be considered);
- at least two years' post-master's full-time, paid experience in social work preferred;
- an undergraduate grade point average (GPA) of 3.0 on a 4.0 scale and a graduate GPA of 3.5;



- official transcripts from each college/university attended;
- Graduate Record Examination (GRE) test scores of 1,000 when verbal and quantitative sections are summed;
- three letters of reference (two academic and one from employer)
- a writing sample or publication
- an autobiography that describes career and research interests and the rationale for pursuing a doctoral degree.

## GRADUATE COURSES

SW 505	CHILD WELFARE SERVICES	(2-3)
SW 510	MENTAL HEALTH KNOWLEDGE FOR THE SOCIAL PROFESSIONS	(2-3)
SW 513	INTEGRATED SERVICES FOR THE HANDICAPPED	(3)
SW 514	ALCOHOLISM AND PROBLEM DRINKING	(2-3)
SW 515	MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES I (SAME AS RC 515)	(3)
SW 516	MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES II (SAME AS RC 516)	(3)
SW 523	SOCIAL PERSPECTIVES ON RACISM AND ETHNIC PREJUDICES IN AMERICA	(2-3)
SW 560	SOCIAL WORK PRACTICE IN JUVENILE JUSTICE	(3)
SW 571	SOCIAL WORK AND THE LAW	(3)
SW 595	COOPERATIVE SOCIAL WORK EDUCATION	(0)
SW 580	TOPICAL SEMINAR IN SOCIAL WORK	(2-4)
SW 600	SOCIAL WORK PRACTICE I	(3)
SW 601	SOCIAL WORK PRACTICE II	(3)
SW 603	SOCIAL WORK PRACTICE WITH CHILDREN AND YOUTH	(2)
SW 605	SOCIAL WORK PRACTICE IN HEALTH SERVICES	(2)
SW 608	INTRO TO MSW PRACTICE	(2)
SW 611	SOCIAL WORK PRACTICE IN MENTAL HEALTH	(2-3)
SW 612	SEMINAR ON SOCIAL WORK PRACTICE WITH WOMEN	(2-3)
SW 613	URBAN ECOLOGY AND AGING	(2-3)
SW 614	SOCIAL WORK PRACTICE WITH PEOPLE WITH AIDS	(2-3)
SW 616	SOCIAL WORK PRACTICE IN SCHOOL SETTINGS	(2-3)
SW 617	FAMILY VIOLENCE: SOCIAL WORK INTERVENTIONS	(2-3)
SW 618	SOCIAL WORK PRACTICE WITH GAY AND LESBIAN PEOPLE	(2-3)
SW 620	HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT	(3)
SW 623	SOCIAL WORK PRACTICE WITH GROUPS	(2-3)
SW 624	PERSPECTIVES ON HUMAN SEXUALITY (SAME AS FAM 624)	(3)
SW 625	INTRODUCTION TO THE SOCIAL WORK PROFESSION	(3)
SW 626	FORENSIC MENTAL HEALTH: EVALUATION AND TREATMENT	(2-3)
SW 630	INTRODUCTION TO SOCIAL WELFARE POLICY AND SERVICES	(3)
SW 635	INTRODUCTION TO PROFESSIONAL ETHICS	(2)
SW 640	FOUNDATION PRACTICUM	(4)
SW 641	GRADUATE EDUCATIONAL PRACTICUM II	(5)

SW 643	BIOMEDICAL ASPECTS OF AGING (SAME AS GRN 643)	(3)
SW 650	RESEARCH METHODS IN SOCIAL WORK	(3)
SW 680	SPECIAL PROBLEMS IN SOCIAL WORK PRACTICE	(2-6)
SW 700	ADULT ASSESSMENT AND TREATMENT	(3)
SW 701	ASSET-BASED COMMUNITY DEVELOPMENT AND ASSESSMENT	(2-3)
SW 702	SUBSTANCE MISUSE, VIOLENCE AND RISK MANAGEMENT	(3)
SW 704	CHILD ASSESSMENT AND TREATMENT	(3)
SW 720	SOCIAL WORK PERSPECTIVES ON HUMAN AND CULTURAL DIVERSITY	(2)
SW 722	PSYCHOPATHOLOGY FOR SOCIAL WORK PRACTICE	(3)
SW 727	SOCIAL WORK ASSESSMENT AND INTERVENTION IN FAMILY PROBLEMS	(3)
SW 730	MENTAL HEALTH POLICY	(3)
SW 731	COMMUNITY AND FAMILY POLICY	(3)
SW 735	INTEGRATIVE SEMINAR	(2)
SW 736	ADMINISTRATION AND SUPERVISION IN SOCIAL WORK PRACTICE	(2)
SW 740	MENTAL HEALTH CONCENTRATION PRACTICUM	(4)
SW 741	FAMILY AND COMMUNITY CONCENTRATION PRACTICUM	(4)
SW 749	DISSERTATION RESEARCH	(0)
SW 750	RESEARCH DESIGN AND IMPLEMENTATION IN SOCIAL WORK PRACTICE I	(3)
SW 751	RESEARCH DESIGN AND IMPLEMENTATION II	(3)
SW 767	DISSERTATION RESIDENCY CREDIT	(2)
SW 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
SW 770	DOCTORAL RESEARCH I	(3)
SW 771	DOCTORAL RESEARCH II	(3)
SW 773	DOCTORAL STATISTICS II	(3)
SW 780	INDEPENDENT WORK	(1-6)
SW 781	THEORY DEVELOPMENT IN THE SOCIAL WORK PROFESSION	(3)
SW 782	ADVANCED ANALYSIS OF SOCIAL PROBLEMS, POLICY AND PRACTICE	(3)
SW 783	HUMAN BEHAVIOR AND CHANGE THEORIES IN SOCIAL WORK PRACTICE	(3)
SW 784	ETHICS, SOCIAL WORK AND SOCIETY	(3)
SW 785	PROSEMINAR IN SOCIAL WORK RESEARCH	(1)
SW 786	DOCTORAL RESEARCH PRACTICUM	(3-6)
SW 787	DOCTORAL TEACHING PRACTICUM	(3-6)
SW 788	RESEARCH IN SOCIAL WORK SEMINAR	(3)
SW 790	SEMINAR IN TEACHING AND LEARNING	(3)
SW 795	ADVANCED DOCTORAL SEMINAR IN SOCIAL WORK (SUBTITLE REQUIRED)	(3)

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## SOCIOLOGY

The Sociology graduate program offers graduate work leading to the Master of Arts, Master of Science in Agriculture, and Doctor of Philosophy. Both Plan A and Plan B are offered for the Master's degrees. Graduate students pursuing the Ph.D. degree choose two areas of

specialization, one of which must be within the discipline of sociology. The other specialization may be within sociology or a related substantive area. Current areas of faculty expertise include Criminology and Deviance; Families, Aging, and Health; Rural Sociology; Social Inequalities; Social Movements and Political Sociology; and Work, Organizations, and the Economy. In addition to the two specialization areas, doctoral students must demonstrate competence in theory and methods on the qualifying examination.

To aid in financing graduate education, a number of assistantships are available to qualified students. Outstanding students may compete for fellowships.

Sociologists at the University of Kentucky in the Departments of Sociology, Community and Leadership Development (in the College of Agriculture), and Behavioral Science (in the College of Medicine) carry on a substantial variety of research projects, consultative activities, extension education programs, and community services. Specialized experience and training are available to graduate students in rural sociology at the Agricultural Experiment Station and opportunities for applied sociology experience are available in the Cooperative Extension Service.

Assistantships and traineeships in health-related areas are available to graduate students in Behavioral Science in the College of Medicine.

Opportunities for multidisciplinary work exist in conjunction with Centers and Programs at the University of Kentucky including the African-American Research and Studies Program, Appalachian Center, Center on Aging, Center for Prevention Research, Center on Drug and Alcohol Abuse, Environmental Studies, Poverty Research Center, Social Theory, and Women's Studies. Assistantships and traineeships are available to qualified sociology graduate students through these Centers and Programs.

### **Admission Requirements**

A minimum combined score of 1500 on the three components of the Graduate Record Examination (GRE) is expected (calculated by multiplying the score of the new analytical portion of the exam by 100). The following additional materials are required to apply for admission to the graduate program in Sociology, and should be sent directly to the Director of Graduate Studies, Department of Sociology, 1515 Patterson Office Tower, University of Kentucky, Lexington, KY 40506-0027:

- A statement of goals and reasons for pursuing an advanced degree in sociology. It is helpful if applicants also address the field(s) of interest within sociology they may wish to pursue in their graduate studies.
- A sample of writing, preferably in the form of a term paper, an extensive essay, or a draft of a senior thesis. If the applicant has completed a master's degree, she or he may submit one or two chapters from the master's thesis. Please do not submit a copy of the entire master's thesis.
- Three letters of recommendation. The recommendation form is available on the Sociology Department's Web site.

- Application form for fellowships and assistantships, if the applicant wishes to be considered for a teaching assistantship, research assistantship, traineeship, or fellowship. This application form is available on the Sociology Department's Web site: [www.uky.edu/AS/Sociology/welcome.html](http://www.uky.edu/AS/Sociology/welcome.html) .

## GRADUATE COURSES

SOC 442G	SOCIOLOGY OF WORK AND OCCUPATIONS	(3)
SOC 451G	FOUNDATIONS OF SOCIOLOGICAL THEORY	(3)
SOC 452G	CONTEMPORARY SOCIAL THEORY	(3)
SOC 501	POPULATION ANALYSIS	(3)
SOC 509	THE U.S. FAMILY IN HISTORICAL PERSPECTIVE (SAME AS FAM 509/HIS 596)	(3)
SOC 517	RURAL SOCIOLOGY	(3)
SOC 527	SOCIETY AND HEALTH SAME AS BSC 527)	(3)
SOC 533	SOCIAL ORGANIZATION	(3)
SOC 534	THE SOUTHERN APPALACHIANS: A SOCIOLOGICAL INTERPRETATION (SAME AS ANT 534)	(3)
SOC 535	STUDIES IN SOCIAL INEQUALITIES (SUBTITLE REQUIRED)	(3)
SOC 542	HUMAN RELATIONS IN ADMINISTRATION OF ORGANIZATIONS	(3)
SOC 547	SOCIAL AND PSYCHOLOGICAL ASPECTS OF APPAREL (SAME AS DMT 547)	(3)
SOC 555	GEOGRAPHIC INFORMATION SYSTEMS AND LANDSCAPE ANALYSIS (SAME AS LA 855/NRC 555)	(3)
SOC 556	ADVANCED GEOGRAPHIC INFORMATION SYSTEMS AND LANDSCAPE ANALYSIS (SAME AS LA 956/NRC 556)	(3)
SOC 565	SPECIAL PROBLEMS IN SOCIOLOGY	(1-3)
SOC 603	SEMINAR IN TEACHING SOCIOLOGY	(3)
SOC 610	PROSEMINAR IN COMPLEX ORGANIZATION	(3)
SOC 622	TOPICS AND METHODS OF EVALUATION (SAME AS ANT/EPE/EDP 620)	(3)
SOC 630	PROSEMINAR IN DEVIANT BEHAVIOR	(3)
SOC 635	SEMINAR IN SOCIAL INEQUALITIES	(3)
SOC 636	STRATIFICATION AND MOBILITY	(3)
SOC 637	SOCIOCULTURAL DIMENSIONS OF ECONOMIC DEVELOPMENT (SAME AS ANT 637)	(3)
SOC 640	SCIENCE, AGRICULTURE, AND DEVELOPMENT (SAME AS ANT 640)	(3)
SOC 641	GENDER ISSUES IN DEVELOPMENT (SAME AS ANT 641)	(3)
SOC 642	THE SOCIOLOGY OF WORK, OCCUPATIONS AND LABOR MARKETS	(3)
SOC 645	TOPICS IN POLITICAL SOCIOLOGY	(3)
SOC 646	SOCIAL MOVEMENTS AND SOCIAL CHANGE	(3)
SOC 650	CONCEPTS AND THEORIES IN SOCIOLOGY	(3)

SOC 651	SOCIOLOGICAL THEORY IN TRANSITION	(3)
SOC 661	SOCIOLOGY OF EDUCATION (SAME AS EPE 661)	(3)
SOC 680	METHODS OF SOCIAL INVESTIGATION	(4)
SOC 681	RESEARCH DESIGN AND ANALYSIS	(3)
SOC 682	SPECIAL TOPICS IN ADVANCED SOCIOLOGICAL METHODS	(1-3)
SOC 691	STRUCTURE OF U.S. AGRICULTURE (SAME AS AEC 691)	(3)
SOC 730	SPECIAL TOPICS IN DEVIANT BEHAVIOR	(1-3)
SOC 735	TOPICAL SEMINAR IN SOCIAL INEQUALITIES	(3)
SOC 737	CULTURE, ENVIRONMENT AND DEVELOPMENT (SAME AS ANT 736)	(3)
SOC 748	MASTER'S THESIS RESEARCH	(0)
SOC 749	DISSERTATION RESEARCH	(0)
SOC 750	SPECIAL TOPICS IN SOCIAL CHANGE AND DEVELOPMENT	(1-3)
SOC 751	SEMINAR IN SOCIOLOGICAL THEORY	(3)
SOC 752	SEMINAR IN FAMILY THEORY CONSTRUCTION (SAME AS FAM 752)	(3)
SOC 766	CONCEPTS IN MEDICAL SOCIOLOGY (SAME AS BSC 766)	(3)
SOC 767	DISSERTATION RESIDENCY CREDIT	(2)
SOC 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
SOC 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
SOC 772	TOPICAL SEMINAR IN SOCIOLOGY	(3)
SOC 773	TOPICAL SEMINAR	(3)
SOC 776	SEMINAR IN DEPENDENCY BEHAVIOR (SAME AS BSC/ANT/PSY 776)	(3)
SOC 777	SEMINAR IN MENTAL ILLNESS CONCEPTS, RESEARCH AND POLICY (SAME AS BSC 777)	(3)
SOC 779	TOPICAL SEMINAR IN SOCIAL PSYCHOLOGY (SAME AS PSY 779)	(3)
SOC 780	SPECIAL PROBLEMS IN SOCIOLOGY	(1-6)
SOC 785	COMPARATIVE HEALTH CARE SYSTEMS (SAME AS BSC 785)	(3)
SOC 790	RESEARCH IN RURAL SOCIOLOGY	(1-3)
SOC 792	RESEARCH IN SOCIOLOGY	(1-6)
SOC 797	COMMUNITY DEVELOPMENT PRACTICUM	(1-9)

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## SOIL SCIENCE

The Soil Science graduate program offers graduate work leading to the Doctor of Philosophy degree with areas of specialization in soil chemistry, soil fertility and plant nutrition, soil genesis and classification, soil management and conservation, soil microbiology and biochemistry, soil mineralogy, soil and water environmental quality, and soil physics. The Soil

Science faculty also participates in the interdepartmental Plant and Soil Science graduate program, which offers programs of study leading to the Master of Science degree.

Work leading to advanced degrees must conform to the general rules and regulations of the Graduate School.

Preparation for graduate work in soil science should include course work in soil science, biology, chemistry, mathematics, physics, and statistics. Students will be expected to make up deficiencies in any of these areas early in their graduate study. Doctoral candidates have flexibility in designing course work to suit individual goals, but are expected to demonstrate competence in basic areas of soil science, familiarity with a minor area of study, and excellence in their chosen area of specialization as demonstrated by novel research leading to a published dissertation.

### GRADUATE COURSES

PLS 450G	BIOGEOCHEMISTRY (SAME AS NRC 450G)	(3)
PLS 455G	WETLAND DELINEATION (SAME AS NRC 455G)	(3)
PLS 456G	CONSTRUCTED WETLANDS (SAME AS NRG 456G)	(3)
PLS 468G	SOIL USE AND MANAGEMENT	(3)
PLS 470G	SOIL NUTRIENT MANAGEMENT	(3)
PLS 477G	LAND TREATMENT OF WASTE (SAME AS NRC 477G)	(3)
PLS 564	FOREST SOILS (SAME AS FOR 564)	(3)
PLS 566	SOIL MICROBIOLOGY	(3)
PLS 567	METHODS IN SOIL MICROBIOLOGY	(1)
PLS 573	SOIL MORPHOLOGY AND CLASSIFICATION	(3)
PLS 575	SOIL PHYSICS	(3)
PLS 576	LABORATORY IN SOIL PHYSICS	(1)
PLS 597	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTOPIC REQUIRED)	(1-3)
PLS 599	SPECIAL PROBLEMS IN PLANT AND SOILS SCIENCE	(1-4)
PLS 650	SOIL-PLANT RELATIONSHIPS	(3)
PLS 660	ADVANCED SOIL BIOLOGY	(2)
PLS 671	SOIL CHEMISTRY	(4)
PLS 697	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTITLE REQUIRED)	(1-3)
PLS 712	ADVANCED SOIL FERTILITY	(4)
PLS 721	PEDOGENIC PROCESSES	(4)
PLS 741	CLAY MINERALOGY (SAME AS GLY 741)	(3)
PLS 749	DISSERTATION RESEARCH	(0)

PLS 767	DISSERTATION RESIDENCY CREDIT	(2)
PLS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PLS 772	PLANT AND SOIL SCIENCE SEMINAR	(1)
PLS 799	RESEARCH IN PLANT AND SOIL SCIENCE	(1-4)

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## SPECIAL EDUCATION

Students may enroll for either degree and/or certification graduate programs in Department of Special Education and Rehabilitation Counseling. Information about programs in Rehabilitation Counseling and Early Childhood Special Education can be found elsewhere in this document under those headings. Programs not leading to a degree are designed primarily for those who are seeking Kentucky Provisional, Rank II or Rank I Teacher Certification at the graduate level in the following certification areas:

1. Learning and Behavior Disorders
2. Moderate/Severe Disabilities
3. Director of Special Education

Advanced programs of study are available in the following areas:

1. Learning and Behavior Disorders
2. Moderate/Severe Disabilities

The degree programs that are offered lead to the Master of Science in Education, Specialist in Education and Doctor of Philosophy degrees. Within the framework of College and University requirements, all advanced graduate degree programs are individually planned. This flexibility makes it possible to structure an appropriate program for each student, based upon previous background and career aspirations. Following are brief descriptions of the various graduate degree programs.

Minimum hours for the Master of Science in Education Degree are distributed as follows:

Department of Special Education and Support Areas in the College	(30)
Coursework Outside Program Area of Emphasis	(6)
<b>TOTAL</b>	<b>(36)</b>

It should be noted that these are minimum requirements. Program deficiencies may result in programs of study that exceed the minimum. **The Director of Graduate Studies should be contacted to obtain the specific number of courses required for each program of study.**

At least half of the required semester hours must be earned in courses at the 600-700 level (excluding practica, independent study, and theses hours). All students also are required to take

the following courses: Survey of Special Education, Applied Behavioral Analysis, Methods for Teaching Students with Disabilities, Single Subject Research Design, an advanced curriculum course, an advanced practicum, and 12 hours in their respective program areas. In addition, a thesis is required of all Master of Science in Education students in the Department of Special Education.

Students entering without a teaching certificate and who plan to receive an M.S. degree and teach in a Special Education certificate area must meet certificate program deficiencies, including certification requirements, as outlined by their advisor, in addition to completing the degree requirements listed above. Depending on their program of studies, students may obtain Rank II or Rank I certification concurrently with their master's degrees.

General requirements for the Specialist in Education (Ed.S.) degree have been described in a previous section of this Bulletin. Ed.S. programs are individually planned for in-depth study in an area of special education and require a research project and written product for completion.

The Doctor of Philosophy (Ph.D.) program is designed to prepare leadership personnel for the field of special education. Primary emphasis is placed upon training persons for positions in higher education personnel preparation, technology applications in special education programs, distance education, and research in special education. Within the context of personnel preparation in special education, various program areas of emphasis can be planned.

### **Admission Requirements**

Department standards for admission to graduate work in special education are similar to those of the Graduate School. However, there are some additional requirements. All potential graduate students within the department must complete a departmental application. This application requires each student to submit (a) transcripts from each previously attended institution of higher education to the department, (b) letters of recommendation, and (c) an outline of professional goals and objectives. In addition to the above, students applying for admission to the department's doctoral program must (a) submit a sample of professional writing, (b) submit an autobiographical statement, and (c) interview with the departmental faculty. These interviews generally occur on campus but can be arranged through phone or electronic means if necessary. It should be noted that applicants who are pursuing a degree with a teaching certificate must be admitted to the College of Education's Teacher Education Program. Requirements for admission to this program vary by discipline. Potential students should contact the department's Director of Graduate Studies for additional information.

Financial assistance is available, on a competitive basis, to graduate students in special education. Students may apply for graduate assistantships at all levels of graduate study. Scholarships and assistantships are awarded from funds that may be granted to the Department by the Office of Special Education and Rehabilitation Services, U.S. Department of Education as well as other funding sources.



## GRADUATE COURSES

EDS 511	SPEECH-LANGUAGE DEVELOPMENT AND DISORDERS FOR THE SEVERELY HANDICAPPED (SAME AS CD 511)	(3)
EDS 513	LEGAL ISSUES IN SPECIAL EDUCATION	(3)
EDS 514	INSTRUCTIONAL TECHNOLOGY IN SPECIAL EDUCATION	(3)
EDS 516	PRINCIPLES OF BEHAVIOR MANAGEMENT AND INSTRUCTION	(3)
EDS 517	ASSISTIVE TECHNOLOGY IN SPECIAL EDUCATION	(3)
EDS 522	CHILDREN AND FAMILIES	(3)
EDS 528	EDUCATIONAL ASSESSMENT FOR STUDENTS WITH MILD DISABILITIES	(3)
EDS 529	EDUCATIONAL PROGRAMMING FOR STUDENTS WITH MILD DISABILITIES	(3)
EDS 530	MODERATE AND SEVERE DISABILITIES	(3)
EDS 546	TRANSDISCIPLINARY SERVICES FOR STUDENTS WITH MULTIPLE DISABILITIES	(3)
EDS 547	COLLABORATION AND INCLUSION IN SCHOOL AND COMMUNITY SETTINGS	(3)
EDS 548	CURRICULUM DESIGN FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES	(3)
EDS 549	METHODS FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES	(4)
EDS 550	STUDENT TEACHING: MODERATE AND SEVERE DISABILITIES	(6-12)
EDS 558	ISSUES IN SPECIAL EDUCATION (SAME AS RC 558)	(1-9)
EDS 570	EMOTIONAL AND BEHAVIORAL DISABILITIES	(3)
EDS 589	FIELD EXPERIENCES: MILD DISABILITIES	(3)
EDS 600	SURVEY OF SPECIAL EDUCATION	(3)
EDS 601	APPLIED BEHAVIORAL ANALYSIS	(3)
EDS 602	ADMINISTRATION AND PROGRAMS IN SPECIAL EDUCATION	(3)
EDS 603	BEHAVIORAL CONSULTATION IN THE SCHOOLS	(3)
EDS 610	ADVANCED EDUCATIONAL ASSESSMENT FOR STUDENTS WITH MILD DISABILITIES	(3)
EDS 611	ADVANCED EDUCATIONAL PROGRAMMING FOR STUDENTS WITH LEARNING DISABILITIES	(3)
EDS 612	ADVANCED PRACTICUM: SPECIAL EDUCATION	(1-6)
EDS 613	LEGAL AND PARENTAL ISSUES IN SCHOOL ADMINISTRATION	(3)
EDS 630	METHODS FOR TEACHING STUDENTS WITH DISABILITIES	(3)
EDS 631	PROGRAMMING FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES	(3)
EDS 632	ADVANCED PRACTICUM: MODERATE AND SEVERE DISABILITIES	(1-12)
EDS 633	SINGLE SUBJECT RESEARCH DESIGN	(3)
EDS 640	ASSISTIVE TEACHING	(3)
EDS 641	ASSISTIVE TECHNOLOGY ASSESSMENT	(3)
EDS 647	SEMINAR IN SPECIAL EDUCATION TECHNOLOGY (VARIABLE TOPIC)	(1-3)
EDS 648	COORDINATING SPECIAL EDUCATION TECHNOLOGY PROGRAMS	(3)
EDS 649	ADVANCED PRACTICUM: SPECIAL EDUCATION TECHNOLOGY	(1-9)

EDS 651	DISTANCE EDUCATION: DELIVERY	(3)
EDS 652	DISTANCE EDUCATION: MANAGEMENT AND SUPPORT	(3)
EDS 701	SEMINAR FOR SPECIAL EDUCATION LEADERSHIP PERSONNEL	(1)
EDS 710	SEMINAR IN MILD DISABILITIES	(3)
EDS 711	SEMINAR IN MODERATE AND SEVERE DISABILITIES	(3)
EDS 712	SEMINAR IN SPECIAL EDUCATION PROFESSIONAL SERVICES	(3)
EDS 720	SEMINAR IN SPECIAL EDUCATION TEACHER PREPARATION	(3)
EDS 721	PRACTICUM IN SPECIAL EDUCATION PERSONNEL PREPARATION	(1-9)
EDS 730	SEMINAR IN SPECIAL EDUCATION ADMINISTRATION	(3)
EDS 731	ADVANCED PRACTICUM: SPECIAL EDUCATION ADMINISTRATION	(1-9)
EDS 748	MASTER'S THESIS RESEARCH	(0)
EDS 749	DISSERTATION RESEARCH	(0)
EDS 767	DISSERTATION RESIDENCY CREDIT	(2)
EDS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
EDS 769	RESIDENCE CREDIT FOR THE DOCTORAL DEGREE	(0-12)
EDS 779	SEMINAR IN SPECIAL EDUCATION (VARIABLE TOPIC)	(1-3)
EDS 789	INDEPENDENT STUDY IN SPECIAL EDUCATION	(1-6)

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## STATISTICS

The Department of Statistics offers programs of study leading to the degrees of Master of Science (Plan A or B available), and Doctor of Philosophy. The M.S. degree is professionally oriented for the student who plans a career in government, business or industry. The Ph.D. program offers a broad training in both statistical theory and methods while affording options to suit the student's interests. The statistics Ph.D. is well-suited for academic, business, government and industrial positions. In addition to formal course work and research training, the advanced student has opportunities to gain valuable practical experience by participating in consulting activities under faculty supervision.

Course work is available in areas associated with statistics such as biological modelling, computer science, control theory, econometrics, mathematics and operations research. MA 471G (or equivalent) is a prerequisite for the Ph.D. core curriculum.

The University of Kentucky is represented on the Committee on Statistics of the Southern Regional Education Board.

### **Admission Requirements**

Students with an undergraduate major in any of the mathematical, physical, biological, social or applied sciences are encouraged to apply.

The minimum GRE and GPA admissions requirements for the M.S. and Ph.D. programs in Statistics are the same as for the Graduate School, however, the number of admissions is limited

and admissions decisions are made on a competitive basis. All M.S. applicants should have at least three semesters of calculus and a course in linear algebra. In addition, all Ph.D. applicants must have the equivalent of MA 471G. Students wishing to apply for teaching assistantships and/or fellowships must have three letters of recommendation sent to: Director of Admissions, Department of Statistics, University of Kentucky, 817 Patterson Office Tower, Lexington, KY 40506-0027. Applicants wishing to be admitted directly to the Ph.D. program must have an M.S. in Statistics and the permission of the Director of Admissions.

### **Master's Program**

The Department offers the degree of Master of Science with (Plan A) or without (Plan B) a thesis. The core curriculum expected of all master's degree students consists of the following courses:

STA 503	Introduction to Statistical Methods	(4)
STA 531	Theory of Probability	(3)
STA 532	Theory of Statistical Inference I	(3)
STA 601	Theory of Statistical Inference II	(3)
STA 603	Introduction to Linear Models and Experimental Design	(4)
STA 624	Applied Stochastic Processes	(3)

Programs of study for Plan B require a total of at least 35 semester hours, which should include the equivalent of the six courses in the core curriculum and at least 15 additional credit hours. Of these 15 credit hours, at least 6 should be from the following list of statistics courses:

STA 612	Sequential Analysis	(3)
STA 616	Design And Analysis of Sample Surveys	(3)
STA 621	Nonparametric Inference	(3)
STA 643	Advanced Experimental Design	(3)
STA 644	Advanced Linear and Nonlinear Models	(3)
STA 661	Multivariate Analysis I	(3)
STA 665	Analysis of Categorical Data	(3)

Programs of study for Plan A (with thesis) require a total of at least 29 semester hours, which should include the core curriculum and at least two courses from the previous list. Candidates should also satisfy the requirements that at least 18 hours for Plan B and 15 hours of non-thesis courses for Plan A must be at the 600 level or higher. The free electives courses can be selected from a variety of courses both within and outside the Department of Statistics. Before the end of the second semester, the M.S. candidate must present a proposed plan of study for approval by the Director of Graduate Studies. There are no formal minor requirements.

All master's candidates are required to take a departmental written examination on the core curriculum. These exams are normally administered in late May or early June.

## Doctoral Program

The doctorate is a research degree that demonstrates independent and comprehensive scholarship and is granted on the basis of broad statistical competence and the exhibition of creative ability. There are thus two components to the doctoral program: 1) a comprehensive program of probability, statistics and related courses, and 2) in-depth research in a particular area and the preparation, under faculty supervision, of a dissertation.

Students in the doctoral program in Statistics will choose one of two possible tracks:

### MATHEMATICAL

#### STATISTICS/PROBABILITY

STA 701 – ADVANCED STATISTICAL INFERENCE I

STA 703 – ADVANCED PROBABILITY

STA 705 – ADVANCED COMPUTATIONAL INFERENCE

STA 707 – ADVANCED DATA ANALYSIS

STA 702 – ADVANCED STATISTICAL INFERENCE II

### BIOSTATISTICS

STA 701 – ADVANCED STATISTICAL INFERENCE I

STA 703 – ADVANCED PROBABILITY

STA 705 – ADVANCED

COMPUTATIONAL INFERENCE

STA 707 – ADVANCED DATA ANALYSIS

STA 709 – ADVANCED SURVIVAL ANALYSIS

All students must take an additional six courses chosen by the student and approved by the DGS. Three of these will complement and supplement the student's specialization area and research interests. STA 715 (Reading courses) may not be used to satisfy this requirement.

The new course schedule can be summarized as follows:

FALL, YEAR ONE	STA 503	STA 531	STA 532
SPRING, YEAR ONE	STA 601	STA 603	STA 624
FALL, YEAR TWO	STA 643	STA 700	ELECTIVE
SPRING, YEAR TWO	STA 701	STA 703	ELECTIVE
FALL, YEAR THREE	STA 707	STA 705	ELECTIVE
SPRING, YEAR THREE	STA 702/709	ELECTIVE	ELECTIVE
FALL, YEAR FOUR	ELECTIVE	RESIDENCY	RESIDENCY
SPRING, YEAR FOUR	ELECTIVE	RESIDENCY	RESIDENCY

Students must successfully complete a common written exam over STA 701 and STA 703 plus respective prerequisites. This exam will normally be offered in June and students will usually sit for the written examination at the end of the second year of the program.

After completion of course requirements and successful completion of the written exam, Students must also successfully complete an oral qualifying exam administered by their committee. A significant part of this exam is to be a dissertation proposal.

Areas of current research interest can be found by going to the Department of Statistics faculty web page <[www.ms.uky.edu/~statinfo/faculty.html](http://www.ms.uky.edu/~statinfo/faculty.html)>.

All students, master's and doctoral, will be required to take part in an internship program. This will usually consist of teaching (three or six semester hours) or an equivalent amount of work in the Statistics Consulting Laboratory or the Biostatistics Consulting Unit.

### GRADUATE COURSES

STA 417G	PRINCIPLES OF OPERATIONS RESEARCH II (SAME AS MA 417G)	(3)
STA 422G	BASIC STATISTICAL THEORY II	(4)
STA 503	INTRODUCTION TO STATISTICAL METHODS	(4)
STA 515	MATHEMATICAL PROGRAMMING AND EXTENSIONS (SAME AS MA 515)	(3)
STA 524	PROBABILITY (SAME AS OR 524)	(3)
STA 525	INTRODUCTORY STATISTICAL INFERENCE (SAME AS OR 525)	(3)
STA 531	THEORY OF PROBABILITY	(3)
STA 532	THEORY OF STATISTICAL INFERENCE I	(3)
STA 570	BASIC STATISTICAL ANALYSIS	(4)
STA 580	BIostatISTICS I	(3)
STA 600	COMMUNICATING IN STATISTICS	(0)
STA 601	THEORY OF STATISTICAL INFERENCE II	(3)
STA 603	INTRODUCTION TO LINEAR MODELS AND EXPERIMENTAL DESIGN	(4)
STA 612	SEQUENTIAL ANALYSIS	(3)
STA 616	DESIGN AND ANALYSIS OF SAMPLE SURVEYS	(3)
STA 619	PROBLEMS SEMINAR IN OPERATIONS RESEARCH (SAME AS EE 619/MA 613)	(3)
STA 621	NONPARAMETRIC INFERENCE	(3)
STA 624	APPLIED STOCHASTIC PROCESSES (SAME AS OR 624)	(3)
STA 626	TIME SERIES ANALYSIS (SAME AS ECO 790)	(3)
STA 630	BAYESIAN INFERENCE	(3)
STA 635	SURVIVABILITY AND LIFE TESTING	(3)
STA 643	ADVANCED EXPERIMENTAL DESIGN	(3)
STA 644	ADVANCED LINEAR AND NONLINEAR MODELS	(3)
STA 653	CLINICAL TRIALS	(3)
STA 661	MULTIVARIATE ANALYSIS I	(3)
STA 662	RESAMPLING AND RELATED METHODS	(3)

STA 665	ANALYSIS OF CATEGORICAL DATA	(3)
STA 671	REGRESSION AND CORRELATION	(2)
STA 672	DESIGN AND ANALYSIS OF EXPERIMENTS	(2)
STA 673	DISTRIBUTION-FREE STATISTICAL INFERENCE AND ANALYSIS OF CATEGORICAL DATA	(2)
STA 675	SURVEY SAMPLING	(2)
STA 676	QUANTITATIVE INHERITANCE IN PLANT POPULATIONS (SAME AS PLS 676)	(3)
STA 677	APPLIED MULTIVARIATE METHODS	(3)
STA 679	DESIGN AND ANALYSIS OF EXPERIMENTS II	(3)
STA 690	SEMINAR IN STATISTICS	(1)
STA 691	SPECIAL TOPICS IN THE PLANNING AND ANALYSIS OF EXPERIMENTS (SUBTITLE REQUIRED)	(1-3)
STA 692	STATISTICAL CONSULTING	(3)
STA 695	SPECIAL TOPICS IN STATISTICAL THEORY (SUBTITLE REQUIRED)	(1-3)
STA 700	FOUNDATIONS OF PROBABILITY AND INFERENCE	(3)
STA 701	ADVANCED STATISTICAL INFERENCE I	(3)
STA 702	ADVANCED STATISTICAL INFERENCE II	(3)
STA 703	ADVANCED PROBABILITY	(3)
STA 704	ADVANCED PROBABILITY - STOCHASTIC PROCESSES	(3)
STA 705	ADVANCED COMPUTATIONAL INFERENCE	(3)
STA 707	ADVANCED DATA ANALYSIS	(3)
STA 709	ADVANCED SURVIVAL ANALYSIS	(3)
STA 715	READINGS IN STATISTICS AND PROBABILITY (SUBTITLE REQUIRED)	(1-6)
STA 748	MASTER'S THESIS RESEARCH	(0)
STA 749	DISSERTATION RESEARCH	(0)
STA 767	DISSERTATION RESIDENCY CREDIT	(2)
STA 768	RESIDENCE CREDIT FOR MASTER'S DEGREE	(1-6)
STA 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)

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## TEACHING WORLD LANGUAGES

The College of Arts and Sciences (Department of Modern and Classical Languages, Literatures and Cultures, and the Department of Hispanic Studies) and the College of Education (Curriculum and Instruction) offer a graduate program leading to the MATWL (Master of Arts in Teaching World Languages).

### **Admission Requirements**

Applicants for admission must be concurrently approved by the Graduate School and the Teacher Education Program (TEP). They are then reviewed by the Director the MATWL Program in consultation with the MATWL Program Faculty Committee.

Candidates seeking admission to the MATWL program must demonstrate proficiency in the target language with a rating of at least Intermediate High on the ACTFL Oral Proficiency Interview. Candidates must also document a course of study that reflects mastery of language structure, a broad range of modern and classical literature, and the history of the relevant culture(s). Candidates in Latin must document a course of study that reflects mastery of language structure, knowledge of the literature, history, mythology, and culture of ancient Rome and Greece, and proficiency in oral reading. Documentation of such a course of study typically consists of an undergraduate degree in a world language that includes a major in the appropriate language and/or other coursework sufficient to fulfill the MATWL admission requirements. Although each language area has its unique requirements, candidates typically have 48 to 66 credit hours in their academic teaching specialties.

An applicant may be provisionally admitted without meeting all of the minimum standards if other factors, including letters of recommendation, the writing samples (English and L2), and the oral interviews (English and L2), indicate an ability to perform satisfactorily in graduate-level work. Presentation of a minimum Graduate Record Examination score (GRE) and a minimum Grade Point Average (GPA) does not, however, automatically guarantee admission to the program, as the final decision depends on an evaluation of all materials submitted and the Program Faculty's assessment of the applicant's potential for successful graduate study.

### **Other Specific Requirements**

In addition to assuring that the applicant has met the admission requirements of the Graduate School, the director and the program faculty Committee carefully evaluates the following material:

- a minimum 2.75 overall undergraduate GPA, a minimum 3.0 GPA in the language-specific field, and a minimum 3.0 GPA in any previous graduate work;
- three letters of recommendation;
- three writing samples with at least one in the target language;
- an interview by the appropriate program faculty;
- demonstrated basic skills (passing score on PRAXIS I exam);
- a score of at least 400 in each of the GRE areas, and a rating of 4 in the writing test
- 100 hours of documented experience with children 6 to 13 years of age and 14- to 18-year old adolescents as well as community and cross-cultural experience;
- a statement of moral/ethical principles.

Graduate school applications must be returned to the graduate School Office, and the TEP application to Stacy DuBravac, Director of the MATWL Program, Department of Modern and Classical Languages, Literatures and Cultures, 1055 Patterson Office Tower, University of Kentucky, Lexington KY 40506-0027. For admission in the program, all materials should be received by the MATWL Director no later than **February 15**.

## **Degree Requirements**

Successful completion of the MATWL program includes:

- an ACTFL rating of Intermediate High or better in language area;
- Internship/Student Teaching in language content area reflecting exposure to diversity (MATWL degree candidates spend one semester interning in a program at the elementary or middle school level and in a program at the high school level);
- Internship/Student Teaching in a second language area if this is a student's goal (MATWL candidates may complete Student Teaching in two languages but have to add appropriate course work to their curriculum contract in this area as decided upon by their advisory committee);
- an additional ACTFL test for the second language area as necessary;
- successful completion of all course work;
- successful evaluation at mid- and end-point by the program faculty;
- successful performance on comprehensive exams;
- passing scores on PRINCIPLES OF LEARNING AND TEACHING and PRAXIS II tests;
- a complete Portfolio.

### **The Portfolio**

The Kentucky EPSB New Teacher Standards are the organizing principle of the Portfolio. Students begin the Portfolio in their first semester and continue it into their last semester. It documents a student's teaching philosophy and reflection on the practicum and field experiences. Because the portfolio is an integral part of the exit requirement, a student must produce a well-designed portfolio if s/he is to be recommended for certification. Portfolios are evaluated for:

- quality and quantity of experiences documented under each of the Standards;
- quality of thought and reflection as related to the underlying pedagogical issues;
- observance of requisite components;
- the style, structure and appearance of the portfolio as a professional document

For further information concerning the MATWL program, consult the Program Director.

## **GRADUATE COURSES**

### **COLLEGE OF EDUCATION**

EDC 610	CLASSROOM MANAGEMENT	(3)
EDP 500/600	EDUCATIONAL PSYCHOLOGY	(3)
EDS 600	SURVEY OF SPECIAL EDUCATION	(3)

### **COLLEGE OF ARTS AND SCIENCES (METHODS COURSES)**

MCL 510	METHODS OF TEACHING WORLD LANGUAGES K-8	(3)
MCL 610	METHODS OF TEACHING WORLD LANGUAGES 9-12	(3)
MCL 601	TEACHING INTERNSHIP	(3)



## COLLEGE OF ARTS AND SCIENCES (SAMPLE LANGUAGE CONTENT COURSES)

### CLASSICS (LATIN)

CLA 511	STUDIES IN ROMAN PHILOLOGY	(3)
CLA 512	STUDIES IN ROMAN PHILOLOGY	(3)
CLA 523	ROMAN REPUBLICAN POETRY (SUBTITLE REQUIRED)	(3)
CLA 527	ROMAN IMPERIAL POETRY (SUBTITLE REQUIRED)	(3)

### FRENCH

FR 510	LINGUISTIC STRUCTURE OF MODERN FRENCH	(3)
FR 606	LITERATURE OF THE MIDDLE AGES (SUBTITLE REQUIRED)	(3)
FR 609	SEVENTEENTH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 617	EIGHTEENTH-CENTURY STUDIES (SUBTITLE REQUIRED)	(3)
FR 630	FRENCH LANGUAGE, LITERATURE AND CULTURE OUTSIDE FRANCE (SUBTITLE REQUIRED)	(3)

### GERMAN

GER 507	ADVANCED GERMAN COMPOSITION AND CONVERSATION	(3)
GER 520	SPECIAL TOPICS SEMINAR	(3)
GER 616	STUDIES IN GENRE	(3)
GER 630	STUDIES IN THE 20TH CENTURY	(3)
GER 650	MULTIDISCIPLINARY GERMAN STUDIES SEMINAR (SUBTITLE REQUIRED)	(3)
GER 721	SPECIAL TOPICS IN GERMAN LITERARY AND CULTURAL HISTORY	(3)

### HISPANIC STUDIES

SPA 600	HISTORY OF THE SPANISH LANGUAGE	(3)
SPA 601	STUDIES IN SPANISH PEDAGOGY (SUBTITLE REQUIRED)	(1)
SPA 602	STUDIES IN SPANISH LINGUISTICS (SUBTITLE REQUIRED)	(3)
SPA 608	SPECIAL TOPICS IN SPANISH LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 609	SPECIAL TOPICS IN LATIN AMERICAN AND U.S. HISPANIC LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
SPA 690	STUDIES IN SPANISH AND/OR LATIN AMERICAN FILM (SUBTITLE REQUIRED)	(3)

## THEATRE

The M.A. in Theatre at University of Kentucky affords a great deal of flexibility for the serious student of theatre studies. Focusing on an understanding of theory, dramatic literature and history of theatre, the M.A. is an excellent bridge to further study, either in a M.F.A. or Ph.D. program.

The M.A. in Theatre requires a minimum of 30 semester hours of graduate course work with a grade-point average (GPA) of 3.0 or higher. Students are encouraged to seek courses in an allied subject (a total of 6 credit hours outside the Department of Theatre). These courses must have the approval of the student's advisor or the Director of Graduate Studies for theatre. Students may choose Plan A (Thesis) or Plan B (comprehensive written and oral exams) to complete degree requirements.

### Admission Requirements

To enter this degree program, the candidate is required to have courses approximating those required for a B.A. degree in Theatre. Undergraduate courses may be required to fulfill deficiencies without graduate credit.

## GRADUATE COURSES

TA 516	PLAYWRITING	(3)
TA 530	THEATRE DIRECTING III	(3)
TA 600	ADVANCED STUDIES IN SCRIPT ANALYSIS	(3)
TA 610	CRITICAL THEORIES AND PERFORMANCE	(3)
TA 620	APPLIED RESEARCH IN THEATRE (SUBTITLE REQUIRED)	(3)
TA 625	ADVANCED STYLES OF ACTING	(3)
TA 630	DRAMATURGY	(3)
TA 650	TOPICS IN AMERICAN THEATRE (SUBTITLE REQUIRED)	(3)
TA 661	STUDIES IN TECHNICAL THEATRE: LIGHTING (SUBTITLE REQUIRED)	(3)
TA 690	PRODUCTION PRACTICUM	(1)
TA 691	PERFORMANCE PRACTICUM	(1)
TA 692	DIRECTING/DRAMATURGY PRACTICE	(1-3)
TA 725	SPECIAL PROBLEMS IN ACTING (SUBTITLE REQUIRED)	(3)
TA 730	ADVANCED STUDIES IN DIRECTING (SUBTITLE REQUIRED)	(3)
TA 739	INTERNSHIP IN THEATRE	(3-6)
TA 748	MASTER'S THESIS RESEARCH	(0)
TA 749	DISSERTATION RESEARCH	(0)
TA 760	THEATRE PRACTICE: EFFECTIVE ARTISTIC COMMUNICATION	(3)

TA 767	DISSERTATION RESIDENCE CREDIT	(2)
TA 768	RES CR MASTER'S DEGREE	(1-6)
TA 769	RESIDENCE CREDIT	(0-12)
TA 770	SEMINAR IN THEATRE (SUBTITLE REQUIRED)	(3)
TA 771	ADVANCED STUDIES IN THEATRE HISTORY (SUBTITLE REQUIRED)	(3)
TA 780	INDEP STUDY IN THEATRE	(1-3)
TA 790	RESEARCH SYMPOSIUM	(0-1)

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## TOXICOLOGY

Toxicology is the science of poisons and their interactions with living systems. The Graduate Center for Toxicology (GCT), administratively housed within the University of Kentucky College of Medicine, trains individuals to use the biological, physical, and mathematical sciences in the study of the causes, mechanisms, and evaluation of toxic agents as well as the sources, identification and quantitation of toxicants. The center has eleven core as well as approximately 45 jointly-appointed faculty from departments and colleges across the campus, including Agriculture, Biochemistry, Biological Sciences, Chemistry, Medicine, Nutritional Sciences, Pathology, Pharmacy, Pharmacology, Radiation Medicine, and Veterinary Medicine. The program offers both Ph.D. and M.S. degrees in Toxicology. The Center's primary emphases are in the areas of Immunotoxicology, Molecular Mechanisms of Toxicology, and Neurotoxicology with areas of special study available to students on the effects of pesticides and other environmental toxins, nutritional toxicology, radiation toxicology, reproductive toxicology, equine toxicology, and behavioral toxicology. Areas of research strength shared by multiple faculty members are genetic and biochemical toxicology related to development and progression of cancer, neurodegeneration and cardiovascular disease.

The GCT has been in existence for more than twenty years and has awarded more than 100 graduate degrees. Many GCT graduates have gone on to take important positions in academia, government and business. The current student body consists of approximately 35 predoctoral students and over 10 postdoctoral students. Each year, 6-8 students are admitted to the graduate program. The Center provides financial support to students through National Institute of Environmental Health Sciences Pre-doctoral Fellowships, Research Challenge Trust Fund Fellowships and research assistantships. Outstanding candidates may also qualify for Academic Excellence Supplements which offer stipends over and above regular fellowship support.

The GCT is located in the Health Sciences Research Building in the Medical Center within easy walking distance of all major research units and colleges. Excellent research support facilities are available, including hybridoma, transgenic mouse, macromolecular structure, mass spectrometry, nuclear magnetic resonance, proteomics, DNA microarray, and electron microscopy facilities.

## Admission Requirements

Applicants should have strong undergraduate preparation in chemistry, biology and mathematics. Applicants should be graduates of accredited colleges with an appropriate baccalaureate degree (e.g., chemistry, biological sciences, etc.), hold a minimum grade point average of 3.00 on a 4.00 scale and have a combined Graduate Record Examination score (verbal and quantitative) of 1100 or more.

Those interested should direct inquiries to:

Graduate Center for Toxicology  
University of Kentucky College of Medicine  
306 Health Sciences Research Building  
Lexington, KY 40536-0305  
Telephone: (859) 257-3760  
Fax: 859 323.1059  
E-mail: [gctinfo@uky.edu](mailto:gctinfo@uky.edu)  
Website: [www.mc.uky.edu/toxicology/](http://www.mc.uky.edu/toxicology/)

## GRADUATE COURSES

TOX 508	RESEARCH METHODS IN TOXICOLOGY	(1-3)
TOX 509	BIOCHEMICAL AND ENVIRONMENTAL TOXICOLOGY	(3)
TOX 560	ENVIRONMENTAL PHYSIOLOGY AND TOXICOLOGY (SAME AS BIO 560)	(4)
TOX 600	ETHICS IN SCIENTIFIC RESEARCH (SAME AS VS 600)	(1-2)
TOX 645	NEUROTOXICOLOGY	(2)
TOX 649	ADVANCED MOLECULAR PHARMACOLOGY (SAME AS PHA/PHR 649)	(2)
TOX 650	CELLULAR AND HISTOTOXICOLOGY (SAME AS VS 650)	(2)
TOX 663	DRUG METABOLISM AND DISPOSITION (SAME AS PHA 663)	(2)
TOX 670	CHEMICAL CARCINOGENESIS (SAME AS PHA 670)	(3)
TOX 680	MOLECULAR MECHANISMS IN TOXICOLOGY	(5)
TOX 748	MASTER'S THESIS RESEARCH	(0)
TOX 767	DISSERTATION RESIDENCY CREDIT	(2)
TOX 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
TOX 770	TOXICOLOGY SEMINAR	(0-1)
TOX 780	SPECIAL PROBLEMS IN TOXICOLOGY	(2)
TOX 790	RESEARCH IN TOXICOLOGY	(1-12)

## VETERINARY SCIENCE

The Department of Veterinary Science offers a program of study and research leading to the Master of Science (Plan A only) and Doctor of Philosophy degrees. Possible areas of concentration are comparative pathology, immunogenetics, immunology, musculoskeletal diseases, parasitology, reproductive physiology, pharmacology and toxicology, microbiology and virology. Individuals electing pathology as their area of concentration must be graduate veterinarians. Individual programs of study must conform to the general rules and regulations of the Graduate School.

Students pursuing both the M.S. and Ph.D. degrees in Veterinary Science are required to take CHE 550 and CHE 552 (graduate-level biochemistry), or alternately, two semesters of CHE 580, and STA 570 (graduate-level, general statistics) or demonstrate that they have previously taken equivalent courses. A limited number of research assistantships and fellowships are available.

### Admission Requirements

- 1) This Department's deadline for applications for Fall semester enrollment is May 16 (but see #3 below). This includes receipt of supporting material (transcripts, GRE and TOEFL scores).
- 2) We request that three letters of recommendation, and a personal essay from the applicant describing his/her career goals and particular research interests, be sent directly to this Department's Director of Graduate Studies.
- 3) Review of applications begins in January and most acceptances are extended during February/March.
- 4) This Department does not conduct separate recruiting for Spring enrollment, and only in exceptional cases will an applicant be accepted for Spring enrollment. Applicants for Spring enrollment are advised to first contact this Department's Director of Graduate Studies during the normal application review period.

More information is available on the Web at [www.uky.edu/Agriculture/VetScience/Gluck1.htm](http://www.uky.edu/Agriculture/VetScience/Gluck1.htm)

### GRADUATE COURSES

VS 600	ETHICS IN SCIENTIFIC RESEARCH (SAME AS TOX 600)	(1-2)
VS 650	CELLULAR AND HISTOTOXICOLOGY (SAME AS TOX 650)	(2)
VS 690	PRACTICAL ANALYTICAL TOXICOLOGY (SAME AS TOX 690)	(3)
VS 748	MASTER'S THESIS RESEARCH	(0)
VS 749	DISSERTATION RESEARCH	(0)
VS 767	DISSERTATION RESIDENCY CREDIT	(2)
VS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
VS 769	RESIDENCE CREDIT FOR DOCTOR'S DEGREE	(0-12)

VS 770	VETERINARY SCIENCE SEMINAR	(1)
VS 781	CORRELATIVE PATHOLOGY	(1-3)
VS 782	ADVANCED VIROLOGY (SAME AS BIO 782)	(3)
VS 785	ADVANCED VETERINARY PARASITOLOGY	(3)
VS 786	ADVANCED VETERINARY PATHOLOGY	(3)
VS 791	TECHNIQUES IN VETERINARY MICROBIOLOGY	(1-9)
VS 792	TECHNIQUES IN GENERAL VETERINARY PATHOLOGY	(1-9)

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## GRADUATE CERTIFICATES

A Graduate Certificate is an integrated group of courses that is designed to have a very clear and focused academic topic or competency as its subject area. Often, a Graduate Certificate may meet a clearly defined educational need of a constituency group, such as continuing education or accreditation for a particular profession; respond to a specific state mandate; or provide a basic competency in an emerging, usually interdisciplinary, area. A Certificate is not a graduate degree program (it is typically between 9 and 15 credits), but it does provide the student a formal credential of the mastery of a clearly defined academic topic.

Graduate Certificates are becoming an increasingly important component of the total range of graduate educational opportunities offered by a modern, comprehensive research university. Often, Certificates are pursued by students who are also pursuing a graduate degree in a traditional discipline, or who may already have earned one or more graduate degrees. Programs or groups of faculty who wish to establish a new Graduate Certificate at the University of Kentucky should consult the Guidelines for Graduate Certificate Curricula via the Graduate School home page at [www.gradschool.uky.edu](http://www.gradschool.uky.edu). The University of Kentucky currently offers Graduate Certificates in the following areas:

Anatomical Sciences	Applied Statistics
Clinical Research Skills	Cognitive Science
College Teaching and Learning	Computational Fluid Dynamics
Developmental Disabilities	Environmental Systems
Gender and Women's Studies	Gerontology
Health Communication	Human-Technology Interaction
Informatics	Latin Studies
Medical Behavioral Science	Middle and Secondary School Reading
Music Theory Pedagogy	Nursing Studies
Orff Schulwerk	Physiology Teaching
Reproductive Laboratory Science	School Social Work
Sensing Technologies	Social Theory

Although formal admission to a specific Graduate Certificate is handled by the Director of the Certificate, a student seeking to pursue a Graduate Certificate must also apply to and be enrolled as a graduate student at the University of Kentucky. For most Certificates, the student may be enrolled either as a degree-seeking student in an academic program or in post-baccalaureate (non-degree) status. More information on admission requirements and specific plans of study for a particular Graduate Certificate can be obtained via the contacts below.

*Note that admission to or completion of a Graduate Certificate does not guarantee subsequent admission to a graduate degree program; that is a separate process, and different criteria prevail.*

## ANATOMICAL SCIENCES INSTRUCTION

The graduate certificate in anatomical sciences instruction will provide a coherent integrated approach to helping graduate students, postdoctoral scholars, residents and others develop and document the skills needed in order to effectively teach the anatomical sciences. This 12 credit-hour Certificate, including a required 3 credit-hour supervised practicum experience, provides basic competency in graduate-level anatomical sciences instruction and provides participants with documentation of their abilities. The Certificate is accessible to participants from a wide range of disciplines and backgrounds and will provide practical, hands-on anatomy course work and instructional mentoring. The Certificate will produce graduates who are highly competitive in the job market, as the numbers of individuals able to provide graduate-level instruction in the anatomical sciences is well above crisis level.

Participants who are pursuing graduate degrees may apply for admission to the certificate early in the course of graduate studies. For further information contact:

Jennifer Brueckner, Ph.D.  
Director of Graduate Studies  
Department of Anatomy and Neurobiology  
University of Kentucky, College of Medicine  
[jbreuck@uky.edu](mailto:jbreuck@uky.edu)

## APPLIED STATISTICS

Statistical data analysis is ubiquitous in all areas of science, engineering, medicine, agriculture and education. Research and professional success in these disciplines often depends on using the latest advances in applied statistics. Multidisciplinary research projects involving a substantial component of applied statistics are becoming a frequent venue of expanding the borders of knowledge.

This certificate will train graduate and professional degree students in the use of applied statistics in their own field. The students will be able to use this enrichment to become more productive professionals, to further research in their own areas and to engage in multidisciplinary research relying on applied statistical techniques. For more information contact:

Dr. William S. Griffith  
Director of Graduate Studies  
Department of Statistics  
[griffith@ms.uky.edu](mailto:griffith@ms.uky.edu)



## CLINICAL RESEARCH SKILLS

The Certificate curriculum is intended to offer participants the necessary course work, informational sessions, and mentored research opportunities necessary to provide them with a strong background in the knowledge and skills necessary to succeed in clinical research. The knowledge and skills obtained should improve participants' ability to attract research funding and to publish the results of that work in appropriate peer-reviewed journals. The Kentucky School of Public Health will be the organizational unit responsible for the Certificate. The hours earned by students toward the Certificate may be used by students who wish to continue their study and earn an additional degree, such as the Master's degree in Public Health (MPH).

For more information, contact:

Dr. Steven I. Shedlofsky  
Gastroenterology  
MN 655 Medical Sciences Building  
University of Kentucky  
Lexington, KY 40506- 0298  
[shedlof@email.uky.edu](mailto:shedlof@email.uky.edu)  
Fax: 859.257.8860

## COGNITIVE SCIENCE

The Cognitive Science Certificate provides students with the opportunity to study the information-processing aspects of the mind. Participating faculty come from various departments in the College of Arts and Sciences (Anthropology, Biology, Linguistics, Philosophy, Psychology, and Statistics), as well as from the College of Engineering (Computer Science) and the College of Medicine (Anatomy, Behavioral Science, and Neurology). The Graduate Certificate is open to all graduate students at the University of Kentucky.

For more information, contact:

Dr. Sanford Goldberg  
1427 Patterson Office Tower  
Department of Philosophy  
University of Kentucky  
Lexington, KY 40506-0027  
[scgold@uky.edu](mailto:scgold@uky.edu)  
Tel: 859.257.6540  
Fax: 859.257.3286

## COLLEGE TEACHING AND LEARNING

The Graduate Certificate in College Teaching and Learning provides a coherent, integrated approach to helping graduate students, postdoctoral scholars, current faculty, and others

develop and document the skills needed as part of conscientious preparation for the full range of faculty responsibilities at a range of institutions of higher education.

For more information, contact:

Dr. Morris Grubbs  
The Graduate School  
103 Gillis Building  
Lexington, KY 40506-0033  
859.257.9725  
[magrub2@uky.edu](mailto:magrub2@uky.edu)  
[www.gradschool.uky.edu/CTLCertificate/](http://www.gradschool.uky.edu/CTLCertificate/)

### **COMPUTATIONAL FLUID DYNAMICS**

The Graduate Certificate in Computational Fluid Dynamics (CFD) is available, in principle, to all graduate students in Engineering and the Mathematical, Physical and Biological Sciences. CFD is a generally recognized sub-discipline of fluid dynamics, complementing use of theory and experimentation in the analysis of fluid behavior from sub-micro scales to intergalactic cosmological distances. CFD is highly interdisciplinary and areas of current interest include biological flows (e.g. air in respiratory systems and blood in circulatory systems of animals), flows in porous materials (e.g. remediation of contaminated ground water, extraction of oil from marginal deposits) and combusting flows (e.g. for higher energy conversion efficiencies and less pollutant production). Thus, competency in the use of CFD is becoming critical to the advance of science and technology in the 21<sup>st</sup> century and it has become an essential engineering tool in industrial environments ranging from aerospace to food preparation and pharmaceuticals.

For more information contact:

Dr. J. M. McDonough  
Departments of Mechanical Engineering and Mathematics  
267 Ralph G. Anderson Building  
University of Kentucky  
Lexington, KY 40506-0503  
[jmmcd@uky.edu](mailto:jmmcd@uky.edu)

### **DEVELOPMENTAL DISABILITIES**

The Graduate Certificate in Developmental Disabilities prepares professionals from a broad range of disciplines to play a leadership role in providing services and supports for people with developmental disabilities and their families. An emphasis is placed on developing skills in the field of disability research. The course work emphasizes a life span and interdisciplinary perspective with an emphasis on promoting self-determination, community integration and inclusion. In addition to a broad, interdisciplinary perspective, students acquire a basic

foundation in a number of specific, topical areas such as specialized health care services and financing, inclusive education, behavioral supports, employment and community living options, advocacy, legislation, assistive technology, organizational development and theory, group facilitation, and research proposal development. All courses are taught by an interdisciplinary faculty. Students have the opportunity to participate in a practicum and work directly with individuals with developmental disabilities and their families. Students also complete a research project under faculty supervision. Three didactic courses (HDI 600, 602 and 604) and one practicum course (HDI 603) are required for the certificate. In addition to the required courses, two or three hours of elective course work is also required; either HDI 601, HDI 605 or one elective from outside HDI courses and those courses required in the student's degree program. For more information, contact:

Dr. Barney Fleming  
Interdisciplinary Human Development Institute  
121 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
Tel: 859.257.7225  
[bflemin@uky.edu](mailto:bflemin@uky.edu)  
[www.ihdi.uky.edu/ddcertificate/](http://www.ihdi.uky.edu/ddcertificate/)

## ENVIRONMENTAL SYSTEMS

The Environmental Systems Certificate is administered by a committee of faculty consisting of representatives from the Colleges of Agriculture, Arts and Sciences, Engineering, Law, Medicine; the Gatton College of Business and Economics; the Graduate School; the Kentucky Environmental Protection Cabinet; and the private sector. Each Environmental Systems course is coordinated by a faculty member, and course instructors are representatives of their respective disciplines.

The Environmental Systems Certificate consists of a core of three survey courses and a seminar course. Students are expected to take two Environmental Systems courses and the seminar twice. The content of the courses and seminars is the responsibility of the coordinator. Individuals desiring a certificate must submit an application for admission to the Environmental Systems Committee along with an outline of their graduate degree program or their experience. For more information, contact:

Dr. Gail Brion  
367 Oliver Raymond Building  
University of Kentucky  
Lexington, KY 40506-0281  
Tel: 859.257.4467  
[gbrion@engr.uky.edu](mailto:gbrion@engr.uky.edu)

## GENDER AND WOMENS STUDIES

The Graduate Certificate in Women's Studies is intended to provide students with a coherent, interdisciplinary grounding in current gender and women's studies scholarship and to create an intellectual community among faculty and graduate students who share scholarly interests in gender and women's studies. The Graduate Certificate in Women's Studies may be taken to complement a student's disciplinary program, or it may be taken independent of the pursuit of any disciplinary graduate degree. For full information on this curriculum, please see our Web page: [www.uky.edu/ArtsSciences/WomenStudies/Certificate.html](http://www.uky.edu/ArtsSciences/WomenStudies/Certificate.html) . For more information, contact:

Dr. Joan Callahan  
112 Breckinridge Hall  
University of Kentucky  
Lexington, KY 40506-0056  
Tel; 859.257.1388  
[womenst@uky.edu](mailto:womenst@uky.edu)  
[www.uky.edu/ArtsSciences/WomenStudies/Certificate.htm](http://www.uky.edu/ArtsSciences/WomenStudies/Certificate.htm)

## GERONTOLOGY

The Graduate Certificate in Gerontology is an interdisciplinary curriculum offered by the Sanders-Brown Center on Aging. The Certificate is a part of Sanders-Brown's complete range of research and educational activities that prepare both graduate students and practicing professionals from many disciplines to assume key roles in improving the quality of life for older adults and furthering our understanding of the aging process. Its interdisciplinary focus makes it possible for students to tailor their course work to support their own fields of interest. For more information, contact:

Dr. Michael Smith  
100 Sanders-Brown Building  
800 S. Limestone  
University of Kentucky  
Lexington, KY 40536-0230  
Tel: 859.257.1412x224  
[mdsmit6@uky.edu](mailto:mdsmit6@uky.edu)

## HEALTH COMMUNICATION

The Graduate Program in Communication offers a Certificate in Health Communication that is available to (a) students in the Ph.D. and M.A. Programs in Communication, (b) students in other doctoral programs at the university and (c) post baccalaureate students. The Certificate Program is aimed primarily at individuals interested in developing specialized knowledge and

research expertise in health communication that could be applied within both academic and nonacademic settings. Students are expected to have a background in social or behavioral science prior to entering the program. To earn the certificate, students must complete CJT 671 and 771 and either CJT 780 (section focusing on a health communication topic) or a graduate course in medical informatics, for a total of 12 credit hours. For more information, contact:

Dr Derek Lane  
College of Communication and Information Studies  
Grehan Journalism Building  
University of Kentucky  
Lexington, KY 40506-0042  
[drlane@uky.edu](mailto:drlane@uky.edu)  
[www.uky.edu/CommInfoStudies/GRAD/](http://www.uky.edu/CommInfoStudies/GRAD/)

### HUMAN TECHNOLOGY INTERACTION

The certificate in human-technology interaction brings together students in the social, behavioral, and health sciences with students in the design professions. It is intended specifically for:

- 1) those in the social, behavioral, and health sciences who would like to learn how their disciplinary knowledge can be used to enhance the safety, productivity, and satisfaction of people interacting with both "high-tech" and "low-tech" systems.
- 2) those in the design professions who would like to apply principles derived from the study of human abilities, limitations, and preferences to the design of new or modified technology. Students from engineering, instructional systems design, architecture, graphic design, computer science, and other design fields are welcome to apply.
- 3) those interested in exploring career options in ergonomics, human factors psychology, or usability engineering.

The certificate requires 15 hours of graduate work, including two foundation courses, two elective courses, and one practicum or research experience. For more information contact:

C. Melody Carswell, Ph.D.  
Associate Professor  
Department of Psychology  
205 Kastle Hall  
University of Kentucky  
Lexington, KY 40506-0044  
[cmcars00@uky.edu](mailto:cmcars00@uky.edu)  
Tel: 859.258.5451

## INFORMATICS

The objective of the Graduate Certificate in Informatics is to educate a cadre of researchers and professionals with multidisciplinary backgrounds and with substantial understanding of the principles and applications of computational technology.

This curriculum will train graduate and professional-degree students in the uses of computational and information processing technology in their own fields. The students will be able to use this enrichment to become more productive professionals, to further research in their own areas, and to engage in multidisciplinary research relying on computer and information-processing techniques. For more information, contact:

Dr. Raphael Finkel  
Department of Computer Science  
305 Mining Laboratory  
University of Kentucky  
Lexington, KY 40506-0046  
Tel: 859.257.3416  
[raphael@cs.engr.uky.edu](mailto:raphael@cs.engr.uky.edu)  
[www.grendl.rch.uky.edu/informatics/](http://www.grendl.rch.uky.edu/informatics/)

## LATIN STUDIES

The Latin Studies certificate curriculum, consisting of a sequence of four courses in Latin language and literature, aims at two groups of students in particular. First, it is aimed at graduate students who need strong Latin skills for any academic discipline in which Latin is important, including not only classics, but also history, philosophy, theology, etc., and who are already engaged in, or hope to undertake advanced study in one or more of these fields. The certificate curriculum will offer to such students an interdisciplinary opportunity to gain a superior command of Latin in a highly concentrated format, but in a relatively brief period of time. Second, it is aimed at the training of new Latin teachers for the high school level and even pre-high school instruction. The Latin Studies certificate curriculum will be highly useful for those interested in teaching Latin, because it will provide a much deeper immersion in Latin language and literature than what has so far been usual for students seeking careers as Latin teachers, and will ensure that all who complete it acquire not merely reading skills, but also considerable active command of the language. For more information, contact:

Dr. Terence Tunberg  
Classics Department, 1015 Patterson Office Tower  
University of Kentucky, Lexington, KY 40506-0027  
Tel: 859.257.3386  
[clatot@uky.edu](mailto:clatot@uky.edu)  
[http://www.uky.edu/AS/Classics/institute\\_eng.shtml](http://www.uky.edu/AS/Classics/institute_eng.shtml)

## MEDICAL BEHAVIORAL SCIENCE

The Department of Behavioral Science offers a Graduate Certificate in Medical Behavioral Science designed for students who are enrolled in a doctoral program in a basic academic field. This program typically will admit doctoral students from programs in Anthropology, Communications, Educational and Counseling Psychology, Geography, Gerontology, Health and Physical Education, Nursing, Nutritional Science, Psychology, and Sociology. These students often come to the University of Kentucky to work with our faculty and to obtain training in Medical Anthropology, Medical Sociology, Health Psychology, and Health Communications which are subspecialty fields within each of these disciplines. For more information, contact:

Dr. Mitzi M. S. Schumacher  
Behavioral Science  
129 College of Medicine Building  
University of Kentucky  
Lexington, KY 40506-0086  
[mtzjhns@pop.uky.edu](mailto:mtzjhns@pop.uky.edu)  
Tel: 859.323.6075  
Fax: 859.323.5350

## MIDDLE AND SECONDARY SCHOOL READING

The Graduate Certificate in Middle and Secondary School Reading is designed to provide both new and experienced teachers with a solid foundation in modern theories of literacy and in techniques that are most effective in improving the reading of middle- and secondary-school students across the entire curriculum. It provides a highly focused curriculum that may be of particular interest and usefulness to teachers and administrators who are already fully certified, and who do not seek a full certification or degree program.

The Certificate curriculum is composed of five courses: A twelve-credit core of four courses (EDC 618, 619, 620, and 641 or 642) and one three-credit literacy-related elective course approved by the Certificate Director. All participants must hold a current state teaching certificate. In order to ensure that the course work required for the Certificate can be delivered in a timely and programmed manner, the Certificate is offered only at the request of local school districts. The district must commit to enrolling a minimum number of teachers and/or administrators to move through the curriculum as a cadre of students. This approach provides a self-supporting and highly interactive group that benefits both the participants and the school system as a whole.

Learning is enhanced for the participants, and direct application of both theory and practical techniques within the school district is facilitated. For more information, contact:

Dr. Douglas C. Smith  
Curriculum and Instruction  
305b Dickey Hall  
University of Kentucky  
Lexington, KY 40506-0017  
Tel: 859.257.1634  
Fax: 859.257.1602  
[dcsmit1@uky.edu](mailto:dcsmit1@uky.edu)

### **MUSIC THEORY PEDAGOGY**

The Graduate Certificate in Music Theory Pedagogy is intended primarily for D.M.A. (Doctor of Musical Arts degree) students who wish to gain experience and expertise in theory pedagogy in order to strengthen their background for increased marketability in higher education. Students desiring admission into this certificate curriculum will be interviewed by a committee consisting of members of the theory faculty and a music faculty member outside of theory. The interview will include an appraisal of the student's keyboard proficiency, sight-singing and aural skills, and understanding of theoretical concepts. The student's scores on graduate entrance exams in music theory will also be assessed. It is assumed that any student granted admission into the certificate curriculum would have been accepted as a student in the Graduate School. For more information, contact:

Dr. Kate Covington  
School of Music  
105 Fine Arts Bldg.  
Lexington, KY 40506-0022  
Tel: 859.257.8197  
Fax: 859.257.9576  
[kcov@uky.edu](mailto:kcov@uky.edu)  
[www.uky.edu/FineArts/Music](http://www.uky.edu/FineArts/Music)

### **NURSING STUDIES**

Public health professionals increasingly need knowledge of public health nursing to improve multidisciplinary collaboration and have a better understanding of the issues and needs of vulnerable populations in communities. Non-nursing College of Public Health graduate students can receive a Certificate in Nursing Studies through this specialty track focused on public health nursing.



It is 12 credits in length and is a collaborative effort between the College of Nursing and the College of Public Health. For further information contact:

Dr. Jane Kirschling  
Director of Graduate Studies  
Masters of Science in Nursing Degree Programs  
[jane@email.uky.edu](mailto:jane@email.uky.edu)

### **ORFF SCHULWERK**

Orff Schulwerk is the music approach created by composers Carl Orff and Gunild Keetman. The Schulwerk is a way to teach and learn music using poems, rhymes, games, songs, and dances as basic materials. The University of Kentucky offers Schulwerk Teacher Training courses, mostly in the summers, taught by Orff experts. Training is given at Levels 1, 2, 3 and advanced master's courses in different topics such as curriculum design, and composition. The Graduate Certificate in Orff Schulwerk is a twelve-hour curriculum in four components:

1. Orff Teacher Training Level One (MUS 560/561, 2-4 credits).
  2. Orff Teacher Training Level Two (MUS 560/561, 2-4 credits).
  3. Orff Teacher Training Level Three (MUS 560/561 2-4 credits).
- OR Orff Master Courses (Prerequisite: Orff Teacher Training Level 2)
4. Certificate Project (MUS 767 1-3 credits) (Prerequisite: Orff Teacher Training Level 2)

Each student must take all four of the components, each at two credits minimum, for a total of 12 credit hours. Each component is offered at variable credits. All credits earned in this certificate may be applicable towards the Master of Music in Music Education degree (M.M.M.E.) or the Rank I in Music Education Program. Admission requirements are the same as those in effect for Post-baccalaureate status, and approval of the Certificate Director. The Certificate is awarded upon completion of the certificate curriculum within five years, and with a minimum of 3.0 GPA. For more information, contact:

Dr. Cecilia Wang  
School of Music  
203 Wessels House  
University of Kentucky  
Lexington, KY 40506-0022  
Tel: 859.257.8203  
[cecilia@uky.edu](mailto:cecilia@uky.edu)  
[www.uky.edu/~cecilia/Orff/OrffGradCert.shtml](http://www.uky.edu/~cecilia/Orff/OrffGradCert.shtml)

### **PHYSIOLOGY TEACHING**

The graduate certificate in physiology teaching provides a mechanism for students to document their competency in the basic skills necessary to teach a comprehensive physiology course. The

Certificate will be accessible to participants enrolled in a wide range of biomedical disciplines, but it will be especially valuable to medical science graduate students that anticipate a career in academic physiology. This 15-hour certificate is significant in that many doctoral programs in the medical sciences emphasize preparation for a research-oriented career but do very little formal instruction related to education and teaching. Our department has historically placed a high emphasis on the training of graduate students for both research and teaching careers. This certificate will recognize and document that emphasis for the students that choose to complete the certificate requirements. As research in physiology becomes more specialized, utilizing molecular and cellular approaches, there is a very real and distinct demand for physiology instructors that have experience in all levels of physiology teaching, especially systems physiology. For further information contact:

Dr. Dexter Speck  
Department of Physiology  
College of Medicine  
[dfspeck@uky.edu](mailto:dfspeck@uky.edu)

### **PUBLIC HEALTH NURSING**

Recent national data indicate that only 18% of all nurses currently work in community/public health and only 11% of those hold advanced degrees. This 12 credit-hour Certificate in Public Health Nursing is designed for Masters of Science in Nursing degree students who are enrolled in a specialty track other than public health nursing, nursing students involved in the College of Public Health graduate programs or post-baccalaureate students in nursing. For further information contact:

Dr. Jane Kirschling  
Director of Graduate Studies  
Masters of Science in Nursing Degree Programs  
[jane@email.uky.edu](mailto:jane@email.uky.edu)

### **REPRODUCTIVE LABORATORY SCIENCE**

The Graduate Certificate in Reproductive Laboratory Science (RLS) prepares graduates for entry-level technologist positions in assisted reproductive technology (ART) laboratories and related fields in research, industry and marketing. The curriculum consists of 12-14 credit hours in RLS courses, including 2 credit hours of clinical practicum in clinical andrology and embryology laboratories. In addition to the five RLS core faculty, lecturers throughout the United States contribute to the curriculum by instructing in their areas of expertise. These professionals are ART and clinical laboratorians, laboratory managers, researchers, ethicists, attorneys and policy analysts. Directors and supervisors in andrology laboratories and ART laboratories, appointed as clinical faculty by the University, supervise RLS students in the clinical practica. Entrance into the program requires a Bachelor's degree in Clinical Laboratory

Science (Medical Technology) or a Bachelor's degree in science with acceptable laboratory experience. For more information contact:

Dr. Doris J. Baker  
Dept. of Clinical Sciences  
209g CHS Building  
900 S. Limestone  
Lexington, KY 40536-0200  
Tel: 859.323.1100 ext. 80854  
[dbake0@uky.edu](mailto:dbake0@uky.edu)  
[www.mc.uky.edu/CLS/RLS/RLS\\_Certificate.htm](http://www.mc.uky.edu/CLS/RLS/RLS_Certificate.htm)

### **SCHOOL SOCIAL WORK**

The Graduate School Social Work Certificate is designed to prepare social workers for school social work as a specialized field of practice. It will also meet the State of Kentucky mandated requirements for school social work certification. The certificate is available to: (1) UK degree seeking graduate students in the Master of Social Work Program, and (2) post-baccalaureate (non-degree) students who already have an MSW degree from an accredited social work program. The minimum credits required are 17 for the MSW program students and 9 for post-baccalaureate students. Applications for admission are evaluated, and students' progress is monitored and approved by a committee made up professors from the Colleges of Social work and Education. For more information and application form, contact:

Flo Lankster  
College of Social Work  
619 Patterson Office Building  
University of Kentucky  
Lexington, KY 40506-0027  
Tel: 859.257.8233  
FAX: 859.323.1030  
[lankste@uky.edu](mailto:lankste@uky.edu)

### **SENSING TECHNOLOGIES**

The Sensing Technologies Certificate is a cross-disciplinary curriculum in Sensors and Sensing Architectures. As the field of sensing development is an inherently multidisciplinary endeavor, the Certificate will yield scientists and engineers with the ability to transcend traditional boundaries in their professional careers. For more information, contact:

Dr. Leonidas Bachas  
Department of Chemistry  
207 Chemistry-Physics Building

University of Kentucky  
Lexington, KY 40602-0055  
Tel: 859.257.6350  
Fax: 859.323.1069  
[bachas@uky.edu](mailto:bachas@uky.edu)  
[www.chem.uky.edu/igert/certificate.shtml](http://www.chem.uky.edu/igert/certificate.shtml)

## SOCIAL THEORY

This Certificate offers students systematic multidisciplinary training in social theory. It augments, and is pursued concurrently with, the regular M.A and Ph.D. degree programs of participating departments. In total, the Certificate requires ten hours of course work, can be pursued in tandem with regular degree programs, and is open to all graduate students at the University of Kentucky. For more information, contact:

Dr. Virginia Blum  
Committee on Social Theory  
1301 Patterson Office Tower  
University of Kentucky  
Lexington, KY 40506-0027  
Tel: 859.257.6991  
[vblum1@pop.uky.edu](mailto:vblum1@pop.uky.edu)  
[www.uky.edu/ArtsSciences/SocTheo/hpgcert.htm](http://www.uky.edu/ArtsSciences/SocTheo/hpgcert.htm)



AAS 657	RACE RELATIONS IN THE UNITED STATES (SAME AS HIS 657)	(3)
ACE 501	PRINCIPLES OF COOPERATIVE EXTENSION	(3)
AT 660	DIRECTED STUDY IN ATHLETIC TRAINING	(3)
AT 670	RESEARCH AND SPECIAL TOPICS IN ATHLETIC TRAINING	(2-3)
AT 695	ADVANCED SEMINAR IN ATHLETIC TRAINING	(4)
CLS 501	SEMINAR IN ADVANCED HEMATOLOGY	(2)
CLS 520	REPRODUCTIVE LABORATORY SCIENCE	(3)
CLS 610	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS CD/PT/RAS 610)	(1)
CNU 601	MACRONUTRIENT METABOLISM (SAME AS NS 601)	(4)
CNU 604	LIPID METABOLISM (SAME AS NS 604)	(3)
CNU 605	WELLNESS AND SPORTS NUTRITION (SAME AS NS/PT 605)	(3)
CNU 606	MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION (SAME AS NS 606)	(2)
CNU 608	NUTRITIONAL IMMUNOLOGY (SAME AS NS 608)	(3)
CNU 609	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS NS 609)	(1)
CNU 701	NUTRITION AND CHRONIC DISEASES (SAME AS NS 701)	(4)
CNU 702	CLINICAL/WELLNESS PROBLEM-BASED CASE STUDIES	(1-3)
CNU 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES (SAME AS NFS/NS 704)	(1)
CNU 782	SPECIAL PROBLEMS (SAME AS NFS/NS 782)	(1-6)
CNU 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS NFS/NS 790)	(0-6)
COM 525	ORGANIZATIONAL COMMUNICATION	(3)
COM 555	CYBERSPACE AND COMMUNICATION (SAME AS TEL 555)	(3)
COM 571	HEALTH COMMUNICATION	(3)
COM 581	STUDIES IN SMALL GROUP COMMUNICATION CONTEXTS	(3)
COM 584	TEACHING OF SPEECH COMMUNICATION	(3)
COM 591	SPECIAL TOPICS IN COMMUNICATION (SUBTITLE REQUIRED)	(1)
CPC 501	PERSPECTIVES IN RELIGION AND HEALTH	(3)
EDU 645	FOUNDATIONS OF PEDAGOGICAL THEORY AND PRACTICE IN THE SECONDARY SCHOOL	(0-9)
EDU 745	INTERDISCIPLINARY INSTRUCTION IN THE SECONDARY SCHOOL	(0-3)
ES 600	ENVIRONMENTAL SYSTEMS SEMINAR	(1)
ES 610	ENGINEERING AND PHYSICAL SCIENCES IN ENVIRONMENTAL SYSTEMS	(3)
ES 620	NATURAL, BIOLOGICAL AND MEDICAL SCIENCES IN ENVIRONMENTAL SYSTEMS	(3)

ES 630	LEGAL, SOCIAL AND ECONOMIC SCIENCES IN ENVIRONMENTAL SYSTEMS	(3)
EXP 500	INTRODUCTION TO SERVICE-LEARNING (SAME AS MC 500)	(3)
HDI 600	INTERDISCIPLINARY APPROACHES TO THE NEEDS OF PERSONS WITH DEVELOPMENTAL DISABILITIES AND SPECIAL HEALTH CARE NEEDS	(2)
HDI 601	INTERDISCIPLINARY APPROACHES TO THE NEEDS OF PERSONS WITH DEVELOPMENTAL DISABILITIES AND SPECIAL HEALTH CARE NEEDS: PRACTICUM	(2)
HDI 602	INTERDISCIPLINARY SUPPORTS	(2)
HDI 603	INTERDISCIPLINARY SUPPORTS PRACTICUM	(2)
HDI 604	INTERDISCIPLINARY LEADERSHIP SEMINAR	(2)
HDI 605	INTERDISCIPLINARY LEADERSHIP PRACTICUM	(2)
HEE 501	PRACTICUM IN VOCATIONAL EDUCATION (SAME AS AED 501)	(1-12)
HEE 535	PRINCIPLES AND PHILOSOPHY OF VOCATIONAL EDUCATION (SAME AS AED 535)	(3)
HEE 580	METHODS OF TEACHING VOCATIONAL EDUCATION I (SAME AS AED 580)	(3)
HEE 586	METHODS IN TEACHING VOCATIONAL EDUCATION II (SAME AS AED 586)	(3)
HEE 590	PROBLEMS IN VOCATIONAL EDUCATION (SAME AS AED 590)	(3)
HEE 670	ADVANCED METHODS IN TEACHING VOCATIONAL EDUCATION (SAME AS AED 670)	(3)
HEE 671	YOUTH ORGANIZATIONS IN VOCATIONAL EDUCATION (SAME AS AED 671)	(3)
HEE 678	SELECTING TEACHING MATERIALS (SAME AS AED 678)	(3)
HEE 679	ADULT EDUCATION IN VOCATIONAL EDUCATION (SAME AS AED 679)	(3)
HEE 684	CURRENT TRENDS IN VOCATIONAL EDUCATION (SAME AS AED 684)	(3)
HEE 686	EVALUATION IN VOCATIONAL EDUCATION (SAME AS AED 686)	(3)
HEE 693	SUPERVISION IN VOCATIONAL EDUCATION (SAME AS AED 693)	(3)
HEE 694	THE ADMINISTRATION OF VOCATIONAL EDUCATION (SAME AS AED 694/EDA 694)	(3)
HEE 695	SPECIAL PROBLEMS IN VOCATIONAL EDUCATION (SAME AS AED 695)	(3)
HEE 748	MASTER'S THESIS RESEARCH (SAME AS AED 748)	(0)
HEE 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE (SAME AS AED 768)	(1-6)
HEE 779	SEMINAR IN VOCATIONAL EDUCATION (SAME AS AED 779)	(1-3)
HEE 789	RESEARCH IN VOCATIONAL EDUCATION (SAME AS AED 799)	(1-3)

HES 786	ADVANCED PROBLEMS IN HUMAN ENVIRONMENTAL SCIENCES	(1-3)
HSE 502	PERFORMANCE EVALUATION IN THE CLINIC AND LABORATORY	(3)
HSE 510	OLDER WOMEN AND THEIR HEALTH (SAME AS NUR 510)	(3)
HSE 595	DIRECTED STUDIES	(1-3)
HSE 660	ADVANCED CLINICAL PRACTICUM IN ALLIED HEALTH	(1-6)
HSM 502	ORGANIZATION AND SUPERVISION IN HEALTH CARE DELIVERY	(3)
HSM 510	ORGANIZATION OF THE LONG-TERM CARE SECTOR	(3)
HSM 511	INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION	(1-3)
HSM 601	OVERVIEW OF THE HEALTH CARE DELIVERY SYSTEM (SAME AS HA 601/SPH 602/PA 671)	(3)
HSM 602	ORGANIZATIONAL CHANGE AND STRATEGIC PLANNING (SAME AS HA 602)	(3)
HSM 603	LEGAL ASPECTS OF HEALTH ADMINISTRATION (SAME AS HA 603)	(2)
HSM 622	MENTAL HEALTH ADMINISTRATION (SAME AS HA 622)	(3)
HSM 624	INFORMATION SYSTEM IN HEALTH CARE SYSTEMS IN HEALTH (SAME AS HA 624)	(3)
HSM 635	MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS (SAME AS HA 635)	(3)
HSM 636	HEALTH ECONOMICS	(3)
HSM 637	HEALTH FINANCE (SAME AS PA/HA/FIN 637/SPH 852)	(3)
HSM 660	DECISION MAKING IN HEALTH CARE ORGANIZATIONS (SAME AS HA 660)	(3)
HSM 711	PRACTICUM IN HEALTH ADMINISTRATION (SAME AS HA 711)	(3)
HSM 775	SPECIAL TOPICS IN HEALTH ADMINISTRATION (SAME AS PA/HA 775)	(1-3)
HSM 785	INDEPENDENT STUDY IN HEALTH ADMINISTRATION (SAME AS PA/ HA 785)	(1-3)
INF 401G	INFORMATICS FUNDAMENTALS	(3)
INF 520	BIOINFORMATICS (SAME AS BIO 520)	(3)
ISC 541	CRITICAL TOPICS IN INTEGRATED STRATEGIC COMMUNICATION (SUBTITLE REQUIRED)	(3)
ISC 543	REGULATION OF STRATEGIC COMMUNICATION	(3)
ISP 599	STUDY ABROAD	(1)
JOU 531	MEDIA LAW AND ETHICS	(3)
JOU 532	ETHICS OF JOURNALISM AND MASS COMMUNICATION	(3)
JOU 535	HISTORY OF JOURNALISM	(3)
JPN 400G	TOPICS IN JAPAN STUDIES (SUBTITLED REQUIRED)	(3)
JPN 420G	PRE-MODERN LITERARY AND VISUAL ARTS OF JAPAN	(3)
JPN 421G	CONTEMPORARY LITERARY AND VISUAL ARTS OF JAPAN	(3)
JPN 451G	SOCIAL MOVEMENTS IN MODERN JAPAN	(3)
JPN 461G	JAPANESE COLONIALISM AND ITS LEGACIES	(3)



JPN 491G	JAPANESE LANDSCAPES	(3)
JPN 551	JAPANESE MULTINATIONAL CORPORATIONS (SAME AS GEO 551)	(3)
LIN 510	AMERICAN ENGLISH (SAME AS ENG 510)	(3)
LIN 512	MODERN ENGLISH GRAMMAR (SAME AS ENG 512)	(3)
LIN 513	TEACHING ENGLISH AS A SECOND LANGUAGE (SAME AS ENG/EDC 513)	(3)
LIN 514	TESL MATERIALS AND METHODS (SAME AS ENG/LIN 514)	(3)
LIN 515	PHONOLOGICAL ANALYSIS (SAME AS ANT/ENG 515)	(3)
LIN 516	GRAMMATICAL ANALYSIS (SAME AS ANT/ENG 516)	(3)
LIN 517	SPECIAL TOPICS IN LINGUISTICS (SUBTITLE REQUIRED)	(3)
LIN 519	HISTORICAL LINGUISTICS (SAME AS ANT 519)	(3)
LIN 520	SANSKRIT I	(3)
LIN 521	SANSKRIT II	(3)
LIN 617	STUDIES IN LINGUISTICS (SUBTITLE REQUIRED)(SAME AS ENG 617)	(3)
MB 749	DISSERTATION RESEARCH (SAME AS MI 749)	(0)
MB 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE (SAME AS MI 768)	(1-6)
MB 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE (SAME AS MI 769)	(0-12)
MC 500	INTRODUCTION TO SERVICE-LEARNING (SAME AS EXP 500)	(3)
MED 616	PRINCIPLES OF NEUROBIOLOGY (SAME AS ANA/PGY/BCH/PHA 605)	(4)
NEU 606	MECHANISMS OF NEUROLOGIC DISEASE (SAME AS ANA/PHA 606)	(4)
NFS 408G	SEMINAR IN FOOD AND NUTRITION	(1)
NFS 510	ADVANCED NUTRITION	(3)
NFS 511	THERAPEUTIC NUTRITION	(4)
NFS 513	ADVANCED THERAPEUTIC NUTRITION	(2)
NFS 516	MATERNAL AND CHILD NUTRITION	(3)
NFS 542	FOOD SERVICE EQUIPMENT AND LAYOUT	(3)
NFS 591	SPECIAL PROBLEMS IN FOODS AND NUTRITION	(1-3)
NFS 603	ADVANCED COMMUNITY PROGRAM DEVELOPMENT	(3)
NFS 607	FOOD RELATED BEHAVIORS (SAME AS NS/ANT/BSC 607)	(3)
NFS 610	HOSPITALITY AND DIETETICS ADMINISTRATION AND ASSESSMENT	(3)
NFS 620	NUTRITION AND AGING (SAME AS NS 620)	(2)

NFS 630	ADVANCED COMMUNITY NUTRITION (SAME AS NS 630)	(3)
NFS 640	HUMAN NUTRITION: ASSESSMENT (SAME AS NS 640)	(3)
NFS 646	INSTITUTION ORGANIZATION AND MANAGEMENT	(3)
NFS 648	INSTITUTION ADMINISTRATION	(3)
NFS 685	MINERAL METABOLISM (SAME AS ASC 685)	(2)
NFS 690	ADVANCED WORK IN DIETETICS	(3)
NFS 694	STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM	(3)
NFS 704	CURRENT TOPICS IN NUTRITIONAL SCIENCES (SAME AS NS/CNU 704)	(1)
NFS 748	MASTER'S THESIS RESEARCH (SAME AS NS 748)	(0)
NFS 768	RESIDENCE CREDIT FOR THE MASTERS DEGREE (SAME AS NS 768)	(1-6)
NFS 770	SEMINAR IN HOSPITALITY AND DIETETICS ADMINISTRATION	(1)
NFS 772	CURRENT TOPICS IN HOSPITALITY AND DIETETICS ADMINISTRATION	(2)
NFS 781	ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM	(3)
NFS 782	SPECIAL PROBLEMS (SAME AS NS/CNU 782)	(1-6)
NFS 784	SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT	(3)
NFS 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS NS/CNU 790)	(0-6)
NRC 420G	TAXONOMY OF VASCULAR PLANTS	(4)
NRC 450G	BIOGEOCHEMISTRY (SAME AS PLS 450G)	(3)
NRC 455G	WETLAND DELINEATION (SAME AS PLS 455G)	(3)
NRC 456G	CONSTRUCTED WETLANDS (SAME AS PLS 456G)	(3)
NRC 477G	LAND TREATMENT OF WASTE (SAME AS PLS 477G)	(3)
NRC 555	GEOGRAPHIC INFORMATION SYSTEMS AND LANDSCAPE ANALYSIS (SAME AS SOC/LA 855)	(3)
NRC 556	ADVANCED GEOGRAPHIC INFORMATION SYSTEMS AND LANDSCAPE ANALYSIS (SAME AS LA 956/SOC 556)	(3)
OR 515	MATHEMATICAL PROGRAMMING AND EXTENSIONS	(3)
OR 524	PROBABILITY (SAME AS STA 524)	(3)
OR 525	INTRODUCTORY STATISTICAL INFERENCE (SAME AS STA 525)	(3)
OR 563	SIMULATION OF MINE PRODUCTION SYSTEMS	(3)
OR 616	NUMERICAL TECHNIQUES FOR NONLINEAR OPTIMIZATION	(3)
OR 617	MARKOVIAN DECISION PROBLEMS	(3)
OR 618	COMBINATORICS AND NETWORKS	(3)
OR 619	PROBLEMS SEMINAR IN OPERATIONS RESEARCH	(3)

OR 624	APPLIED STOCHASTIC PROCESSES (SAME AS STA 624)	(3)
OR 674	HEURISTICS ALGORITHMS	(3)
PAT 598	CLINICAL MICROBIOLOGY (SAME AS MI 598)	(3)
PAT 665	THE FORENSIC APPLICATION OF DNA TYPING METHODS	(3)
RAE 400G	SEMINAR ON SPECIAL TOPICS IN RUSSIAN	(3)
RAE 430G	BUSINESS RUSSIAN	(3)
RAE 460G	TOLSTOY (IN ENGLISH)	(3)
RAE 495G	ADVANCED INDEPENDENT WORK IN RUSSIAN AND EASTERN STUDIES	(1-3)
RM 472G	INTERACTION OF RADIATION WITH MATTER (SAME AS PHY 472G)	(3)
RM 545	RADIATION HAZARDS AND PROTECTION (SAME AS PHY/RAS 545)	(3)
RM 546	GENERAL MEDICAL RADIOLOGICAL PHYSICS (SAME AS PHY/RAS 546)	(3)
RM 601	ADVANCED RADIATION DOSIMETRY (SAME AS RAS 601)	(2)
RM 647	PHYSICS OF DIAGNOSTIC IMAGING I (SAME AS RAS 647)	(3)
RM 648	PHYSICS OF DIAGNOSTIC IMAGING II (SAME AS RAS 648)	(3)
RM 649	PHYSICS OF RADIATION THERAPY (SAME AS RAS 649)	(3)
RM 660	GRADUATE PRACTICUM IN RADIATION MEDICINE	(1-6)
RM 695	RESEARCH IN HEALTH-RELATED RADIATION SCIENCES (SAME AS RAS 695)	(1-4)
RM 740	MAMMALIAN RADIATION BIOLOGY (SAME AS BIO 740)	(2)
ST 500	INTRODUCTION TO SOCIAL THEORY	(3)
ST 600	MULTIDISCIPLINARY PERSPECTIVES IN SOCIAL THEORY (SUBTITLE REQUIRED)	(3)
ST 610	"disCLOSURE" EDITORIAL COLLECTIVE	(1)
ST 690	TRANSDISCIPLINARY PERSPECTIVES IN SOCIAL THEORY	(3)
TEL 504	MEDIA ORGANIZATIONS	(3)
TEL 510	MEDIA ECONOMICS	(3)
TEL 520	SOCIAL EFFECTS OF THE MASS MEDIA	(3)
TEL 525	THEORY OF MULTIMEDIA	(3)
TEL 530	PRO-SEMINAR IN TELECOMMUNICATIONS	(3)
TEL 555	CYBERSPACE AND COMMUNICATION (SAME AS COM 555)	(3)
TEL 590	ADVANCED TELECOMMUNICATIONS TOPICAL SEMINAR (SUBTITLE REQUIRED)	(3)
WS 595	ISSUES IN WOMEN'S STUDIES (SUBTITLE REQUIRED)	(3)
WS 600	TOPICS IN WOMEN'S STUDIES (SUBTITLE REQUIRED)	(3)
WS 616	COLONIALISM/POST-COLONIALISM AND GENDER	(3)

WS 650	FEMINIST THEORY	(3)
WS 675	ADVANCED FEMINIST THEORY	(3)
WS 690	GRADUATE RESEARCH IN WOMEN'S STUDIES	(3)
WS 750	READINGS IN WOMEN'S STUDIES	(1)