

**UNIVERSITY OF KENTUCKY**



**THE GRADUATE SCHOOL BULLETIN**

**PART 2 - PROGRAMS, CERTIFICATES AND COURSES**

**JULY 2014**



**THE GRADUATE SCHOOL  
THE GILLIS BUILDING**

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# GRADUATE DEGREE PROGRAMS

## DOCTORAL PROGRAMS

PROGRAM	DEGREE	Credit Hr Required	Language(s) Required
Administration and Supervision			
Educational Leadership Studies	Doctor of Education	36	
Agricultural Economics	Doctor of Philosophy	36	
Anatomy and Neurobiology	Doctor of Philosophy	36	
Animal Sciences	Doctor of Philosophy	36	
Anthropology	Doctor of Philosophy	36	One
Biology	Doctor of Philosophy	36	
Biomedical Engineering	Doctor of Philosophy	36	
Biosystems and Agricultural Engineering	Doctor of Philosophy	36	
Business Administration	Doctor of Philosophy	42	
Chemical Engineering	Doctor of Philosophy	36	
Chemistry	Doctor of Philosophy	36	
Civil Engineering	Doctor of Philosophy	36	
Clinical Sciences	Doctor of Science		
Communication	Doctor of Philosophy	36	
Clinical and Translational Sciences	Doctor of Philosophy	36	
Computer Science	Doctor of Philosophy	36	
Crop Science	Doctor of Philosophy	36	
Curriculum and Instruction Instruction and Administration	Doctor of Education	42	
Earth and Environmental Sciences	Doctor of Philosophy	36	
Economics	Doctor of Philosophy	39	
Educational and Counseling Psychology	Doctor of Philosophy	36	
Educational Leadership Studies	Doctor of Education	42	
Educational Policy Studies and Evaluation	Doctor of Philosophy	36	
	Doctor of Education	36	
Educational Sciences	Doctor of Philosophy	45	
Electrical Engineering	Doctor of Philosophy	42	
English	Doctor of Philosophy	36	One
Entomology	Doctor of Philosophy	36	
Epidemiology and Biostatistics	Doctor of Philosophy	58	
Family Studies	Doctor of Philosophy	36	
Geography	Doctor of Philosophy	36	

PROGRAM	DEGREE	Credit Hr Required	Language(s) Required
Gerontology	Doctor of Philosophy	36	
Hispanic Studies	Doctor of Philosophy	54	Two
History	Doctor of Philosophy	36	One/Two**
Integrated Plant and Soil Science	Doctor of Philosophy	36	
Kinesiology and Health Promotion	Doctor of Education	36	
Exercise Science	Doctor of Philosophy	36	
Materials Science and Engineering	Doctor of Philosophy	36	
Mathematics	Doctor of Philosophy	36	
Mechanical Engineering	Doctor of Philosophy	48	
Microbiology	Doctor of Philosophy	36	
Mining Engineering	Doctor of Philosophy	36	One
Molecular and Biomedical Pharmacology	Doctor of Philosophy	36	
Molecular and Cellular Biochemistry	Doctor of Philosophy	36	
Music	Doctor of Philosophy	36	
	Doctor of Musical Arts	36	One
Nursing	Doctor of Philosophy	36	
Nutritional Sciences	Doctor of Philosophy	36	
Pharmaceutical Sciences	Doctor of Philosophy	36	
Philosophy	Doctor of Philosophy	36	One
Physics and Astronomy	Doctor of Philosophy	36	
Physiology	Doctor of Philosophy	36	
Plant Pathology	Doctor of Philosophy	36	
Plant Physiology	Doctor of Philosophy	36	
Political Science	Doctor of Philosophy	36	One**
Psychology	Doctor of Philosophy	36	
Public Policy and Administration	Doctor of Philosophy	42	
Rehabilitation Sciences	Doctor of Philosophy	36	
Reproductive Sciences	Doctor of Philosophy	36	
Social Work	Doctor of Philosophy	44	
Sociology	Doctor of Philosophy	36	
Soil Science	Doctor of Philosophy	36	
Special Education	Doctor of Philosophy	48	
Statistics	Doctor of Philosophy	36	
Toxicology	Doctor of Philosophy	36	
Veterinary Science	Doctor of Philosophy	36	

The Credit Hr Required column reflects the minimum number of hours required to be qualifying examination-eligible.

## 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		48	
Art Education	Master of Arts	30	36	
Art History	Master of Arts	30	30	One
Art Studio	Master of Fine Arts		60*	
Arts Administration	Master of Arts		36	
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	
Community and Leadership Development	Master of Science in Community and Leadership Development	30	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 Research Design	Master of Science	31		
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		
Crop Science	Master of Science in Agriculture	24	36	

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
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 Orthodontics Periodontics Orofacial Pain	Master of Science	24	30	
Diplomacy and International Commerce	Master of Arts		30	One
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	
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		54	
Hispanic Studies	Master of Arts	24	30	One
Historic Preservation	Master of Historic Preservation		48	
History	Master of Arts	24	36	One

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Hospitality and Dietetic Administration	Master of Science	30	36	
Information Communication Technology	Master of Science		36	
Integrated Plant and Soil Science	Master of Science	24	30	
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 & Information Science	Master of Arts	30	36	
	Master of Science in Library Science		36	
Linguistics and Typology		30		
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	24	30	
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	30	30	
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	
Psychology	Master of Arts	24		
	Master of Science	24		

PROGRAM	DEGREE	Thesis Option	Non-thesis Option	Language(s) Required
Public Administration	Master of Public Administration		42	
	Master of Public Policy		40	
Public Health	Master of Public Health		42	
Radiation Science	Master of Science in Radiological Medical Physics		30	
	Master of Science in Health Physics		30	
Rehabilitation Counseling	Master of Rehabilitation Counseling		*	
STEM Education	Master of Science in STEM Education	30		
Social Work	Master of Social Work		60*	
Sociology	Master of Arts	24	30	
Special Education	Master of Science in Education	30		
Statistics	Master of Science	29	35	
Teaching English as a Second Language	Master of Arts		36	
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 WORK IN THE COLLEGE OF EDUCATION**

The College of Education offers the following degrees: Master of Arts in Education, Master of Science in Education, Master of Science (in the Kinesiology and Health Promotion graduate program), Master of Education (Educational Leadership Studies), Doctor of Education, Doctor of Philosophy and Specialist in Education. Graduate work is also provided for persons seeking Rank I or II classification.

### **MASTER OF ARTS IN EDUCATION – ADVANCED CERTIFICATION OPTION**

The Master of Arts in Education is the program selected by candidates seeking advanced certification for work in school settings. A Master of Arts in Education degree will usually lead to Rank II for pay purposes. The plan which leads to the degree of Master of Arts in Education for persons holding an initial certificate is outlined below:

- All candidates for the Master of Arts in Education degree must meet the requirements for a valid teaching certificate. These requirements are outlined in the general catalog of the University. If deficiencies are found, they should be overcome before proceeding with graduate work. The work required to overcome these deficiencies is in addition to the minimum graduate requirements for the degree.
- A minimum of 24 semester hours of graduate work, with at least 12 semester hours in courses numbered 600 or higher, must be completed and a thesis presented, *or*
- A minimum of 30 semester hours of graduate work, with at least 15 semester hours in courses numbered 600 or 700, must be completed.
- At least 12 semester hours of graduate work must be in Education.
- The total number of credits presented in Education, undergraduate and graduate, must be at least 30 semester hours.
- At least 12 semester hours must be outside the College of Education for both elementary and secondary teachers except for teachers of vocational education who take six hours outside Education, and Reading Specialists who take six to nine hours outside Education.
- Specific requirements depend upon the type of certificate desired. Information about specific certification requirements can be obtained from the appropriate Director of Graduate Studies.

### **MASTER OF ARTS IN EDUCATION – INITIAL CERTIFICATION OPTION**

The College of Education also offers a Masters of Arts in Education for individuals seeking initial secondary education certification in the following subject areas: business/marketing, English, foreign languages, mathematics, science, and social studies.

- All candidates for this program who are graduates of the University of Kentucky should possess appropriate content-area degrees or a University of Kentucky undergraduate secondary education degree. These requirements are outlined in the general catalog of the University. Those individuals who hold baccalaureate degrees from other institutions must have a major in the area of teacher certification and should meet with subject area faculty to identify any deficiencies. The work required to overcome any deficiencies must be completed before admission to the program and is in addition to the minimum graduate requirements for the degree.
- A minimum of 33 credit hours of graduate work is required, including 27 hours in Education.
- At least 18 semester hours of graduate work must be in courses numbered 600 or 700.

- At least 6 hours must be outside the College of Education and related to the teaching major.
- Specific requirements depend upon the type of certificate required. Information about teaching majors and certification requirements should be obtained from the subject area faculty. Other information may be obtained from the Director of Graduate Studies.

## MASTER OF SCIENCE IN EDUCATION

The Master of Science in Education degree is designed for both non-certification and certification students. However, if a student already holds a valid teaching certificate, the Master of Science in Education degree may give Rank II for pay purposes and may, under some circumstances, renew the certificate. The plan that leads to the degree of Master of Science in Education is outlined below:

- A minimum of 24 semester hours of graduate work, with at least 12 semester hours in courses numbered 600 or 700, must be completed and a thesis presented, *or*
- A minimum of 30 semester hours of graduate work, with at least 15 semester hours in courses numbered 600 or 700, must be completed.
- A minimum of 12 semester hours of graduate work in the College of Education is required.
- A minimum of six hours outside the College of Education is required, but individual programs may require additional work outside the College.
- Specific requirements depend upon the type of certificate desired. Information about specific certification requirements can be obtained from the appropriate Director of Graduate Studies.

## MASTER OF EDUCATION

The Master of Education (M.Ed.) offered by the Department of Educational Leadership Studies has two options. Both options meet requirements for Rank II (initial master's degree) or Rank I (30 Communication Disorders credit hours beyond initial master's degree) as prescribed by the Kentucky Educational Professional Standards Board.

The M.Ed. in School Administration is the degree program selected by those seeking preparation for certification as a school principal in Kentucky public schools. The preparation curriculum includes 36 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, a 30-hour Rank I program can be included within the curriculum.

The curriculum that leads to eligibility for certification as a principal contains two levels. For those students pursuing the M.Ed. as their initial master's degree, both levels of the preparation program must be completed before one is eligible for participation in the Kentucky Principal Internship Program (KPIP).

The M.Ed. in **Teacher Leadership** option was designed to address the expanded leadership expectations for practicing educators in P12 schools. The individualized program of studies consists of 30 credit hours that includes a 15-credit-hour teacher leadership core, 6-9 credit hours selected from elective courses in the M.Ed. in Teacher Leadership Program, and 6-9 credit hours of graduate-level coursework to address the unique professional needs of candidates.

## DOCTOR OF EDUCATION

The requirements for the Ed.D. degree correspond to those of the Ph.D. with the following differences:

- In addition to other credentials, admission requirements include:
- a master's degree, *or*
- 30 graduate credit hours applicable to an appropriate master's degree.
- Some program areas require successful teaching, clinical, or administrative experience for admission.
- The program requires completion of a major body of course work of at least 42 graduate credits beyond the minimum hours required for admission.
- Course work for the Ed.D. will be planned by the advisory committee to complement and extend previous graduate work. Therefore, the student's total doctoral and pre-doctoral graduate work will reflect competencies in the following areas:
  - Area of Concentration: A significant concentration of course work designed to develop an in-depth knowledge in a specific area of Education.
  - Support Areas: Course work to support the Area of Concentration shall include the following two components:
    - Disciplinary support work from outside the Area of Concentration. Some or all of this work will be done outside the College of Education.
    - Course work relevant to the development of competencies in the foundational studies in Education. Such course work is to be taken in departments of the College of Education other than the Area of Concentration.
  - Research Methodology: At least nine credits of recent course work selected to develop competencies in conceptualizing research, developing rigorous designs, selecting appropriate methodology, processing and analyzing data, interpreting results, and arriving at conclusions.
- Although some students' programs may require competency in a foreign language as a research tool, there is no general language requirement.
- The core membership of the advisory committee for each Ed.D. student consists of four members, consistent with Graduate School Rules.
- In Cooperative programs with the regional universities, three advisory committee members must be from the University of Kentucky and must be full members of the Graduate Faculty.

## COOPERATIVE DOCTORAL PROGRAMS IN EDUCATION

Cooperative doctoral (Ed.D.) programs in education are offered between the University of Kentucky and the following state universities: Eastern Kentucky University, Morehead State University, Murray State University and Western Kentucky University (see Doctoral Programs with Other Universities). Students are encouraged to apply to a Cooperative Doctoral Program early in their master's degree program to facilitate transition into the doctoral program.

Persons interested in a Cooperative doctoral program should confer with the Dean of the Graduate School at the cooperating university, or with the appropriate Director of Graduate Studies in Education at the University of Kentucky. Currently, the participating University of Kentucky academic departments are those of Curriculum & Instruction, Educational Leadership Studies, Educational Policy Studies & Evaluation, Kinesiology & Health Promotion, and Special Education.

## DOCTOR OF PHILOSOPHY IN EDUCATION SCIENCES

The College of Education offers the Interdisciplinary Ph.D. in Education Sciences. This program is designed for individuals seeking careers in educational research. Graduates of the program are prepared to meet the growing national need for educators who are well trained in methodological issues in education research. Options are offered in the following areas:

- a. Curriculum and Instruction
- b. Education Leadership
- c. Educational Policy, Measurement, & Evaluation
- d. Philosophical, Historical, and Socio-Cultural Inquiry
- e. Health Education
- f. Interdisciplinary Early Childhood Education
- g. Physical Education
- h. Rehabilitation Counseling
- i. Special Education
- j. STEM

**Admission Requirements:** Qualified applicants will have earned baccalaureate and master's degrees from fully accredited institutions and satisfactory completion of the Graduate Record Examination (GRE). Applicants must meet admission requirements set by the University of Kentucky Graduate School. Departments supporting the individual options may have additional requirements so applicants are urged to contact the Director of Graduate Studies for option specific requirements.

The program in Education Sciences is a rigorous doctoral program that requires year-round, full-time study. Under certain circumstances with approval of the faculty and Director of Graduate Studies, a student may be allowed to enroll as a part - time student. Students are typically admitted to start the program during the fall semester of each year. Students will be required to complete a set of core courses focused on research methods and statistical analysis. Students will then follow a particular courses prescribed for their particular area of specialization as determined by their choice of program option. All students will be involved in educational research projects throughout their time in the program.

**Funding:** All students will be encouraged to apply for 20-hour per week teaching and research assistantships in the College of Education and other units at the University of Kentucky. Students should contact individual departments supporting program options to determine availability of funding.

**Curriculum:** Information about the curriculum, including specific course requirements, may be found in the document: *Interdisciplinary Ph.D. in Education Sciences Program Plan and Curriculum Sheet* (<http://education.uky.edu/ADeanRI/sites/education.uky.edu.ADeanRI/files/documents/Program Plan Interdis PhD in Ed Sci.doc>). For additional information contact the:

Education Sciences Director of Graduate Studies  
107 Taylor Education Building, College of Education  
University of Kentucky, Lexington, KY 40506-0001  
Phone: 859-257-9795  
Email: [edscidgs@coe.uky.edu](mailto:edscidgs@coe.uky.edu)

## **SPECIALIST IN EDUCATION**

The Specialist in Education degree is offered in Educational Leadership Studies, Educational and Counseling Psychology, and Special Education. It is conferred upon a candidate who satisfactorily completes a post-master's program in education under the general requirements of the Graduate School and the following special requirements:

- Admission: The student, prior to admission to the program must 1) have a master's degree, 2) have a standing of 3.4 or higher on all graduate work, 3) meet the requirements for a teaching certificate or have credentials appropriate to the field of specialization, and 4) have at least 30 credit hours in courses in education (undergraduate and graduate). The student should file an application with the Graduate School and the Director of Graduate Studies in the appropriate department and must be recommended by the major program and the department.
- Program: The student must earn a minimum of 30 credit hours of graduate work beyond the master's degree, of which at least 15 must be in courses numbered 600 or above. A departmental committee is responsible for helping students plan individual programs. The program should contribute to specialization in a field but should not neglect the broader development of the individual. The student must complete an independent research project (equal to three but not to exceed 6 credit hours) and submit a written report, a copy of which is to be filed with the department directing the research. With the approval of the Director of Graduate Studies and the Dean of the Graduate School, the student may transfer a maximum of 9 credit hours earned beyond the master's degree from an accredited institution that is approved to offer work above the master's level.
- Final Examination: The final examination required of all candidates is administered by an examining committee consisting of at least three qualified members recommended by the advisor and the Director of Graduate Studies and appointed by the Dean of the Graduate School.

## **RANK I AND RANK II CLASSIFICATION**

Rank II classification may be achieved by the completion of a master's degree or the "Planned Fifth Year Program." The "Fifth Year" is a non-degree program of 32 semester hours for persons who hold bachelor's degrees and teaching certificates. A minimum of 18 hours must be completed at the University of Kentucky. Of the 32 hours, at least 12 must be in professional education, and at least 12 must be in fields outside education. Specific requirements depend upon the type of certificate desired. Information about specific certification requirements can be obtained from the appropriate Director of Graduate Studies.

Rank I classification requires the completion of 1) 30 hours of approved graduate-level credit in addition to the requirements for a Rank II classification, or 2) 60 hours of approved graduate-level credit including the master's degree.

Each student's graduate curriculum must be a well-rounded program of courses related to the student's major interest and approved by the advisor. In cases of deficient preparation, the advisor, with the approval of the Director of Graduate Studies in the respective department, determines prerequisite undergraduate courses to be taken. Specific questions regarding programs should be referred to the appropriate Director of Graduate Studies.

# 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, personal essay, 3 reference forms, 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.**

Minimum admission requirements are as follows:

- Minimum overall GPA of 3.0
- Minimum undergraduate accounting GPA of 3.2 with no less than a B in any of the accounting prerequisite courses.
- Minimum GMAT score of 600, however, applicants can be accepted into the program with a GMAT score less than 600 if their GPA score is higher than the minimum specified above.
- International students must have a minimum TOEFL IBT score of 90 or IELTS score of 7, and no less than a 30 on the verbal converted score on the GMAT exam.

### 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. You can learn more about the MSACC program by going to the following web page address: <http://gatton.uky.edu/Content.asp?PageName=MSAccIndex>

## 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)

## **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 those of the Graduate School, 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 second-year research paper requirement as part of the preliminary examination requirements. The student must defend a dissertation prospectus during the preliminary oral examination. 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)  
<http://www.ca.uky.edu/agecon/index.php>

## 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 622	ADVANCED AGRIBUSINESS MANAGEMENT STRATEGIES	(3)
AEC 624	ADVANCED QUANTITATIVE METHODS IN AGRICULTURAL ECONOMICS	(3)
AEC 626	AGRICULTURE AND ECONOMIC DEVELOPMENT (SAME AS ECO 674)	(3)
AEC 640	ADVANCED AGRICULTURAL POLICY	(3)
AEC 645	NATURAL RESOURCE ECONOMICS	(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 724	APPLIED ECONOMETRICS	(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)

## 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: cellular and molecular neurobiology, neurodegenerative diseases and aging, brain and spinal cord injury, neuroendocrinology, and behavioral, cognitive and integrated neuroscience. 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 at [www.mc.uky.edu/ibs/](http://www.mc.uky.edu/ibs/). 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)

## 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 must complete the on-line graduate school application and submit a completed Personal Data Record form (obtained online or from the Director of Graduate Studies) directly to the department.

### Degree Requirements

Programs in Animal Sciences are divided into the disciplinary areas of animal nutrition, reproduction, physiology, and food science. Special interests in beef or dairy cattle, horses, poultry, sheep and swine 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.

## GRADUATE COURSES

ASC 404G	SHEEP SCIENCE	(4)
ASC 408G	SWINE SCIENCE	(2)

ASC 410G	EQUINE SCIENCES	(3)
ASC 420G	DAIRY CATTLE SCIENCE	(3)
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	(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	(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 642	FOOD PIGMENTS	(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 Doctor of Philosophy degree, and the Master of Arts degree, with the M.A. limited to the archaeology, cultural anthropology, and medical anthropology concentrations. The degree programs, which share a core curriculum in the first year, provide education leading to the general understanding of anthropological theory and knowledge, research methods, and a specialized area of concentration. Areas of potential specialization are listed on the Department of Anthropology web page (<http://www.as.uky.edu/Anthropology>).

### PhD in Anthropology

The PhD program in Anthropology consists of a minimum of 36 credit hours, plus a minimum of two semesters of ANT 767. Students must fulfill any and all other requirements of the Graduate School. An entering PhD student should complete required coursework by the end of the second year, and successfully defend a dissertation proposal and successfully complete the qualifying exams as early as the fifth semester, but no later than the tenth semester, after admission to the program. Upon acceptance into the graduate program, a student will be assigned a graduate advisor who will review and approve all first year coursework, and in consultation with the DGS, evaluate requests for transfer of up to 9 credit hours of equivalent graduate-level coursework. Following the first year, all coursework will be approved by the student's committee.

Requirements in the Ph.D. program consist of: (1) three required courses - History of Theory (ANT 610) and a theory and a methods course in the student's designated sub-discipline, to be taken in the first year when available; (2) a course in Research Design (ANT 662), (3) an approved statistics course; (4) 7 courses (21 hours) of additional coursework, of which at least 1 course must be in an anthropological subdiscipline (archaeology, biological, cultural) other than the student's designated sub-discipline. Demonstrated competence by the student in reading or speaking one or more languages may be required by the student's committee. Students must complete and successfully defend to their committee a dissertation research proposal prior to the scheduling of the qualifying exams.

### Master of Arts in Anthropology

The Master of Arts degree in Anthropology is limited to the concentrations in archaeology, cultural anthropology, and medical anthropology. In consultation with the Director of Graduate Studies and/or the student's advisor and committee, candidates for the MA degree may select either Plan A or Plan B options. Plan A option includes a minimum of 27 hours of coursework, plus the completion of field research and a master's thesis. Plan B option includes a minimum of 33 hours of coursework and either (a) completion of a practicum under the direct supervision of a faculty member, with a resulting written report or publishable

paper, or (b) a library-based research project. In most cases, an oral exam is required. The MA Program option is considered a terminal degree.

Departmental requirements for the MA degree under this option are:

Plan A: (1) three core seminars in theory and methods, ANT 601, ANT 610 and ANT 660 or ANT 610, ANT 650 and ANT 651; (2) a statistics course at the 500+ level; and (3) a minimum of 15 additional credit hours of coursework in anthropology or cognate disciplines as approved by the student's committee; (4) a minimum of 3 thesis hours (ANT 748), and a research or museum-based thesis.

Plan B: (1) three core seminars in theory and methods, ANT 601, ANT 610 and ANT 660 or ANT 610, ANT 650 and ANT 651; (2) a statistics course at the 500+ level; and (3) a minimum of 21 additional credit hours of coursework in anthropology or cognate disciplines as approved by the student's committee; (4) a minimum of 3 practicum hours (ANT 760) for Plan B(a) option, with a written practicum report or publishable paper; OR a minimum of 3 research problem hours (ANT 790) for Plan B(b) option, with a library-based research project.

Students must fulfill any and all other requirements of the Graduate School. Upon acceptance a student will be assigned a graduate advisor who will review and approve all first year coursework. Following the first year, all coursework will be approved by the student's committee.

**The MA/PhD Program:** With the approval of the Graduate Committee and the Director of Graduate Studies, students without a Master's Degree may be admitted directly into the PhD program, and receive the MA following successful completion of the PhD qualifying exams. Students must take: (1) ANT 601, ANT 610 and ANT 660 or ANT 610, ANT 650 and ANT 651; (2) a statistics course at the 500+ level; and (3) a minimum of 15 additional credit hours of coursework in anthropology or cognate disciplines as approved by the student's committee.

Anthropology faculty members have research experience in the following areas: South and Southeast Asia, North and Sub-Saharan Africa, Middle East and North Africa, Europe, the former Soviet Union, Latin America, and North America, including the urban and rural U.S. and with specialization in studies of Appalachia. Members of the department participate in interdisciplinary research in the University's College of Agriculture, College of Medicine, College of Education, and School of Public Health. The Department of Behavioral Science 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, and three letters of recommendation. Consult the Department of Anthropology web site at [http://www.as.uky.edu/academics/departments\\_programs/Anthropology/Anthropology/Graduate/Pages/default.aspx](http://www.as.uky.edu/academics/departments_programs/Anthropology/Anthropology/Graduate/Pages/default.aspx) or contact the Director of Graduate Studies, Department of Anthropology, for additional information on departmental requirements and opportunities for financial assistance.

## GRADUATE COURSES

Graduate credit courses include all 600 and above level courses; additionally some 4##G courses and some 500 level courses, with approval from the student's committee, may count towards the graduate degree in Anthropology. See the registrar's web site for a detailed list of courses

<http://www.uky.edu/Registrar/bulletinCurrent/courses/ANT.pdf>

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 532	PRIVATE INTERESTS IN THE PUBLIC DOMAIN:	(3)
ANT 534	THE SOUTHERN APPALACHIANS: A SOCIOLOGICAL INTER-PRETATION (SAME AS SOC 534)	(3)
ANT 541	ARCHAEOLOGICAL METHOD AND THEORY	(3)
ANT 543	CULTURAL RESOURCE MANAGEMENT	(3)
ANT 545	HISTORICAL ARCHAEOLOGY	(3)
ANT 555	EASTERN NORTH AMERICAN ARCHAEOLOGY	(3)
ANT 580	ADVANCED TOPICS IN ANTHROPOLOGY	(3)
ANT 581	INDEPENDENT WORK IN ANTHROPOLOGY	(1-4)
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 610	HISTORY OF ANTHROPOLOGICAL THEORY	(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 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 652	DEMOGRAPHIC ARCHAEOLOGY	(3)
ANT 653	PREHISTORIC ECONOMICS	(3)
ANT 654	ARCHAEOLOGY OF POLITICAL SYSTEMS	(3)
ANT 660	ETHNOGRAPHIC RESEARCH METHODS	(3)
ANT 662	RESEARCH DESIGN	(3)
ANT 684	FARMING SYSTEMS RESEARCH METHODS	(3)
ANT 691	CULTURAL RESOURCE MANAGEMENT CLERKSHIP	(1-3)

ANT 725	SEMINAR IN APPLIED ANTHROPOLOGY	(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 760	PRACTICUM IN APPLIED 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)

## 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)
<b>TOTAL</b>		<b>(57)</b>

## 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

### 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)

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## ART

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

### Master of Arts - Art Education

The Master of Arts in Art Education seeks to credential teachers for the following routes to Rank II and Rank I:

- 1) Candidates who hold a bachelor's degree and initial certification in Art Education can pursue the Masters of Arts in Art Education (Plan A, thesis option), which leads to Rank II advancement.
- 2) Candidates who hold a bachelor's degree and initial certification in Art Education can pursue the Masters of Arts in Art Education (Plan B, non-thesis option), which leads to Rank II advancement.
- 3) Candidates who hold a bachelor's degree and initial certification in Art Education can pursue the non-degree, fifth-year program that leads to Rank II advancement.
- 4) Candidates who hold Rank II may advance in rank to Rank I with completion of 30 credits beyond the Rank II.
- 5) Candidates who hold either a Rank II or a Rank I in Art Education may pursue a program leading directly to the Teacher Leader Endorsement.

### Admission Requirements

Candidates 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 candidates 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 artworks and professional writing and other evidence of professional attainment (or a 300-500 word statement of interest in advance studies in Art Education).

### Application Procedures and Deadlines

Because the Graduate School is the administrative unit for all graduate students and because the Art Education program is responsible for ensuring compliance with Kentucky Educational Professional Standard Board requirements and the execution of the academic curriculum, different application materials are required.

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 Education graduate program should be sent to the Graduate Advisor for Art Education (Art Department, 207 Fine Arts Building, University of Kentucky, Lexington, Kentucky 40506-0022) and be uploaded to our Otis-online-Electronic Portfolio which will be provided for you.

The application for a Masters in Art Education requires additional specific application materials to be included in the online application. They are as follows:

- An electronic portfolio of 10 recent artworks sent as a .pdf with an image key with title, date, size, and medium for each submitted work as part of that document. (maximum resolution 8" x 10" x 72 dpi – NO PowerPoint presentations). This may be uploaded as one document under "Writing Sample". If your files are too large, please resize them. If resizing them distorts them in any way, please mail a CD or DVD of your portfolio to Graduate Advisor (207 Fine Arts, School of Art & Visual Studies, University of Kentucky, Lexington, KY 40506-0022) by January 6.
- Time-based materials on DVD (QuickTime or DVD with menus – 10 minutes max) are too large to be uploaded and should be sent to the Graduate Advisor (207 Fine Arts, School of Art & Visual Studies, University of Kentucky, Lexington, KY 40506-0022) by January 6. Web address with the same materials, as a back up if the CD/DVD fails, will be considered. This may be uploaded as one document under "Writing Sample".
- A brief letter stating your goals for graduate study and your interest in being considered for an assistantship, fellowship, and or internship.
- Two letters of recommendation.
- Brief resume.

Application materials must be received no later than January 1<sup>st</sup> for fall semester and November 1<sup>st</sup> for spring semester admittance. Candidates wishing to be considered for a teaching assistantship should provide the Graduate Advisor for Art Education with an additional letter to indicate their interest and credentials for an assistantship by January 1.

## Degree Requirements

**Thesis Option:** Successful candidates for the Master of Arts in Art Education must satisfactorily complete: (1) a thesis, an oral/written examination, the mid-point and exit portfolio reviews; (2) 30 credit hours of graduate course work to be divided as follows: (a) 12 -15 graduate credit hours in Art Education; (b) 9 – 12 graduate credit hours in Leadership; (c) 6 – 9 graduate credit hours in the Individual Program Support which may be taken as 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. Students must have an approved proposal to proceed with their thesis work.

**Non-Thesis Option:** Successful candidates for the Masters of Arts in Art Education must satisfactorily complete the mid-point and exit portfolio reviews and 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, (2) 9 – 12 graduate credit hours in Leadership, and (3) 6 – 9 graduate credit hours in Individual Program Support which 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.

For inquiry and questions, please contact Dr. Allan G. Richards at 859-257-3944 or [allan.richard@uky.edu](mailto:allan.richard@uky.edu)

## **Master of Arts - Art History & Visual Studies**

The Master of Arts in Art History & Visual Studies 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 and, more broadly, visual studies. We recommend that courses be broadly selected to take full advantage of the multiple approaches, expertise, and insights of the faculty.

### **Admission Requirements**

Experience suggests that applicants from a wide variety of educational backgrounds may earn a MA degree in Art History & Visual Studies. It is recommended that those without an undergraduate art history major consult with the art history & visual studies 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**

The Graduate School, which is the administrative unit for all graduate students, and the Art History & Visual Studies graduate program, which is responsible for the academic curriculum, require different application materials. All application materials must be submitted through the on-line application, which is located on the Graduate School homepage: <http://www.gradschool.uky.edu/>. Click on Apply for Admission, then on new graduate admissions application (<http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html>).

Application materials for admission to the Graduate School include:

- Application form that you complete.
- Copies of transcripts from all higher education institutions attended, which should be uploaded on the appropriate location on the on-line application. Domestic students are to self-report GPA's for each institution attended. (A tip: convert transcripts on colored paper to white with black ink so as not to

exceed the megabit limitation on the on-line form).

- GRE scores that you self-report in the appropriate location on the on-line application. (At the point of acceptance into the program, official GRE scores must be requested and sent directly from the Educational Testing Service (ETS) to the University of Kentucky; the Institution Code for the GRE for UK Graduate School is R1837).
- Application fee.

Application materials for the Art History & Visual Studies graduate program are also to be submitted on-line on the new graduate admissions application and include a:

- Brief résumé.
- Personal statement that explains your interest in art history graduate study, experience, and plans.
- Sample of research, such as an undergraduate research paper. (A tip: if the research sample is greater than 2.5 megabits, please send a hardcopy directly to the Graduate Advisor in Art History & Visual Studies, School of Art & Visual Studies, 207 Fine Arts Bldg., University of Kentucky, Lexington, KY 40506-0022).
- Contact information in the form of e-mail addresses for two recommenders who will be notified to submit their recommendations electronically to the on-line system.

## Application Deadlines

Fall semester admission:

- January 1 – for applicants requesting an assistantship. Art History & Visual Studies traditionally has had two teaching assistantships and occasional research assistantships to award. Students who want to apply should send a separate letter in hardcopy form that indicates their interest in being considered for an assistantship to the Graduate Advisor in Art History & Visual Studies, School of Art & Visual Studies, 207 Fine Arts Bldg., University of Kentucky, Lexington, KY 40506-0022.
  - April 1 – deadline for all other applicants for fall semester admission who are not requesting an assistantship.
- Spring semester admission
- November 1.

## 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, film studies, 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, film studies, 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**

The Master of Fine Arts (M.F.A.) degree in Art Studio is the terminal academic degree for studio artists and the required faculty credential for most institutions of higher learning. In addition to being fully qualified to teach at the college-level, M.F.A. graduates will possess the skills to pursue careers in commercial venues or as full-time practicing fine artists. Students enrolled in the M.F.A. program are encouraged to explore inter-disciplinary and cross-disciplinary mediums or concentrate upon a single media dependent upon the direction of their research.

Applications are reviewed only once per year for fall semester admittance. The deadline for all materials is January 6. Undergraduate artwork must be substantially equal in quality, scope, and number of hours to the undergraduate major at the University of Kentucky.

### **Admission Requirements**

While a B.A. or B.F.A. in studio art is the preferred preparatory degree for the M.F.A. program, students from a variety of educational backgrounds may apply. The determinate factor in admittance to the program will be the quality of the submitted artwork.

### **Application Procedures and Deadlines**

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

Application for admission to the Graduate School requires:

- A 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 from all institutions previously attended.
- Official GRE scores.
- TOEFL scores and/or IELTS scores if an international student.
- Application fee.

The application for a Masters in Fine Arts requires additional specific application materials to be included in the online application. They are as follows:

- An electronic portfolio of 20 recent artworks sent as a .pdf with an image key with title, date, size, and medium for each submitted work as part of that document. (maximum resolution 8" x 10" x 72 dpi – NO PowerPoint presentations). This may be uploaded as one document under "Writing Sample". If your files are too large, please resize them. If resizing them distorts them in any way, please mail a CD or DVD of your portfolio to Graduate Advisor (207 Fine Arts, School of Art & Visual Studies, University of Kentucky, Lexington, KY 40506-0022) by January 6.
- Time-based materials on DVD (QuickTime or DVD with menus – 10 minutes max) are too large to be uploaded and should be sent to the Graduate Advisor (207 Fine Arts, School of Art & Visual Studies, University of Kentucky, Lexington, KY 40506-0022) by January 6. Web address with the same materials, as a back-up if the CD/DVD fails, will be considered. This may be uploaded as one document under "Writing Sample".
- A brief letter stating your goals for graduate study and your interest in being considered for an assistantship, fellowship, and or internship.
- A brief résumé.
- Three letters of recommendation.

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 graduate level 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 Art Studio faculty.

The student will designate a major area with the advice of the Graduate Advisor for Art Studio 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.

## 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 665	ISSUES IN ART EDUCATION	(3)
A-E 670	SCHOOL AND COMMUNITY ART	(3)
A-E 675	AESTHETICS AND DESIGN	(3)
A-E 680	HISTORY OF ART EDUCATION	(3)
A-E 685	ACTION RESEARCH IN ART EDUCATION	(3)
A-E 695	INDEPENDENT WORK: ART EDUCATION	(1-3)
A-E 748	MASTER'S THESIS RESEARCH	(0)
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 504	PRACTICAL ISSUES IN ART HISTORY (SUBTITLE REQUIRED)	(3)
A-H 524	THEORY AND METHODS (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	INTERDISCIPLINARY APPROACHES (SUBTITLE REQUIRED)	(3)
A-H 528	TOPICAL SEMINAR IN ART HISTORY AND VISUAL STUDIES (SUBTITLE REQUIRED)	(3)
A-H 529	TOPICAL SEMINAR IN ARCHITECTURAL OR DESIGN HISTORY (SUBTITLE REQUIRED)	(3)
A-H 555	METHODS IN ART HISTORY AND VISUAL STUDIES	(3)
A-H 592 A	ESTHETICS (SAME AS PHI 592)	(3)
A-H 598	COORDINATE STUDY	(3)
A-H 599	INTERNSHIP IN ART HISTORY AND VISUAL STUDIES	(1-9)
A-H 599	INTERNSHIP IN ART HISTORY & VISUAL STUDIES	(3)
A-H 603	THE ART OBJECT (SUBTITLE REQUIRED)	(3)
A-H 604	PRACTICAL PROBLEMS IN ART HISTORY (SUBTITLE REQUIRED)	(3)
A-H 624	PROBLEMS IN THEORY AND METHODS (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 PROBLEMS (SUBTITLE REQUIRED)	(3)
A-H 628	ART HISTORY AND VISUAL STUDIES TOPICAL SEMINAR (SUBTITLE REQUIRED)	(3)
A-H 629	ART HISTORY TOPICAL SEMINAR IN ARCHITECTURAL OR DESIGN HISTORY (SUBTITLE REQUIRED)	(3)



A-H 748	MASTER'S THESIS RESEARCH	(0)
A-H 768	THESIS FORMULATION AND PREPARATION IN ART HISTORY	(3)
A-H 780 I	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 546	INTERMEDIA	(3)
	(SUBTITLE REQUIRED)	
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 777	PROBLEMS IN INTERMEDIA	(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)

## ARTS ADMINISTRATION

The University of Kentucky prepares the next generation of arts leaders through its innovative online M.A. in Arts Administration. This program is designed to serve a vibrant and growing arts and culture industry that attracts more than 78 million Americans each year and contributes \$166.2 billion to the economy annually.

Ideal candidates for the M.A. include individuals who have experience in the arts or arts management and have the desire to supplement this experience with more in-depth training in the form of an advanced business and nonprofit arts-focused degree. These include persons who have graduated with a bachelor's degree in Arts Administration or a related field and professionals with experience in the arts or arts management.

UK offers its M.A. in Arts Administration as a completely online program. This provides several benefits to UK graduate students:

- Time and location flexibility
- Quality instruction
- Affordability - All students accepted into the Arts Administration M.A. program pay the in-state tuition rate regardless of residential location. (To receive this benefit, students must take Arts Administration M.A. courses exclusively.)

### Admissions

Applicants to the Master of Arts in Arts Administration program should have an undergraduate degree in arts administration or a related arts field including but not limited to architecture, art, cinema studies, dance, design, film, English, music or theatre. Students may also be admitted if they have completed an undergraduate degree in business, communications or a related field. Students should demonstrate an interest in the arts through extra-curricular activities, volunteer or professional experience.

### Application Process and Deadlines

To apply for admission to the M.A. in Arts Administration program, applications must be submitted online to the [UK Graduate School](#). **New graduate students are accepted only for the fall semester; there are no spring admissions.**

Priority review for admission to the program begins on March 15. Applicants meeting the March 15 deadline will be notified of an application decision no later than April 15. After May 1 applications will be accepted and reviewed on a space availability basis only. The closing date for all applications is July 15.

### Application Procedures

The Director of the Graduate Program and the department's Graduate Admissions Committee reviews applications for admission to the M.A. in Arts Administration program. The criteria for admission and the materials evaluated in making admission decisions are listed below. Please keep in mind that applicants are evaluated individually and also in terms of the overall quality of the pool of applications.

To apply for admission to the program, application should include the following items

- Official transcripts
- Official GRE Scores
- A resume (no more than two pages in length) indicating the applicant's education, professional and volunteer experience, accomplishments and qualifications for graduate study.
- A statement of purpose (one page, single-spaced) indicating the reasons for the applicant's interest in graduate study in Arts Administration at UK and what they hope to accomplish with their degree.
- A portfolio of writing samples (10-15 pages) that should include at least one sample of college-level research writing but may also include professional writing samples that demonstrate critical and analytical thinking. Professional writing samples may include researched essays, marketing or fundraising materials, planning documents or journalistic work.
- Two letters of recommendation addressing the applicant's qualifications for graduate work and proclivity for the field of arts administration.

Please note that notification emails will indicate "University of Kentucky - The Graduate School" as the sender but will come from [support@hobsons.com](mailto:support@hobsons.com). If they use a spam-blocking tool, please ask them to add this email address to their list of known/safe addresses.

## GRADUATE COURSES

AAD 520	THE ARTS AND ARTISTS IN SOCIETY	(3)
AAD 540	SEMINAR IN ARTS ADMINISTRATION*	(3)
AAD 600	ARTS ADMINISTRATION TECHNOLOGIES	(3)
AAD 610	FINANCIAL MANAGEMENT FOR ARTS ORGANIZATIONS	(3)
AAD 620	MANAGEMENT AND LEADERSHIP IN THE ARTS	(3)
AAD 630	MARKETING RESEARCH AND PLANNING FOR ARTS ORGANIZATIONS	(3)
AAD 640	PRINCIPALS OF FUNDRAISING	(3)
AAD 650	ARTS AND THE LAW	(3)
AAD 660	SOCIAL AND CULTURAL ENTREPRENEURSHIP IN THE ARTS	(3)
AAD 699	ARTS ADMINISTRATION INTERNSHIP*	(3)
AAD 730	MARKETING STRATEGIES AND APPLICATIONS FOR ARTS ORGANIZATIONS	(3)
AAD 740	FUNDRAISING TECHNIQUES	(3)
AAD 750	CAPSTONE COURSE IN ARTS ADMINISTRATION	(3)

*\*Students are required to take either AAD 540 or AAD 699 to be determined in consultation with a faculty advisor.*

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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/ProspectiveStudents.html](http://www.mc.uky.edu/athletic_training/ProspectiveStudents.html) . 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)
AT 740	MUSCULOSKELETAL ANATOMICAL DISSECTION	(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 PhD in Clinical and Translational Science, a mentored research training program to enable exceptional professionals with terminal professional health care degrees (e.g., physicians, nurses, dentists, pharmacists, public health professionals, MD/PhD students) to contribute well-reasoned original research contributions to the discovery of clinical health knowledge and its application. The Department also offers graduate certificates in 1) Medical Behavioral Science for doctoral students in sociology, anthropology, psychology, other behavioral science disciplines, and nursing, and 2) Clinical and Translational Science for faculty members, professionals in postgraduate training, graduate students, staff and practicing professionals who would like

to develop the foundational skills needed to participate in clinical and translational research. These programs are described in more detail in this bulletin.

Additional information may also be obtained from the Department of Behavioral Science Web site (<http://www.mc.uky.edu/behavioralscience/>). Inquiries should be directed to the Director of Graduate Studies, Department of Behavioral Science.

## GRADUATE COURSES

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 731	METHODS AND TECHNOLOGIES IN CLINICAL AND TRANSLATIONAL SCIENCE	(3)
BSC732	INTERDISCIPLINARY PROTOCOL DEVELOPMENT	(3)
BSC 733	SEMINAR IN CLINICAL AND TRANSLATIONAL SCIENCE	(1)
BSC 745	RESEARCH METHODS IN MEDICAL BEHAVIORAL SCIENCE	(3)
BSC 746	RESEARCH ETHICS AND DILEMMAS	(3)
BSC 760	AGING, HEALTH AND DECISION MAKING	(3)
BSC 763	WOMEN'S TRAUMA AND MENTAL HEALTH	(3)
BSC 764	SEMINAR IN HEALTH INEQUITIES	(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 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 787	BIOBEHAVIORAL PERSPECTIVES ON DRUG AND ALCOHOL ABUSE AND DEPENDENCY	(3)
BSC 788	DRUG ABUSE CONTEMPORARY THEORIES AND ISSUES	(3)
BSC 790	RESEARCH IN MEDICAL BEHAVIORAL SCIENCE	(1-6)

# BIOLOGY

## Overview

The Biology Graduate Program offers Doctor of Philosophy and Masters of Science degrees (thesis and non-thesis) 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, GRE scores, letters or recommendation, prior research experience, and on their expressed interest in our graduate program training areas or the research of the Biology Department 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 or more 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. A one-credit *Biology Graduate Student Orientation* seminar course is required for all first year graduate students admitted into the Biology program. 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 an exit exam (thesis defense for Ph.D. and Plan A M.S.). Additional coursework depends on the area of specialization and is determined with input from the faculty mentor and student's advisory committee and the training program. The training programs include Environmental and Evolutionary Biology (EEB), Molecular, Cellular and Developmental Biology (MCDB), 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 perspective. This includes the study of micro- and macro-evolutionary processes; the physiological, developmental, and behavioral adaptations of individual organisms; predator-prey, mutualistic, 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 ecological systems are achieved in an interactive, interdisciplinary research environment 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, Cellular and Developmental Biology Training Program:** Molecular, Cellular and Developmental Biology (MCDB) training focuses on fundamental cellular and developmental processes such as gene expression, cell proliferation, cell signaling, development, neural function, aging, and behavior. We apply biochemical, genetic, physiological, and molecular techniques to resolve outstanding issues in biology and use a diverse set of experimental organisms (*e.g.* fungi, cultured cells, and complex animals ranging from the fruit fly to mouse). Entering MCDB students rotate through two different laboratories before selecting a research mentor near the end of the first year of study. Students participate in weekly research and literature seminars and are guided in the selection of other formal course work in order to best prepare for their thesis/dissertation studies. The faculty and students in the MCDB group

interact closely with each other, with colleagues elsewhere on our campus, and with scientists worldwide to achieve a stimulating research atmosphere. Our program successfully prepares students for scientific research careers in academic, industrial and governmental settings.

**Tailored Training:** The Tailored Training program provides great curricular flexibility. The principal difference between Tailored Training and training in the MCDB 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 MCDB 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 all Ph.D. and Plan A M.S. students accepted for graduate admission; no financial aid application is required. 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 at either the MS or Ph.D. levels. 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 (old scoring system) or 300 (new scoring system) and, for non-native English speakers, a TOEFL score of at least 550 on paper based test or 213 on the computer-based test (CBT) or 79 on internet-based test (IBT). Our GRE institution code is 1837 and Department Code is 0206. We encourage completed applications by January 1 although applications will continue to be reviewed until all positions are filled.

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. Every student entering the Biology Graduate Program is presented with the [Graduate School Bulletin](#) at orientation to familiarize the students with UK Graduate School policy. In addition, each student is provided with a copy of the Rules, Regulations & Policies for the Biology Graduate Program which describes the Departmental rules governing the Biology Graduate Program.

The Biology Graduate Program application is available [online](#). This application and additional information about the Biology Graduate Program can be found at the Program website: <http://bio.as.uky.edu/grad-program>. 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

A&S 500	SPECIAL TOPICS COURSE (RECENT OFFERINGS AS ANIMAL SENSES; STEM CELLS & TISSUE ( ENGINEERING; HOMEOSTASIS)	(1-4)
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	LIFE CYCLE ECOLOGY OF FLOWERING PLANTS	(4)
BIO 555	VERTEBRATE ZOOLOGY	(5)
BIO 559	ORNITHOLOGY	(4)
BIO 560	ENVIRONMENTAL PHYSIOLOGY AND TOXICOLOGY (SAME AS TOX 560)	(4)
BIO 561	INSECTS AFFECTING HUMAN AND ANIMAL HEALTH (SAME AS ENT 561)	(3)
BIO 563	PARASITOLOGY (SAME AS ENT 563)	(4)
BIO 564	INSECT TAXONOMY (SAME AS ENT 564)	(4)
BIO 568	INSECT BEHAVIOR (SAME AS ENT 568)	(3)
BIO 570	INVERTEBRATE ZOOLOGY	(4)
BIO 575	PLANT ANATOMY AND MORPHOLOGY	(4)



BIO 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS (SAME AS BCH/MI/PLS/PPA 601)	(1)
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 612	BIOLOGY OF AGING (SAME AS ANA/GRN/PGY 612)	(3)
BIO 615	MOLECULAR BIOLOGY (SAME AS MI/BCH 615)	(3)
BIO 620	PLANT MOLECULAR BIOLOGY (SAME AS PLS 620)	(3)
BIO 621	TOPICS IN MODERN BIOLOGY (RECENT OFFERINGS AS ADVANCED GENETICS; POPULATION BIOLOGY; BIOMETRY; MEMBRANE BIOPHYSICS)	(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 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)

## BIOMEDICAL ENGINEERING

The Department of 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 Department 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 control, magnetic resonance imaging, orthopedic biomaterials and bone tissue engineering, orthopedic biomechanics, and respiratory dynamics. The Department is housed in the Wenner-Gren Research Laboratory that provides the framework for multidisciplinary research. Faculty and staff of the Department 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. Department 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  $\geq 156$  (Quantitative),  $\geq 154$  (Verbal) and  $\geq 4.0$  (Analytical). Additional application materials to be submitted to the Department 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 640	Ethics in BME and Science	(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, Department of Biomedical Engineering, Wenner-Gren Research Lab, University of Kentucky, Lexington, KY 40506-0070, by e-mail at [bmedgs@uky.edu](mailto:bmedgs@uky.edu) , or by visiting our Web site at <http://www.bme.uky.edu/>.

## 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 (SAME AS EE 579)	(3)
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 (SUBTITLE REFLECTS SPECIALIZATION)	(1-3)
BME 699	SPECIAL TOPICS IN BIOMEDICAL ENGINEERING (SUBTITLE REFLECTS SPECIALIZATION)	(1-3)
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)

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## **BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

The Biosystems and Agricultural Engineering Department offers programs leading to the M.S. (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. Exceptions to these requirements are considered on a case-by-case basis, taking into account the materials described above as well as GRE scores.

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 for unconditional admission. Exceptions to these requirements are considered on a case-by-case basis, taking into account the materials described above as well as GRE scores. Ph.D. students are admitted into candidacy after they have successfully completed the Qualifying Exam.

### **Degree Requirements**

The objectives of the Biosystems and Agricultural Engineering graduate program are to develop and strengthen:

1. the ability to plan and conduct research and design involving the application of engineering science to biological and agricultural systems.
2. an understanding of mathematical, physical, and biological sciences that enables critical assessment of scientific 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.

Graduate students will combine courses in Biosystems and Agricultural Engineering, other engineering fields, the physical sciences, and the biological sciences to develop a program of study that facilitates these objectives. 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 normally concentrates on a strong thesis or dissertation problem completed under the supervision of the graduate faculty of the department. A 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	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)

## **BUSINESS ADMINISTRATION**

The College of Business and Economics offers the Master of Business Administration and the Doctor of Philosophy in Business Administration degrees. Faculty participating in the M.B.A. and the Ph.D. programs are members of the School of Accountancy, the Department of Finance and Quantitative Methods, the Department of Management, the Department of Marketing and Supply Chain, 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**

Gatton's accelerated option is an intensive, cross-disciplinary, hands-on experience that will make you world ready for a career in business. Our teaching philosophy incorporates a number of the core business processes, including marketing, management, and finance; as well as the more technical business courses such as quantitative analysis, operations management (supply chain), global management, and data analysis. Additionally, you will cover those critical areas that the corporate world values, including leadership, communication and presentation skills, ethics, and strategic thinking. All of this takes place in highly interactive, action-based courses and learning laboratories situated in the corporate setting through Project Connect which is a built in internship with companies in the area delivered in a team setting.

The Professional Evening M.B.A. program is a program designed for the working professional 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 Professional Evening M.B.A. program will graduate with an advanced degree designed to broaden and enhance their skill set.

## Admission Requirements

The One Year Accelerated M.B.A. program does not require prerequisite courses. Prerequisites for the Professional Evening M.B.A. program include undergraduate accounting and economic courses. These prerequisites can be satisfied as listed below.

The Professional Evening M.B.A. program 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 the similar courses at another accredited university,
- c) passing B&E 223, Introduction to the Economics of Business and passing B&E 221 and B&E 222 Accounting Courses offered in the Summer Session,
- d) passing college-level proficiency (CLEP) examinations, or
- e) successfully completing correspondence courses.

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 scale. The Graduate Management Admission Test (GMAT) or the Graduate Record Exam (GRE) is required for admission in the M.B.A. program. Exceptions (at our discretion) to this requirement are students presently in law, medicine or PharmD schools, or licensed attorneys, medical doctors or pharmacists with a PharmD degree, and also persons having a doctoral degree from an accredited university. International students must present a Test of English as a Foreign Language (TOEFL) with an overall minimum score of 550 written and 213 computer. The exception for the TOEFL test is for those students who hold a degree from a U.S. institution of higher education. 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.

Subject to the exceptions stated above, no student will be admitted to either the One Year Accelerated or Professional Evening M.B.A. program before completion of the GMAT or GRE and the completion of the prerequisites for the Evening Program.

The mission of the M.B.A. program is to educate, train and equip graduates with the essential skills for entry and mid-level management positions in a variety of organizations and industries. Specifically, the program is designed to provide:

- 1) The ability to think creatively and strategically about complex real world business problems.
- 2) An appreciation of ethical and societal responsibilities.
- 3) Develop a multidisciplinary and global perspective.
- 4) Possess analytical, critical and logical reasoning skills.
- 5) Possess strong written and oral communication skills.
- 6) Develop entrepreneurial and business assessment skills.
- 7) Promote innovation and creativity in the workplace.

The One Year Accelerated M.B.A. program consists of 51 credit hours while the Professional Evening M.B.A. program of study requires 36 semester credit hours of work.



<b>One Year Program</b>	<b>Credit Hours</b>
DIS 651 Quantitative Analysis	3
ECO 610 Managerial Economics	3
MGT 697 Leadership, Communications & Ethics	3
MBA 630 Professional Development	1
MBA 640 Project Connect I	4
ACC 628 Managerial/Financial Accounting	3
MKT 600 Marketing Management	3
MGT 610 Global Management	3
FIN 600 Corporate Financial Policy	3
MKT 601 Marketing Research	3
Elective *	3
MBA 642 Project Connect II	4
FIN 645 Corporate Investment & Financing Policy	3
DIS 612 Supply Chain Operations	3
MGT 612 Negotiation and Conflict Resolution	3
MGT 611 Managing Effective Organizations	3
MGT 699 Business Policy & Strategy (Capstone)	3

\*A 600-level course approved by the Director of Graduate Studies

### **Professional Evening M.B.A. Program – 2 Year or 3 Year Part-time Program**

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)

Students are required to have a minimum B grade average to graduate. Students receiving two grades of C 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/gsgsapplication.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 at institutions of higher learning within the USA and also internationally. 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 and in a supportive collegial environment. Specifically, the program is designed to provide:

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

### **Admission Requirements**

1. The Ph.D. is designed to provide specialization beyond the master's level, but applicants without master's degrees will be considered if suitably qualified. The educational background of candidates is 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, however candidates with other backgrounds (e.g. mathematics, engineering, economics, psychology) are encouraged to apply.
2. Applicants with previous graduate credits are evaluated 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 and submit scores before an admission decision can be made. In some areas and

at the discretion of the Director of Graduate Studies, the GRE may be accepted as an alternative to the GMAT.

Unless the most recently awarded degree is from an accredited university within the USA, applicants whose native language is not English must submit proof of English ability (TOEFL or IELTS) with scores meeting at least the minimum requirements of the Graduate School.

## **Degree Requirements**

Minimum requirements for the doctoral degree are a total of 40 hours of graduate level coursework and successful completion of the Qualifying Examination followed by registration for a minimum of 2 consecutive semesters for dissertation residence credit.

### **1. Core Requirements**

- A) 3 credit hours in research methodology
- B) 6 credit hours in theoretical foundations
- C) 9 credit hours in research tools (including statistics)
- D) 1 credit hour in techniques for business education

Total credit hours in the core 19

### **2. Major Field Requirements:**

The major field consists 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      Finance and Quantitative Methods  
Management      Marketing and Supply Chain

All course work must be approved by the Director of Graduate Studies.  
Written and oral comprehensive examinations are required in the major field.

### **3. Post Qualifying Examination Requirements**

- A. A dissertation based on original research on a significant topic is required. The dissertation is defended in an oral examination.
- B. 2 consecutive semesters (4 credit hours minimum) of dissertation research residence credit.

### **4. Maintenance of Good Standing.**

- A. A minimum average of grade of B for graduate credit and in all courses after being admitted to the Graduate School must be maintained.
- B. Doctoral students obtaining two grades of C are subject to dismissal from the program regardless of the number of offsetting A's.
- C. Doctoral students obtaining an E grade are subject to dismissal from the program
- D. A student failing the Qualifying Exam is subject to dismissal.

- E. A student may be dismissed from the program after successfully passing the Qualifying Examination if in the judgment of the student's Advisory Committee he/she is not making satisfactory progress toward the completion of a dissertation.

Students who wish to apply for admission to the Ph.D. program should submit an online application to the Graduate School <http://www.research.uky.edu/gs/gsappplication.html>. For detailed admission information, visit the Gatton College Web site [www.gatton.uky.edu/](http://www.gatton.uky.edu/), call 859.257.3592, or write to

The Office of the Associate Dean  
235 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	(3)
DIS 651	QUANTITATIVE ANALYSIS IN BUSINESS DECISION MAKING	(3)
DIS 695	INDIVIDUAL WORK IN DSIS	(3)
DIS 700	TOPICS IN OPERATIONS MANAGEMENT	(3)
DIS 720	MANAGEMENT INFORMATION SYSTEMS THEORY	(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 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 610	GLOBAL MANAGEMENT	(3)
MGT 611	ORGANIZATIONAL BEHAVIOR (SAME AS MFS 611)	(3)
MGT 612	STRUCTURED PROBLEM SOLVING IN BUSINESS	(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 641	LEGAL ISSUES IN THE ACCOUNTING PROFESSION	(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 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	(3)
MGT 781	INDEPENDENT WORK IN MANAGEMENT	(1-6)
MGT 795	SOCIAL NETWORKS AND ORGANIZATIONS	(3)
MGT 796	SOCIAL NETWORK ANALYSIS	(3)
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 Economics programs in this Bulletin.

## 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 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

Apart from the admissions standards set for all departments by the [Graduate School](#), the only specific departmental requirement for admission to the Graduate Program in Chemistry is an undergraduate degree in chemistry or its equivalent (with sufficient sampling of courses pertaining to the main chemistry disciplines). 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. A list of unofficial metrics used to rank applications can be found at the [Chemistry Department's Admission](#) webpage. Teaching Assistantships are generally only offered to entering students seeking the Ph.D. degree; entering applicants targeting a M.S. degree are usually 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. 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.

### 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. Examinations in the areas of Analytical, Inorganic, Biological, Organic, and Physical Chemistry are given eight times per year, and a Ph.D. student must score eight points (with half of those points requiring a score of 2 or better) within two years in order to take the oral part of the Qualifying Examination.



## 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. degree. Students wishing to follow this plan must 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.

For further information on any degree program in Chemistry, contact the Director of Graduate Studies at [chemistry@uky.edu](mailto:chemistry@uky.edu).

## GRADUATE COURSES

CHE 410G	INORGANIC CHEMISTRY	(2)
CHE 440G	PHYSICAL CHEMISTRY I	(4)
CHE 442G	PHYSICAL CHEMISTRY II	(3)
CHE 446G	PHYSICAL CHEMISTRY FOR ENGINEERS	(3)
CHE 510	ADVANCED INORGANIC CHEMISTRY	(3)
CHE 514	DESCRIPTIVE INORGANIC CHEMISTRY	(3)
CHE 524	CHEMICAL INSTRUMENTATION	(4)
CHE 526	CHEMICAL SEPARATIONS	(2)
CHE 532	SPECTROMETRIC IDENTIFICATION OF ORGANIC COMPOUNDS	(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 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 640	CHEMICAL CRYSTALLOGRAPHY	(3)
CHE 643	SPECTROSCOPY AND PHOTOPHYSICS	(3)
CHE 646	CHEMICAL KINETICS	(3)
CHE 666	PROTEOMICS AND MASS SPECTROMETRY	(3)
CHE 668	SYMMETRY AND CHEMICAL APPLICATIONS	(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), 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.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.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 Graduate Record Examination (GRE).

Students with undergraduate majors not in engineering must also take a certain number of undergraduate remedial courses. Neither 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, construction engineering and management, environmental engineering, geotechnical engineering, hydraulics and water resources engineering, structural engineering, and transportation engineering.

Another admission requirement is a minimum combined verbal and quantitative scores of GRE as follows: 1000 (300: New GRE), and 1100 (330: New GRE) for Master's and Ph.D. degree applicants, respectively. Scores on the analytical portion are not 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 (Computer Based TOEFL: 213, iBT TOEFL: 80).

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, 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 508	DESIGN AND OPTIMIZATION OF CONSTRUCTION OPERATIONS	(3)
CE 509	CONTROL OF THE CONSTRUCTION PROJECT	(3)
CE 517	BOUNDARY LOCATION PRINCIPLES	(3)
CE 525	CE 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	(3)
CE 541	INTERMEDIATE FLUID MECHANICS (SAME AS BAE 541)	(3)
CE 542	INTRODUCTION TO STREAM RESTORATION (SAME AS BAE 532)	(3)
CE 546	FLUVIAL HYDRAULICS (SAME AS BAE 536)	(3)
CE 547	WATERSHED SEDIMENTATION (SAME AS BAE 547)	(3)
CE 549	ENGINEERING HYDRAULICS (SAME AS BAE 545)	(3)
CE 555	MICROBIAL ASPECTS OF ENVIRONMENTAL ENGINEERING	(3)
CE 551	WATER AND WASTEWATER TREATMENT ENGINEERING	(3)
CE 568	GIS APPLICATIONS FOR WATER RESOURCES (SAME AS BAE 538)	(3)
CE 579	GEOTECHNICAL ENGINEERING	(3)
CE 581	CIVIL ENGINEERING MATERIALS II	(3)
CE 582	ADVANCED STRUCTURAL MECHANICS	(3)
CE 584	DESIGN OF TIMBER AND MASONRY STRUCTURES	(3)
CE 586	PRESTRESSED CONCRETE	(3)
CE 589	DESIGN OF STRUCTURAL SYSTEMS	(3)
CE 599	TOPICS IN CIVIL ENGINEERING (SUBTITLE REQUIRED)	(1-4)
CE 605	NEW ENGINEERING ENTERPRISES	(3)
CE 631	URBAN TRANSPORTATION PLANNING	(3)
CE 633	AIR TRANSPORT ENGINEERING	(3)
CE 634	TRAFFIC CHARACTERISTICS	(3)
CE 635	HIGHWAY SAFETY	(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 662	STOCHASTIC HYDROLOGY (SAME AS BAE 667)	(3)
CE 671	ADVANCED SOIL MECHANICS	(3)
CE 672	LANDFILL DESIGN	(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 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 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)

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## CLASSICS

The M.A. program in Classics in the Department of Modern and Classical Languages, Literatures, and Cultures offers a degree with courses in Greek and Latin languages, literatures and cultures, as well as allied offerings in ancient and medieval history, ancient and medieval philosophy, archaeology, Greek and Roman art, Early Christian studies, and Renaissance studies. The mission of the M.A. Program is to train classicists who would become Latin teachers, or who, having obtained a solid knowledge of the classical languages (active knowledge of Latin is offered through the program), would pursue a Ph.D. degree in Classics, History, Philosophy, Divinity, or other related fields.

Normally the M.A. program is completed in two years of full-time study. It is offered under both Plan A (thesis) and Plan B (non-thesis) options. An exit reading exam is required for both plans of study.

For additional information and details about the M.A. in Classics, contact the Director of Graduate Studies, and check the web site of the program: <http://mcl.as.uky.edu/ma-classics> .

### Admission Requirements

The requirements for admission to the program in Classics are (a) an undergraduate grade point average of 3.0 or above on a 4.0 scale, (b) competence in one of the classical languages (Latin or Greek) and at least basic competence in the other, and (c) a combined score of 297 (new scoring) / 1000 (old scoring) on any two of the three parts of the Graduate Record Examination. 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. An undergraduate major in Classics, Latin, or Greek is not required for admission, but the Program suggests that entering students should have completed at least six semesters of either Latin or Greek and four semesters of the other language. Students lacking sufficient preparation in one of the classical languages may be required to remedy such deficiencies by taking undergraduate courses.

The following documents should be submitted to the Apply Yourself online application system (<http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html> ) by February 1, if the applicant is seeking financial aid, or before April 30 otherwise:

1. A one-page statement describing the applicant's reasons for seeking a Master's degree. If an applicant wants to be considered for financial aid (i.e., a fellowship or an assistantship), this is to be indicated in the opening sentence of the personal statement.
2. A list of Latin and Greek works read with approximate number of lines.
3. Transcripts.
4. GRE scores.
5. Three letters of reference (normally from former teachers).

## GRADUATE COURSES

CLA 450G	SPECIAL TOPICS IN CLASSICAL STUDIES (SUBTITLE REQUIRED)	(3)
CLA 462G	TOPICS IN CLASSICAL LITERATURE (SUBTITLE REQUIRED)	(3)
CLA 480G	STUDIES IN GREEK AND LATIN LITERATURE (SUBTITLE REQUIRED)	(3)
CLA 501	LATIN COMPOSITION	(3)
CLA 509	ROMAN LAW (SAME AS HIS 509)	(3)
CLA 521	ADVANCED COMPOSITION AND READING	(3)
CLA 524	THE LATIN LITERATURE OF THE REPUBLIC (SUBTITLE REQUIRED)	(3)
CLA 525	THE LATIN LITERATURE OF THE EMPIRE (SUBTITLE REQUIRED)	(3)
CLA 528	LATE ANTIQUE & POST-IMPERIAL LATIN LITERATURE (SUBTITLE REQUIRED)	(3)
CLA 551	GREEK POETRY AND DRAMA (SUBTITLE REQUIRED)	(3)
CLA 555	GREEK PROSE (SUBTITLE REQUIRED)	(3)
CLA 580	INDEPENDENT WORK IN CLASSICS	(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 615	MANUSCRIPT CULTURES (SAME AS HIS 615)	(3)
CLA 616	PALEOGRAPHY (SAME AS HIS 615)	(3)
CLA 630	SEMINAR IN CLASSICAL LITERATURE AND CULTURE (SUBTITLE REQUIRED)	(3)
CLA 624	SEMINAR IN THE LATIN LITERATURE OF THE REPUBLIC (SUBTITLE REQUIRED)	(3)
CLA 625	SEMINAR IN THE LATIN LITERATURE OF THE EMPIRE (SUBTITLE REQUIRED)	(3)
CLA 628	SEMINAR IN LATE ANTIQUE & POST-IMPERIAL LATIN LITERATURE (SUBTITLE REQUIRED)	(3)
CLA 651	SEMINAR IN GREEK POETRY AND DRAMA (SUBTITLE REQUIRED)	(3)
CLA 655	SEMINAR IN GREEK PROSE (SUBTITLE REQUIRED)	(3)
CLA 695	INDEPENDENT WORK	(1-3)
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 RESEARCH DESIGN

## Overview

This program is designed for practicing health care professionals (MDs, DMDs, Pharm.D.s, Clinical Psychologists, etc.) and those pursuing a terminal PhD in fields like pharmacy, nursing, and psychology, who wish to enhance their translational research skills, and knowledge of population-based health and clinical trials. Clinicians with academic appointments at the University of Kentucky (UK) and physicians off-campus, including community-based physicians who wish to participate in clinical research, will be targeted for this program.

## Program Description

Students will complete a minimum of 31 credit hours of study. The core curriculum consists of 13 hours comprising five courses, two each in epidemiology and biostatistics, and a one-credit-hour course that will serve as a broad introduction to public health. Students will also complete a minimum of 12 credit hours of electives. In addition, a three-credit-hour practicum in mentored research and three credit hours of thesis research are required.

### Core curriculum (13 hours)

CPH 605 Introduction to Epidemiology	(3)
STA 580 Biostatistics I	(3)
CPH 712 Advanced Epidemiology	(3)
CPH 630 Biostatistics II	(3)
CPH 701 Current Topics in Public Health	(1)

### Electives (12 hours – selections to be approved by the DGS)

CPH 665 Ethical Issues in Clinical Research	(3)
CPH 664 Biostatistics in Clinical Trials	(3)
CPH 612 Infectious Disease Epidemiology	(3)
CPH 616 Cardiovascular Epidemiology	(3)
CPH 618 Epidemiology of Aging	(3)
CPH 631 Design and Analysis of Health Surveys	(3)
CPH 632 Mixed Models in Public Health	(3)
CPH 636 Data Mining	(3)
CPH 647 Research Methods	(3)
CPH 711 Chronic Disease Epidemiology	(3)
CPH 718 Molecular Epidemiology	(3)
CPH 669 Methods and Technologies in Clinical Translational Research)	(3)
CPH 670 Interdisciplinary Protocol Development	(2)
CPH 671 Seminar in Clinical /Translational Science	(1)

### Mentored Research and Master's Thesis (Plan A)

CPH 779 Independent Studies in Public Health: Mentored Research	(3)
CPH 778 Special Topics in Public Health: Thesis Research	(3)

**31 total credit hours**

## 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. **Note that all tracks have 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 plus 5 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 hours in math and science followed by 19-21 hours in RLS courses specific to 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	(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

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	(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)

## CLINICAL AND TRANSLATIONAL SCIENCE

### Overview

The Department of Behavioral Science in the College of Medicine, in affiliation with the University of Kentucky Center for Clinical and Translational Science, offers a Ph.D. program in Clinical and Translational Science (CTS). The academic discipline focuses on acceleration of the translation of basic science advances to tangible improvements in public health. This interdisciplinary program is designed to expand research career opportunities for exceptional professionals with terminal professional health care degrees (e.g., physicians, nurses, dentists, pharmacists, public health professionals). Students enrolled in the MD/PhD Program are also eligible for admission.

The primary emphasis of the program is mentored research training to permit scholars to create well-reasoned original research contributions to the discovery of clinical health knowledge and its application. An interdisciplinary PhD Advisory Committee will play a prominent role in coordinating the individualized curriculum, research training and career development of the scholars in the program, based on scholar interest and background. A major professor (i.e., primary mentor), with the support of the Advisory Committee, will oversee research training and career development. A minimum of one faculty member in the Department of Behavioral Science who is a full member of the graduate faculty will serve as a primary or co-mentor. Other members of the Advisory Committee will be selected based on their abilities to support elements of the interdisciplinary research interests and career trajectories of the scholar, regardless of departmental affiliation.

### Admission Requirements

Admission to the program is generally limited to 1) applicants with terminal health professional degrees with appropriate domestic licensure to practice and 2) students in the MD/PhD Program. Other students may apply to the program with consent of the Director of Graduate Studies.

Admission to the PhD in CTS program is through the Department of Behavioral Science. Inquiries about the Ph.D. program should be directed to the Director of Graduate Studies, Department of Behavioral Science. Additional information may also be obtained from the Web sites of the Department of Behavioral Science (<http://www.mc.uky.edu/behavioralscience/>) and Center for Clinical and Translational Science (<http://ccts.uky.edu/TEAM/default.aspx>).

### Curriculum

Scholars with a terminal health professional degree (or enrolled in the MD/PhD Program) are required to complete 18 credit hours of coursework to establish pre-qualifying residency status. This coursework typically consists of core competency-based courses in clinical and translational science (typically 12 credit hours) and tailored coursework developed in consultation with the major professor and advisory committee (minimum of 6 credit hours). The tailored portion of the curriculum will be designed to provide training needed for the scholar to lead interdisciplinary CTS research teams and/or sustain independent research programs that promote innovation and new discovery.

## Core Curriculum

BSC 731	Methods and Technologies in CTS	(3)
BSC 732	Interdisciplinary Protocol Development	(2)
BSC 733	Seminar in CTS	(1-3)
CPH/PHR 665	Ethical Issues in Clinical Research	(3)
STA 580	Biostatistics	(3)
BSC 790	Research in Medical Behavioral Science	(1-6)

Additional credit hours selected from graduate courses offered by health sciences colleges or related disciplines.

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## COMMUNICATION

The College of Communications and Information Studies offers programs leading to the Master of Arts (either Plan A or Plan B) and Doctor of Philosophy degrees in Communication. The program offers special opportunities for students to apply communication theory and research across many contexts. Students may develop a program of study emphasizing (or combining) research areas such as health communication, mass communication, interpersonal communication, instructional communication, communication and information systems, as well as risk and crisis communication. 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 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.

### Admission Requirements

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. Only students who have previously completed a master's degree may apply for admission into the doctoral program. Master's degree applicants are expected to have had at least twelve hours of appropriate undergraduate work in communication. Students with degrees in areas not directly related to communication are encouraged to apply, but they may be required to take course work without graduate credit. Should the Admissions Committee feel there is a deficiency in the applicant's studies, it may require enrollment in specific undergraduate courses. Courses taken to remove a deficiency cannot be counted towards the master's degree. In some cases, successful professional experience in a communication field will be considered in admitting students to the program.

Applicants must complete the University of Kentucky's Graduate School online-application and pay the application fee. Per the Graduate School's instruction, all applicants are required to submit official scores on the Graduate Record Examination and official transcripts of all work taken at and beyond the college

level. Students whose native language is not English must also submit an official score of at least 550 (or 213 on the computer version) of the Test of English as a Foreign Language (TOEFL). Additionally, all applicants must submit to the College of Communications and Information Studies Graduate Admissions office: (1) transcripts of all work taken at the college level (unofficial or photocopies are acceptable), (2) at least three letters of recommendation focusing on their academic abilities accompanied by the supplied Reference Form and (3) the completed Application Essay indicating why they want to pursue a graduate degree with their reasons for applying to the program. No additional forms are required for financial assistance consideration—all applicants will be considered for funding at the time of review.

The Admissions and Financial Aid Committee will review only completed admission files on or before the first Friday 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 in order to be considered for fall admission. **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

The M.A. program requires that every student become familiar with the important theories and concepts and the principal investigation methods used to expand knowledge of communication. 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 Interpersonal Communication (CJT 631) or Mass Communication (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 will take a minimum of 24 credit hours of actual course work, and 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, 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, as determined by the Admissions Committee. 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.

## 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 across various contexts, 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    **OR**  
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

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.

## 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)

## **COMMUNICATION SCIENCES & DISORDERS**

The Division of Communication Sciences & 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.

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 sciences & disorders will typically complete the program in six semesters of full-time study. Students entering without an undergraduate major in communication sciences & disorders will need eight semesters 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 are assigned to clinical rotations in a variety of settings, including medical or rehab facilities, agencies providing services to children (e.g., public schools, preschools, clinics), and agencies in one of Kentucky's Area Health Education Center (AHECs) regions. 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 writing). Students with a bachelor's degree in communication disorders begin the program in the second summer semester. Students with bachelor's degree in another field of study begin the program in the fall semester. Admission deadline is February 1 for domestic applicants and March 15 for international applicants.

## Degree Requirements

The graduate curriculum for the M.S. in Communication Sciences & Disorders is a 30 credit hour degree. To receive a master's degree without any clinical practice credentials, students must select 30 hours from the following list of courses in Communication Sciences & Disorders:

CSD 621	Alternative & Augmentative Communication	(3)
CSD 647	Lang. Disorders in Dev. Young Individuals	(3)
CSD 648	Lang. Disorders in School-Age Populations	(3)
CSD 661	Phonological Development & Disorders	(3)
CSD 670	Voice Disorders	(3)
CSD 674	Disorders of Fluency	(3)
CSD 675	Low Incidence Disorders	(1-3)
CSD 677	Aphasia & Related Disorders	(3)
CSD 701	Research Methods in Communication Sciences & Disorders	(3)
CSD 710	Cognitive Communication Disorders	(3)
CSD 744	Adult Swallowing and Motor Speech Disorders	(3)
CSD 745	Pediatric Swallowing and Motor Speech Disorders	(3)
CSD 748	Master's Thesis Research (Optional)	(0)
CSD 768	Residence Credit for the Master's Degree (Optional)	(6)

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

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

For additional information, contact:

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



## GRADUATE COURSES

CSD 520	INTRODUCTION TO MANUAL COMMUNICATION	(2)
CSD 521	NON-SPEECH COMMUNICATION	(3)
CSD 571	NEURAL BASES OF SPEECH, LANGUAGE, AND HEARING	(3)
CSD 591	AURAL REHABILITATION	(3)
CSD 610	ETHICS IN CLINICAL SCIENCES RESEARCH (SAME AS CLS/PT/RAS 610)	(1)
CSD 621	ALTERNATIVE AND AUGMENTATIVE COMMUNICATION	(3)
CSD 647	LANGUAGE DISORDERS IN DEVELOPMENTALLY YOUNG INDIVIDUALS	(3)
CSD 648	LANGUAGE DISORDERS IN SCHOOL-AGE POPULATIONS	(3)
CSD 654	CLINICAL ORIENTATION IN COMMUNICATION SCIENCES & DISORDERS	(3)
CSD 655	ADVANCED DIAGNOSTIC PROCEDURES IN SPEECH-LANGUAGE PATHOLOGY	(3)
CSD 657	CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY	(1-3)
CSD 659	CLINICAL ROTATION IN SPEECH-LANGUAGE PATHOLOGY	(3-6)
CSD 670	VOICE DISORDERS	(3)
CSD 671	APPLIED PHONOLOGY: DEVELOPMENT AND DISORDERS	(3)
CSD 674	DISORDERS OF FLUENCY	(3)
CSD 675	LOW INCIDENCE DISORDERS	(1-3)
CSD 701	RESEARCH METHODOLOGY IN COMMUNICATION SCIENCES & DISORDERS	(3)
CSD 706	ADVANCED AUDIOLOGICAL ISSUES IN PEDIATRICS	(3)
CSD 708	ADVANCED AUDIOLOGICAL ISSUES IN GERIATRICS	(3)
CSD 744	ADULT SWALLOWING AND MOTOR SPEECH DISORDERS	(3)
CSD 745	PEDIATRIC SWALLOWING AND MOTOR SPEECH DISORDERS	(3)
CSD 747	SEMINAR IN LANGUAGE DEVELOPMENT IN CHILDREN	(3)
CSD 748	MASTER'S THESIS RESEARCH	(0)
CSD 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
CSD 772	ADVANCED SEMINAR IN APHASIA	(3)
CSD 773	SEMINAR IN MOTOR SPEECH DISORDERS	(3)
CSD 774	SEMINAR IN ADULT SPEECH AND LANGUAGE	(3)
CSD 775	SEMINAR IN LITERATE LANGUAGE	(3)
CSD 789	INDEPENDENT STUDY IN COMMUNICATION SCIENCES & DISORDERS	(1-6)

## COMMUNITY AND LEADERSHIP DEVELOPMENT

The Department of Community and Leadership Development offers the Masters of Science degree in Community and Leadership Development (CLD). The program's interdisciplinary base and range of engaged experiences support the growth of knowledgeable, skillful, and creative leaders. Graduates are therefore prepared to address the needs and concerns of communities of place, of interest (e.g., non-profit organizations) and of practice (e.g., schools and advocacy organizations). Coursework and training are grounded in the philosophical foundations of leadership, community, community communication, social science inquiry and formal and non-formal educational scholarship and practice.

The CLD graduate program accommodates a wide variety of individuals from diverse settings such as administration, nonprofit organizations, communications, public service, schools, adult education, social services and Cooperative Extension. The program is organized around a strong experiential education, learner-centered core, designed to be practical, engaging and thought provoking. Through the selection of

enrichment areas that draw upon courses from across the university, students have considerable flexibility in planning a program that will meet their individual professional goals.

The Community and Leadership Development Master's requires the following core courses:

- CLD 620 Graduate Study in CLD (1)
  - CLD 686 Research Design (3)
  - CLD 684 Statistical Analysis in CLD or  
Qualitative Research Methods course (3)
  - CLD 630 Individual and Group Dynamics (3)
  - CLD 610 Experiential Education: Process and Practice or  
CLD 670 Community Engagement (3)
  - One of the following:
    - CLD 671 Advanced Methods of Teaching
    - CLD 685 Advanced Community Development Theory  
and Practice
    - CLD 675 Theoretical Foundations of Communication  
and Community
    - CLD 660 Advanced Leadership Theory and Practice (3)
  - CLD 768 Thesis or
  - CLD 758 Creative Component (Non-Thesis Option) (3)
- Total (19)

Students will then complete a minimum of an additional 11 hours of graduate course work within a supporting enrichment area. Students will work with their Advisory Committees to identify the courses that best suit their professional interests. Sample of Enrichment Areas:

- Community Development
- Leadership Development
- Non-formal (Community-based, Agency-based)
- Agricultural Education and other Agricultural areas of interest (with a social science emphasis – e.g., horticulture's role in urban gardening)
- Rural Studies
- Community Communication

## Program Plans and Requirements

The student's Advisory Committee will provide guidance for choosing either a thesis (Plan A) which requires students to conduct research, write and defend a thesis or a non-thesis (Plan B)-Creative Component. The Creative Component requires rigorous research that may take many forms, combining an array of methods. Creative Component findings may also be represented through an array of forms such as photo-voice displays, films, community theatre, curriculum and program designs.

## Funding

The Department of Community and Leadership Development has a limited number of graduate assistantships to support qualified students in the Master's program. Other units on campus such as the Appalachian Center, Institute for Rural Journalism, Kentucky Non-Profit Network and so forth also offer potential sources of funding. 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 degrees 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. The University 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 Master's program in Community and Leadership Development is based on a combination of the following: undergraduate GPA (cumulative 2.75 and above), three letters of reference (at least one letter is required from a recommender outside of CLD), GRE scores (desirable scores no less than 144 quantitative and 150 verbal – considered in relation to all other factors), and the fit between the applicant's personal/professional experiences and goals and the program's focus and resources, and, in some cases, a personal interview. There are strict, non-negotiable application deadlines: March 1 for summer and fall semester admission; and October 1 for spring semester admission. All application materials must be submitted by these dates.

All applications for graduate study in Community and Leadership Development must be submitted on-line through Hobsons ApplyYourself <https://webcenter.applyyourself.com> Application Network. The documents, within ApplyYourself, required by the CLD Program are the letter of application and personal statement. Transcripts and reference letters are also required and must be uploaded through the ApplyYourself system. You can review these requirements via the following link:

[http://www.gradschool.uky.edu/prospectivestudents/program\\_reqs.html](http://www.gradschool.uky.edu/prospectivestudents/program_reqs.html)

After the University of Kentucky Graduate School determines through ApplyYourself that the minimum requirements for admission have been satisfied notification is sent to CLD for review and a decision by the CLD Graduate Committee. Students will be notified in writing about the Committee's decision.

Contact:

Director of Graduate Studies  
500 Garrigus Building  
University of Kentucky  
Lexington, KY 40546-0215  
[rharrisclcd.dgs@gmail.com](mailto:rharrisclcd.dgs@gmail.com)  
859-257-7584

## GRADUATE COURSES

CLD 610	EXPERIENTIAL EDUCATION: PROCESS AND PRACTICE	(3)
CLD 620	INTRODUCTION TO GRADUATE STUDY	(3)
CLD 630	INDIVIDUAL AND GROUP DYNAMICS	(3)
CLD 660	ADVANCED LEADERSHIP: THEORY AND PRACTICE	(3)
CLD 670	COMMUNITY ENGAGEMENT	(3)
CLD 671	ADVANCED METHODS IN TEACHING	(3)
CLD 675	THEORETICAL FOUNDATIONS OF COMMUNICATION AND COMMUNITY	(3)
CLD 684	STATISTICAL ANALYSIS IN CLD	(3)
CLD 686	RESEARCH DESIGN	(3)
CLD 758	CREATIVE COMPONENT	(3)
AED 679	ADULT EDUCATION IN CLD	(3)
AED 684	CURRENT TRENDS IN CTE	(3)
AED 693	SUPERVISION IN CTE	(3)
AED 694	THE ADMINISTRATION OF VOCATIONAL EDUCATION	(3)
AED 710	COLLEGE TEACHING OF AGRICULTURE, NATURAL RESOURCES AND HUMAN SCIENCES	(3)
AED 748	MASTER'S THESIS RESEARCH	(0)
AED 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(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.

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, computational science, operating systems, distributed computing and networking, theory of computation, data base technology, design and analysis of algorithms, cryptography, graphics and vision, parallel processing, data mining, bioinformatics 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 Higher Degrees 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 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 Graduate School Dean 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 617	REQUIREMENTS ENGINEERING	(3)
CS 618	SOFTWARE DESIGN	(3)
CS 619	SOFTWARE TESTING AND QUALITY EVALUATION	(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 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)

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## CROP SCIENCE

**Note:** Admission to the PhD program in Crop Science was suspended after Fall 2011. It has been replaced by the PhD Program in Integrated Plant and Soil Sciences (IPSS). See the Bulletin Description for IPSS for more details. Students interested in the Master of Science Degree in Crop Science should consult with the

Director of Graduate Studies for Crop Science prior to admission. Students currently matriculating in this graduate program should consult the 2010-2011 version of the Graduate Bulletin for applicable guidelines.

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 Sciences 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. Admission to the Crop Science 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 will meet the minimum standards established by the University of Kentucky Graduate School. Applicants will automatically be considered for departmental research assistantships, which are awarded on a competitive basis.

So 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

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 Integrated Plant and Soil Science graduate program which offers programs of study leading to the Master of Science degree.

Individual programs 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 575	SEED VIGOR	(2)
PLS 597	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE	(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	(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)

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## 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 community 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.

All materials may be submitted through The Graduate School's online application process.

### **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. All materials may be submitted through The Graduate School's online application process.

### **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 18 credit hours in professional education courses, and 12 hours outside the College of Education 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. All materials may be submitted through The Graduate School's online application process.

### **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 21 credit hours of professional education course work and 9 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. All materials may be submitted through The Graduate School's online application process.

### **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: English, history, mathematics, a science, a social science, or in secondary education. Science and mathematics candidates will also work with faculty in the STEM Education Department. 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. 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 and the dual application process.

### **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. All materials may be submitted through The Graduate School's online application process.

### **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 specified literacy related courses, b) nine credit hours in other professional educational course work, and c) six credit hours in course work outside the College of Education.

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. A minimum of three years of successful classroom teaching is an additional requirement for this professional certification.

### **Admission Requirements**

In addition to the admission requirements set by the Graduate School, departmental requirements for admission to the Reading program include initial teacher certification. 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 509	COMPOSITION FOR TEACHERS (SAME AS ENG 5090)	(3)
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 522	EDUCATIONAL TESTS AND MEASUREMENTS	(3)
EDC 533	TEACHING ADOLESCENT LITERACY ACROSS THE DISCIPLINES	(3)
EDC 534	READING AND STUDY SKILLS IN ENGLISH	(3)
EDC 543	DIGITAL GAME BASED LEARNING AND INSTRUCTION	(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 601	THEORIES, PERSPECTIVES, TRENDS AND ISSUES IN MULTICULTURAL EDUCATION (SAME AS AAS 601)	(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 632	SOCIAL STUDIES PEDAGOGY IN THE SECONDARY SCHOOL	(3)
EDC 635	ENGLISH PEDAGOGY IN THE SECONDARY SCHOOL	(3)
EDC 637	CLASSROOM MANAGEMENT IN SECONDARY EDUCATION	(1)
EDC 638	TECHNOLOGY IN SECONDARY EDUCATION	(1)
EDC 639	MULTICULTURALISM IN SECONDARY EDUCATION	(1)
EDC 641	RESEARCH AND THEORY IN TEACHING READING IN THE ELEMENTARY SCHOOL	(3)
EDC 642	RESEARCH AND THEORY IN TEACHING LANGUAGE ARTS	(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 724	GUIDING AND ANALYZING EFFECTIVE TEACHING	(3)
EDC 726	CURRICULUM INQUIRY MIXED METHODS FOR RESEARCH	(3)
EDC 730	PROBLEMS OF THE SCHOOL CURRICULUM (subtitle required)	(3)
EDC 731	SOCIAL STUDIES SEMINAR: HISTORY EDUCATION	(3)
EDC 732	CURRICULUM DESIGN FOR LEADING AND LEARNING	(3)
EDC 733	LEADERSHIP IN ADVANCED INSTRUCTIONAL PRACTICE	(3)
EDC 740	PRACTICUM IN TEACHING READING AND RELATED LANGUAGE ARTS	(3)
EDC 746	SUBJECT AREA INSTRUCTION IN THE SECONDARY SCHOOL	(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 770	SPECIAL TOPICS IN STEM EDUCATION (subtitle required)	(3)
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, or Orofacial Pain, 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 (specialty programs), or D.M.D. degree (Pre-doctoral D.M.D./M.S. Research Program). Applicants to the specialty tracks must have a D.M.D./D.D.S. degree from an accredited United States or Canadian dental school or equivalent. Applicants to the specialty tracks (Periodontology, Orthodontics or Orofacial Pain) 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.

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 Graduate Record Exam (GRE), Part I of the National Dental Board, or Part II of the National Dental Board for the Master of Science Programs; the Dental Admission Test (DAT) for Pre-doctoral DMD Research Track. To determine which of these tests is recommended for your specialty 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) or 6.5 on the International English Language Testing System (IELTS). To determine which of these tests is recommended for your specialty track, please consult the web site for that specific program.

### 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 13 hours of which must be from the core curriculum; 3)

submission of an acceptable thesis based on an individual research project (Plan A) or completion of a manuscript based on the results from the individual research project for 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

OBI 650	Oral Biology for Postgraduate Students I	(2)
OBI 651	Oral Biology for Postgraduate Students II	(2)
CPH 605	Introduction to Epidemiology	(3)
CSDS 660	Research Design, Methodology and Dissemination	(2)
CSDS 670	Advances in Oral and Maxillofacial Pathology	(1)
CSDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CSDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)
<b>TOTAL</b>		<b>(13)</b>

#### Additional Courses

CSDS 611	Child Growth and Development, Part 1	(2)
OSG 651	Anatomic Relationships in Surgery	(1)
CSDS 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>(24-29)</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)
CSDS 660	Research Design, Methodology and Dissemination	(2)
CSDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CSDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)

**TOTAL** (16)

### 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)

**TOTAL** (25-27)

- ORT 748 Master's Thesis Research (0)
- ORT 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)
CSDS 660	Research Design, Methodology and Dissemination	(2)
CSDS 670	Advances in Oral and Maxillofacial Pathology	(1)
CSDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CSDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)

**TOTAL** (13)

### 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)

**TOTAL (15-20)**

- ORT 748 Master's Thesis Research (0)
- ORT 768 Residence Credit for Master's Degree (1-6)

## Pediatric Dentistry

### 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)
CSDS 660	Research Design, Methodology and Dissemination	(2)
CSDS 670	Advances in Oral and Maxillofacial Pathology	(1)
CSDS 680	Clinical Medicine for Postgraduate Dental Students	(2)
CSDS 631	Diagnosis and Management of Temporomandibular Disorders	(1)

**TOTAL (13)**

### Additional Courses

CSDS 611	Growth and Development	(2)
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	(2)
ORT 710	Management of Complex Orofacial Deformities	(2)

**TOTAL (15-17†)**

- ORT 748 Master's Thesis Research (0)
- ORT 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.

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## DIPLOMACY AND INTERNATIONAL COMMERCE

The Patterson School of Diplomacy and International Commerce offers a Masters of Arts program designed to prepare students academically, professionally, and personally for careers in international affairs. Formal academic coursework is combined with experiential learning via a rich variety of co-curricular activities. The Patterson School M.A. is excellent preparation for service with government agencies such as the U.S. Departments of State, Treasury, or Commerce, and in the intelligence community, careers in international organizations or non-governmental organizations or in the private sector. The Patterson School faculty is a mix of academics and former foreign-affairs practitioners whom spent decades in government service prior to starting their teaching careers. Students come to the Patterson School with diverse undergraduate degrees but most are well-prepared in political science, economics and foreign languages.

Our flexible program totals 30 credit hours and can be completed in just three semesters. Each student enrolls in core curriculum courses and seminars taught by regular Patterson School faculty in one of five concentrations: diplomacy, development, security/intelligence, international organizations, and international commerce. Beyond this core, students can work with their academic advisors to craft interdisciplinary courses of study tailored to their unique desires that draw widely upon other University of Kentucky graduate departments. Patterson School students have developed individual degree plans that include classes in agricultural economics, anthropology, finance, marketing, management, foreign languages, history, political science, communications, sociology, law, geography, public health, and more. This flexibility in curriculum is pivotal to the Patterson School concept.

All students begin the program as a group in the fall semester. Even though three semesters are required to complete the required the coursework, some students elect to remain a fourth semester in order to obtain more breadth and/or depth in their desired fields of professional preparation, or additional language training. Entering students are expected to have a strong background in at least one foreign language but many students undertake further language study during the program (although this study does not earn credit for the M.A. degree). Students who have not had sufficient undergraduate training in statistics and economics may be required to study those fields before pursuing the usual Patterson School coursework. Students are strongly encouraged to complete a career-related internship in the United States or abroad, typically during the summer between their second and third semesters.

All students **must** successfully pass written and oral comprehensive examinations before being awarded their master's degree. These exams require students to draw upon the full measure of academic and professional activities they have experienced in the program, testing their universal foreign affairs knowledge as well as their unique specialized skills. During their last semester, most students join informal study groups to prepare for this critical final step. Each student **has only two chances** to pass the comprehensive examinations. Students are also required to maintain a 3.0 grade point average to graduate.

Patterson School students are able to take advantage of a variety of joint degree opportunities to combine the study of international affairs with other disciplines, such as law or business. Students must meet the admission requirements of the separate programs independently and commit upfront to pursue both degrees. The Patterson School currently maintains concurrent degree programs in Law, Business, Economics, and A Modern Language. While many Patterson School graduates have later obtained doctoral degrees, this M.A. program is specifically designed to prepare students for non-academic careers in international affairs. Students who contemplate working immediately on a Ph.D. are generally advised to pursue that goal elsewhere.

## **Dual-Degree Programs**

### **J.D./M.A. IN DIPLOMACY**

The University of Kentucky Law School joins the Patterson School in offering a dual degree program in law and diplomacy that permits students to acquire both degrees in four years time. Professionals trained in both law and international affairs are well positioned to seek positions in the private, public and non-profit spheres. Interested students must apply separately to each program, noting their desire to pursue the dual degree. For further information, contact the Director of Graduate Studies in the Patterson School of Diplomacy and International Commerce and the College of Law.

### **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 Gatton 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, or economic specialists headed for government departments (Treasury, State, U.S. Trade Representative) or intergovernmental organizations. Interested students must apply separately to each program, noting their desire to pursue the dual degree.

### **M.A. in a MODERN LANGUAGE/M.A. in DIPLOMACY**

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.

## Financial Assistance

A number of non-service Patterson School fellowships are available from the bequest of James K. Patterson, the first President of the University. Additional merit fellowships are provided to Patterson School students by the Vince Davis Memorial Fund and other sources.

## Admission Requirements

Admission to the Patterson School is highly selective. The deadline for applications is February 1<sup>st</sup>. The online application process begins at the Patterson School website <http://www.uky.edu/PattersonSchool/>. Each applicant is required to submit GRE scores, college transcripts, a resume, a brief statement explaining his/her interest in the Patterson School program in terms of career goals, and two to four letters of reference. International students are also required to take the Test of English as a Foreign Language or the International English Language Testing System.

## GRADUATE COURSES

DIP 700	DYNAMICS OF DIPLOMACY	(3)
DIP 712	WEAK STATES AND INTERNATIONAL SECURITY	(3)
DIP 715	DEMOCRACY AND INTERNATIONAL AFFAIRS	(3)
DIP 716	INTERNATIONAL TRADE POLICY AND PRACTICE	(3)
DIP 720	ECONOMIC STATECRAFT	(3)
DIP 725	GEOPOLITICAL MODELING	(3)
DIP 726	INTRODUCTION TO INTELLIGENCE	(3)
DIP 727	ANALYTIC TECHNIQUES IN INTELLIGENCE	(3)
DIP 730	CROSS-CULTURAL NEGOTIATION	(3)
DIP 734	AFRICA'S DEVELOPMENT CHALLENGE	(3)
DIP 735	ENERGY SECURITY	(3)
DIP 740	GLOBALIZATION	(3)
DIP 742	NATIONAL SECURITY POLICY	(3)
DIP 750	DEFENSE STATECRAFT	(3)
DIP 755	POLITICS AND DIPLOMACY OF THE MIDDLE EAST	(3)
DIP 756	DIPLOMACY OF NUCLEAR WEAPONS	(3)
DIP 777	RESEARCH PROBLEMS IN INTERNATIONAL RELATIONS	(3)
DIP 795	SPECIAL PROBLEMS IN DIPLOMACY AND INTERNATIONAL COMMERCE	(3)
DIP 600-X	MEDIATION AND CONFLICT RESOLUTION	(3)
DIP 600-X	RUSSIAN FOREIGN AND SECURITY POLICY	(3)
DIP 600-X	COMPARATIVE FOREIGN POLICY	(3)
DIP 600-X	ECONOMICS OF DEVELOPMENT	(3)
DIP 600-X	SEA POWER	(3)
DIP 600-X	AIR POWER	(3)
DIP 600-X	EUROPEAN SECURITY	(3)
DIP 600-X	EAST ASIAN SECURITY	(3)
DIP 600-X	INTERNATIONAL ETHICS PRACTICUM	(1)
DIP 600-X	PROFESSIONAL DEVELOPMENT	(1)
PS 737	TRANSNATIONAL ORGANIZATION AND PROCESSES	(3)

## **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 Geological Sciences with specializations 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 geochemistry, geophysics, hydrogeology, sedimentary geology, and tectonics. M.S. students are required to take at least one course at the 600-700 level from three of the following four areas: geochemistry, mineralogy, and petrology; geophysics; hydrogeology; and sedimentary geology and tectonics. All graduate students must take the department's graduate seminar course (EES 570, Seminar in Geological Sciences: Current Topics in Geology) twice.

Resources for the conduct of graduate research include an electron microprobe, fluid inclusion laboratory, X-ray diffractometers, XRF spectrometer, rock saws and crushing equipment, petrographic microscopes, hydrologic field equipment (meters, electrodes, dataloggers, sensors, pumps, and automated samplers), student microcomputer laboratory, field vehicles, pontoon boat, and extensive geophysical and geochemical research facilities as detailed below.

Geophysical facilities include a seismic lab equipped with state-of-the-art, field-based instrumentation. Seismic sources available include various ATV-, truck-, and trailer-mounted P- and S-wave 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, and switches. 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 a digital ground-penetrating-radar unit with various bistatic and cart-borne antennae, portable and loop electromagnetic systems, electrical resistivity system, cart-borne magnetometer/gradiometer systems, a proton magnetometer, a modern gravimeter, and GPS equipment.

Geochemical facilities include a stable isotope laboratory with four isotope ratio mass spectrometers and associated peripheral devices for elemental and isotopic analysis (H, C, O, N, S, Cl) of solids, liquids and gases; four cavity ring down spectroscopy systems for real-time analysis of the chemical and isotope composition of trace atmospheric gases; a thermogravimetric (TGA/DSC) analyzer - mass spectrometer system for the characterization of crystalline and amorphous materials; a GC-MS with a pyro-probe for chemical separation and identification of non-volatile and volatile constituents; and associated equipment for the preparation of samples for elemental and stable isotope analysis (e.g., computer-driven micro-drill; various petrographic microscopes with CL and epifluorescence capabilities; cryogenic grinder; auto-titrator; rotary evaporator; freeze drier; various centrifuges; organics, inorganics and laminar flow hoods; autoclave; ultra-cold storage; micro-balances; and other ancillary wet chemistry equipment).

The department also houses the Sedimentary, Environmental and Radiochemical Research Laboratory (SER<sub>2</sub>L), which includes a state-of-the-art sedimentological research laboratory (two acid digestion fume hoods and one standing fume hood; three large convection ovens; centrifuge; ultrasonicators; analytical balances; Malvern Mastersizer for particle size characterization; Olympus SZX16 research-grade binocular microscope; considerable dry, cold and frozen sample storage capacities); and radioanalytical center (five Canberra HPGe well detectors and multi-channel analyzers, model DSA-1000, and one Canberra integrated alpha spectrometer, model 7200).

Additional instrumentation and facilities are accessible at the Kentucky Geological Survey, Center for Applied Energy Research, and the Environmental Research Training Laboratories.

## GRADUATE COURSES

EES 401G	INVERTEBRATE PALEOBIOLOGY AND EVOLUTION	(3)
EES 420G	STRUCTURAL GEOLOGY	(4)
EES 450G	SEDIMENTARY GEOLOGY	(4)
EES 511	PETROLEUM GEOLOGY	(3)
EES 530	LOW TEMPERATURE GEOCHEMISTRY	(3)
EES 550	FUNDAMENTAL GEOPHYSICS	(3)
EES 555	STRATIGRAPHY	(3)
EES 560	GEOPHYSICAL FIELD METHODS	(3)
EES 570	SEMINAR IN GEOLOGICAL SCIENCES	(1)
	(SUBTITLE REQUIRED)	
EES 579	GROUNDWATER GEOPHYSICS	(3)
EES 585	HYDROGEOLOGY	(3)
EES 610	TOPICS IN HYDROGEOLOGY AND SURFICIAL PROCESSES	(3)
	(SUBTITLE REQUIRED)	
EES 620	TECTONICS	(3)
EES 624	ADVANCED STRUCTURAL GEOLOGY	(3)
EES 625	TOPICS IN APPLIED GEOPHYSICS AND ENGINEERING GEOLOGY	(3)
	(SUBTITLE REQUIRED)	
EES 626	GRAVITY AND MAGNETIC METHODS	(3)
EES 645	TOPICS IN PETROLOGY AND GEOCHEMISTRY	(3)
	(SUBTITLE REQUIRED)	
EES 652	TECTONICS AND STRATIGRAPHY	(3)
EES 670	EXPLORATION SEISMOLOGY	(3)
EES 675	EARTHQUAKE SEISMOLOGY	(3)

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

## GRADUATE COURSES

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 (SAME AS PA/HA 636)	(MS only)	(3)
ECO 654	BENEFIT-COST ANALYSIS (SAME AS PA 680)	(MS only)	(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	MONETARY 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 LEADERSHIP STUDIES

The Department of Educational Leadership Studies offers programs leading to the Master of Education (M.Ed) degree, the Specialist in Education (Ed.S) degree, and the Doctor of Education (Ed.D) degree in Educational Leadership Studies. These programs are designed to prepare candidates for leadership positions in P-12 schools and other educational agencies or for the professorship in educational administration. The department has participated in a Cooperative Doctoral Program with four regional comprehensive universities and may continue as needed.

### Admission to Programs

The Department of Educational Leadership Studies delivers its programs through cohorts that begin in the fall semester. Prospective students must complete two applications—one to the department, one to the UK Graduate School. Instructions and application forms are posted on the department's Web site located at <http://education.uky.edu/EDL/content/edl-admissions>. All applicants must submit to the department (a) official transcripts for all previous coursework completed at any institution of higher education and (b)

official scores on all three sections of the Graduate Record Examination (GRE). All programs require students to have access to and use information technology. Deadline for application submission to any program is April 1.

## **Master of Education**

The Master of Education (MEd) in Educational Leadership Studies is a degree program with an option for certification as a school principal in Kentucky. The certification program requires 33 hours of coursework and leads to a letter of eligibility for the Instructional Leader, School Principalship, All Grades professional certificate. Students may achieve Rank II (initial master's degree) or Rank I (30 credit hours beyond initial master's degree) designations through this MEd program. Courses in the MEd program may require students to complete field-based assignments in schools or with the support of a practicing administrator.

### **Admission Requirements**

Admission to the M.Ed. program follows the basic requirements of the Department of Educational Leadership Studies and the UK Graduate School as specified above. Those seeking admission to the M.Ed. tied to principal certification must meet the following additional requirements established by the Educational Professional Standards Board:

1. A cumulative 2.75 GPA on a 4.0 scale for all collegiate work;
2. Eligibility for a Kentucky classroom teaching certificate;
3. Successful completion of the Kentucky Teacher Internship Program (KTIP) or two years documented teaching experience outside Kentucky;
4. Successful completion of three years full-time teaching; and
5. Passing score on the national examination required for Kentucky teacher certification.

Program exit requirements for the M.Ed. include:

1. A cumulative 3.0 GPA on a 4.0 scale for coursework completed in the program;
2. Successful completion of the Level I and II portfolio reviews; and
3. Successful defense of the Level II portfolio or other capstone project during a formal oral examination.

Graduates of the M.Ed. program tied to principal certification must meet the following additional requirements before a letter of eligibility can be sent to the Educational Professional Standards Board:

1. Master's degree in education from an accredited institution;
2. Three years full-time teaching experience;
3. Successful completion of all program requirements; and
4. Passing scores on national and state tests as specified by the Kentucky Education Professional Standards Board.

## **Specialist in Education**

The Specialist in Education (Ed.S.) degree in Educational Leadership Studies offers a practice-oriented, academic program 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 a specialized area of educational administration and supervision.

## **Ed.S. Curriculum**

The Ed.S. program is divided into two segments. The first consists of 33 credit hours of formal coursework that can be structured to meet the subject-matter requirements for Kentucky certification as a school principal, as an instructional supervisor, or as a district superintendent or to meet the professional development needs of the student. Many courses in the Ed.S. program require candidates to complete field-based assignments in schools, district offices, or other education-oriented settings.

The second segment of the EdS program requires the design, implementation, and submission of a formal written report of a field-based inquiry project. The research component of the Ed.S. program requires candidates to enroll in EDL 785 Independent Work in School Administration for at least 3 credit hours or for a maximum of 6 credit hours. EdS candidates must successfully defend their field-based inquiry project during a formal oral examination.

## **Admission Requirements**

Admission to the EdS program requires a master's degree from an accredited institution of higher education and follows the basic requirements of the Department of Educational Leadership Studies and the UK Graduate School as specified above. Applicants who plan to apply EdS courses toward administrator certification (e.g., school principal, instructional supervisor) must meet all additional requirements imposed by the Kentucky Educational Professional Standards Board. Contact the Director of Graduate Studies in the Department of Education Leadership Studies for information about entry and exit requirements for the specific advanced certification sought.

## **Doctor of Education**

The Department of Educational Leadership Studies offers the Doctor of Education (EdD) with emphasis on preparing scholar-practitioners to assume leadership in diverse educational settings. Each student develops a program of study with three essential elements: (1) the core curriculum; (2) a program major emphasis; and (3) a research sequence. Program content and experiences integrate leadership theory and its application, learning organizations, educational improvement and innovation, educational technology, comparison of educational leadership practiced locally and internationally, economics of education, law and policy, research methods for educational leader, and leadership development of self and others.

## **EdD Curriculum**

The EdD program consists of a minimum of 42 credit hours of graduate-level coursework and a minimum of 4 credit hours (two semesters) of EDL 767 Dissertation Residency Credit as required by the UK Graduate School. Students must remain enrolled in EDL 767 from the semester they sit for their Qualifying Examination through semester they defend their dissertation. Internships for graduate students can be arranged with public school systems and other educational agencies.

A limited number of graduate assistantships are available for EdD students. 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 or leadership 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.

## Admission Requirements

Admission to the EdD program requires a master's degree from an accredited institution of higher education and follows the basic requirements of the Department of Educational Leadership Studies and the UK Graduate School as specified above. Applicants who plan to use courses for administrator certification (e.g., school principal, instructional supervisor, district administrator) as their major program emphasis must meet all additional requirements imposed by the Kentucky Educational Professional Standards Board. Applicants should contact the Director of Graduate Studies in the Department of Education Leadership Studies for information about entry and exit requirements for the specific advanced certification sought.

## Additional Information

For further information, contact the Director of Graduate Studies in the Department of Educational Leadership Studies, 111 Dickey Hall, College of Education, University of Kentucky, Lexington, Kentucky 40506-0017.

## GRADUATE COURSES

EDL 600	ORGANIZATION AND ADMINISTRATION OF AMERICAN EDUCATION	(3)
EDL 601	INTRODUCTION TO SCHOOL LEADERSHIP AND ADMINISTRATION	(3)
EDL 610	SCHOOL LEADERSHIP PRACTICUM I: SUMMER	(1)
EDL 611	SCHOOL LEADERSHIP PRACTICUM II	(1)
EDL 612	SCHOOL LEADERSHIP PRACTICUM III	(1)
EDL 625	SCHOOL SAFETY AND DISCIPLINE LEADERSHIP	(3)
EDL 627	SCHOOL FINANCE AND SUPPORT SERVICES	(3)
EDL 628	SCHOOL LAW AND ETHICS	(3)
EDL 629	THE PRINCIPAL	(3)
EDL 631	LEADERSHIP FOR SCHOOL PROGRAM COLLABORATION	(3)
EDL 632	ADMINISTRATION OF EDUCATIONAL REFORM	(3)
EDL 634	LEADERSHIP FOR HUMAN RESOURCES DEVELOPMENT IN SCHOOLS	(3)
EDL 638	THE SUPERVISOR	(3)
EDL 639	THE SCHOOL SUPERINTENDENCY	(3)
EDL 642	MICROCOMPUTER APPLICATIONS IN ADMINISTRATION	(3)
EDL 646	LEADERSHIP FOR SCHOOL COMMUNITY RELATIONS	(3)
EDL 649	SCHOOL SYSTEM ADMINISTRATION	(3)
EDL 650	LEADERSHIP FOR SCHOOL PROGRAM IMPROVEMENT	(3)
EDL 651	FOUNDATIONS OF INQUIRY	(3)
EDL 659	STRATEGIC MANAGEMENT IN EDUCATION	(3)
EDL 669	LEADERSHIP FOR SCHOOL PROBLEM-SOLVING	(3)
EDL 679	SCHOOL SUPERINTENDENT PRACTICUM I: SPRING	(1)
EDL 680	SCHOOL SUPERINTENDENT PRACTICUM II: SUMMER	(1)
EDL 681	SCHOOL SUPERINTENDENT PRACTICUM III: FALL	(1)

EDL 694	THE ADMINISTRATION OF VOCATIONAL EDUCATION (SAME AS AED/HEE 694)	(3)
EDL 701	LEADERSHIP IN EDUCATIONAL ORGANIZATIONS I	(3)
EDL 702	LEADERSHIP IN EDUCATIONAL ORGANIZATIONS II	(3)
EDL 749	DISSERTATION RESEARCH	(0)
EDL 767	DISSERTATION RESIDENCY CREDIT	(2)
EDL 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
EDL 770	TOPICAL SEMINAR IN EDUCATIONAL LEADERSHIP	(1-3)
EDL 771	SEMINAR IN ADMINISTRATION	(1-3)
EDL 785	INDEPENDENT WORK IN SCHOOL ADMINISTRATION	(3)
EDL 792	RESEARCH IN EDUCATIONAL ADMINISTRATION AND SUPERVISION	(3)

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## **EDUCATIONAL, SCHOOL, AND COUNSELING PSYCHOLOGY**

The Department of Educational, School, 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 December 1 for summer/fall admission. All other degree applications have a deadline of January 15.

Within the degree programs offered, three specializations are 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 first garner information through the departmental website, <http://education.uky.edu/EDP/>, and if clarification is needed, contact the Director of Graduate Studies in the Department of Educational, School, 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 licensure (Licensed Psychological Associate [LPA] or Licensed Professional Counselor [LPC]) 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 licensure in either counseling or school psychology, respectively, but does not fulfill state certification requirements. In these areas no

realistic thesis option is available. 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). Applicants to the M.S. Ed. Degree program leading to counseling psychology licensure may apply with any undergraduate degree, but an undergraduate degree in psychology, education, or a closely allied field will facilitate movement through the program. Students are selected for these programs 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 or counseling psychology, a writing sample, and, in the case of school psychology, a personal interview. These data provide information regarding student diversity, interests, and prior academic accomplishments in relation to program goals. The program faculty uses the Graduate School minimum requirements for undergraduate grade point average 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 as a Licensed Psychological Associate (LPA) or the Certification Examination for the Licensed Professional Counselor (LPC). 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). Applicants to the Ed. S. degree program leading to licensure in counseling psychology must possess a master's degree in counseling psychology. Students who did not complete the M.S. Ed. programs in school psychology or counseling psychology will likely need to complete additional requirements to replace required course work from the M.S. Ed. programs. 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 uses the Graduate School minimum requirements for undergraduate and graduate grade point average 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: (a) learning, cognition, and curriculum design; (b) human development and social processes; (c) counseling psychology; (d) measurement, evaluation and research design; and (e) 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). Applicants to the Ph.D. Degree program leading to counseling psychology licensure may apply with any undergraduate degree, but an undergraduate degree in psychology, education, or a closely allied field will facilitate movement through the program. Students with prior graduate work at the masters or specialist degree will also be considered for admission to advanced graduate status and, in the case of counseling psychology, are preferred. Students are selected for this program based on their undergraduate and prior graduate grade point average, Graduate Record Examination scores, letters of recommendation, personal statements describing their selection of a career in their chosen areas, writing samples, and personal interviews. These data provide information regarding student diversity, interests, and prior academic accomplishments in relation to program goals. The program faculty uses the Graduate School minimum requirements for undergraduate grade point average 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	(3)
EDP 600	LIFE SPAN HUMAN DEVELOPMENT AND BEHAVIOR	(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 662	DOCTORAL PRE-PRACTICUM SEMINAR IN COUNSELING PSYCHOLOGY	(1)
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 679	INTRODUCTION TO MEASUREMENT THEORY & TECHNIQUES	(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 711	ADVANCED QUANTITATIVE METHODS	(3)
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 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)

## **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, Measurement, 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 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).

## 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 522	EDUCATIONAL TESTS AND MEASUREMENTS	(3)
EPE 525	SPECIAL TOPICS SEMINAR IN EDUCATIONAL POLICY STUDIES AND EVALUATION (SUBTITLE REQUIRED)	(3)
EPE 554	CULTURE, EDUCATION AND TEACHING ABROAD	(3)

	(SAME AS EDC 554)	
EPE 555	COMPARATIVE EDUCATION	(3)
EPE 557	GATHERING, ANALYZING, AND USING EDUCATIONAL DATA	(3)
EPE 558	GATHERING, ANALYZING, AND USING EDUCATIONAL DATA II	(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 619	SURVEY RESEARCH METHODS IN EDUCATION	(3)
EPE 620	TOPICS AND METHODS OF EVALUATION	(3)
	(SAME AS EDP/ANT 620/SOC 622)	
EPE 621	ADVANCED TOPICS AND METHODS OF EVALUATION	(3)
	(SAME AS EDP/ANT 621)	
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 660	RESEARCH DESIGN AND ANALYSIS IN 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 669	ORAL HISTORY	(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 ED	(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 763	ADVANCED FIELD STUDIES	(3)
EPE 767	DISSERTATION RESIDENCY CREDIT	(3)
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)

## 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 scores of 301 (combination of Verbal and Quantitative sections) and analytical writing of at least 2.5 for the M.S. degree. The corresponding minimum GRE scores for Ph.D degree are 310 (V+Q) and 3.0 (Writing). Meeting the minimum requirements does not guarantee admission will be granted. Acceptance is based upon a competitive evaluation and on a space-availability 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 (Research Project in Electrical Engineering). 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.

For the PhD degree, students who only have a B.S. degree must complete 42 hours of course work. Students who have a M.S. degree from an accredited institution must complete 18 hours of course work. Students who have a M.S. degree from a non accredited institution must complete 24 hours of course work.

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. PhD students must also take a course in technical writing such as WRD 204.

The Department of Electrical and Computer Engineering has active research programs in the following areas: power electronics, power systems, electromechanics, computer engineering, control systems, electromagnetics, electro-optics, micro and nano-electronics, signal processing, communication systems, and controls.. Departmental laboratories are well-equipped for students' research. In addition, the Power and Energy Institute of Kentucky provides additional research opportunities.

## 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 517	ADVANCED ELECTROMECHANICS	(3)
EE 518	ELECTRIC DRIVES	(3)
EE 521	INTRODUCTION TO WIRELESS COMMUNICATIONS	(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 531	ALTERNATIVE AND RENEWABLE ENERGY SYSTEMS	(3)
EE 537	ELECTRIC POWER SYSTEMS I	(3)
EE 538	ELECTRIC POWER SYSTEMS II	(3)
EE 539	POWER DISTRIBUTION SYSTEMS	(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 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 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 588	REAL-TIME DIGITAL SYSTEMS	(3)

EE 589	ADVANCED VLSI	(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 614	ADAPTIVE CONTROL	(3)
EE 621	ELECTROMAGNETIC FIELDS	(3)
EE 622	ADVANCED ELECTRODYNAMICS	(3)
EE 624	COMPUTATIONAL ELECTROMAGNETICS: THE FINITE-DIFFERENCE TIME-DOMAIN METHOD	(3)
EE 625	ADVANCED COMPUTATIONAL ELECTROMAGNETICS	(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 664	MULTIDISCIPLINARY SENSORS LABORATORY	(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 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	(0-12)
EE 780	ADVANCED PRACTICE IN ELECTRICAL AND COMPUTER ENGINEERING	(1-3)
EE 783	SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING	(1-3)
EE 784	RESEARCH PROJECT IN ELECTRICAL ENGINEERING	(3)
EE 790	RESEARCH IN ELECTRICAL 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)

## ENGLISH

The Department of English offers M.A. and Ph.D. programs. For the MA degree, students can choose either the thesis option, Plan A, or non-thesis option, Plan B. MA students can choose from concentrations in Linguistics and Film (which are only Plan A). Students will select from both British and American literature courses for their M.A. coursework. A reading knowledge of one foreign language is required. The final exam of Plan B students is based on a reading list. The final exam of Plan A students is a defense of the master's thesis.

Students will select from a variety of literature courses for their PhD coursework. The qualifying examinations are comprised of a written exam and an oral exam.

### Requirements

An essay of publishable quality to be written under the guidance of director (or core committee member)  
Oral examination based on two lists (major and minor) to be taken at the end of the first semester of the third year

Directed Study with either director or core member during the first semester of the third year

Dissertation prospectus to be completed during the second semester of the third year

Dissertation prospectus defended in an oral examination at the end of the second semester of the third year

### Publishable Essay:

The new exam requires an essay of publishable quality to be written under the direction of the (typically but not necessarily) dissertation director in a Directed Study during the first semester of the third year. This essay will either be entirely new or based on a successful seminar paper.

### The Lists:

In consultation with the director and the two core members, the student decides on two areas:

1) Major - which will likely but not necessarily be a historical period (70 texts)

2) Minor - which will be **either** historical, special topic, or genre (30 texts)

For example, the student might focus on 19<sup>th</sup> century British literature along with a special topic such as gender studies or affect or postcolonial theory. The two lists will be assembled by the student in consultation with the committee members. While it is expected that most doctoral candidates will be examined in at least one major historical period, in certain circumstances a candidate may, with the approval of the doctoral committee, petition the Graduate Committee to take qualifying exams in a recognizable area other than a historical period.

### Oral exam/part 1:

A week before the exam, student will be given 2 or 3 questions formulated by their director (in consultation with the core committee) from which the student will choose one. They will then prepare a twenty-minute presentation for their exam. While the presentation should not be read, students may use Powerpoint. Students are advised to focus on roughly 6 central texts for the presentation. During the next forty minutes, the committee members discuss the presentation. Students should be prepared to reference in some detail other primary and secondary texts during the question period—roughly 20. Followed by a short break, the second hour turns to the whole list (including major and minor).



## Prospectus

This should be from 12 to 15 pages with a (**minimum**) 3-page bibliography.

## Oral exam/part 2:

At the end of the second semester of the third year, the student will be tested in an oral format for 2 hours on the dissertation prospectus.

## Committee members divide the responsibilities.

The director oversees one of the lists, likely the major but possibly the minor instead, as well as the essay, while a core committee member oversees the other list. All three members should agree on the lists. It is certainly possible for someone other than the director to oversee the essay. For example, if the student originally wrote the essay in a class taught by a core committee member, then it would make sense for this member to teach the Directed Study. If the essay is guided by a core committee member instead of the dissertation director, then the dissertation director and the third core committee member oversee the two lists.

## Admission Requirements

Admission 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. (The subject test is not required.) 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 an undergraduate degree in English should contact the Director of Graduate Studies who along with the Graduate Committee will evaluate their applications on a case by case basis. This is also the case for applicants to the doctoral program who do not have an M.A. in English. Applicants with teaching experience must submit a teaching portfolio. The English Department only has fall admissions, and the deadline for applications is January 15th.

All applicants must also fulfill the admission requirements of the Graduate School.  
A detailed and current statement of requirements for the M.A. and Ph.D. is available here:  
<https://english.as.uky.edu/english-graduate-program> .

## 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 advisory committee and the Director of Graduate Studies. Study and research are available in various areas of entomology including 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 disciplines, 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

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 300 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 150 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.

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. STA 570 Basic Statistical Analysis
3. 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.
4. 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 564 Insect Taxonomy  
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 767	DISSERTATION RESIDENCY CREDIT	(2)
ENT 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
ENT 770	ENTOMOLOGICAL SEMINAR	(1)
ENT 780	SPECIAL PROBLEMS IN ENTOMOLOGY AND ACAROLGY	(2-3)
ENT 790	RESEARCH IN ENTOMOLOGY AND ACAROLGY	(1-6)

## EPIDEMIOLOGY AND BIOSTATISTICS

### Program Background

The Ph.D. program in Epidemiology and Biostatistics at the University of Kentucky is intended to prepare professionals for a career in conducting population-based research and clinical trials. This is a unique program which strongly emphasizes the acquisition of applied skills in the complementary fields of epidemiology and biostatistics, as well as the theoretical foundations of these disciplines. Graduates of this program will be prepared to address the practical challenges of conducting population-based and clinical, translational research in the multidisciplinary work environments of academia, government, and industry. The essentially strong cross-training and mentoring nature of the program is intended to develop independent researchers who will be skilled in designing and conducting studies as well as analyzing, and interpreting the results from an increasing variety of designs and databases in the public health and medical research domains.

The target audience for this program will include students with an appropriate prior bachelor's or master's degree (in biostatistics, epidemiology, statistics, health services research, mathematical sciences, or a related field) with prior mathematical training to include two semesters of calculus (univariate, differential and integral) and statistical methods. Practicing health care professionals (MDs, DMDs, PharmDs, etc.) who are interested in pursuing independent, doctoral level, research careers will be targeted for the program. Master's graduates from psychology, computer science, engineering, business, biology, or chemistry may also find this degree program attractive.

### Program Overview

Students will complete a minimum of 57 credit hours of study plus dissertation research and the corresponding residency credits. The core curriculum consists of 33 credit hours comprising eleven courses, including nine courses in epidemiology and biostatistics, a 1-credit-hour doctoral seminar, and a three-credit-hour course that will serve as a broad introduction to public health. Students will also complete a minimum of 24 credit hours of electives, including at least three DGS-approved epidemiology courses and two 700 level biostatistics courses. Electives must be approved by the student's dissertation committee and the DGS. If the student does not yet have a dissertation committee at the time approval is sought for

an elective, then approval will rest with the DGS, who will serve as the student's academic advisor until such time as the student has a dissertation advisor.

After passing a written comprehensive examination over selected core courses (between the Fall and Spring semesters of the second year for a full-time student), the student will select a dissertation advisor and form a dissertation committee. The dissertation research will be an original scientific project which is integrative in the sense that either advanced biostatistical methods are applied to a population-based epidemiologic study of sufficient size and appropriate design, or original theoretical research is undertaken in biostatistics with applied research problems. Ordinarily a dissertation document will produce at least three manuscripts of publishable quality, as well as an integrative literature review. The scope of the project will demonstrate independence, mastery of research skills, thoughtful reflection of the results, and contribute to new knowledge in the field of investigation. The student must pass both an oral qualifying examination in the early stages of dissertation research and a final oral defense once the dissertation research has been completed.

## How to Apply

Please follow the instructions at <http://www.gradschool.uky.edu/ProspectiveStudents/Admission>.

The Ph.D. program in Epidemiology and Biostatistics has its own earlier deadline of 01 February preceding the fall semester in which the applicant hopes to begin graduate work. This Ph.D. program does not admit students for the spring or summer semesters. See the handbook (p.6) at [www.mc.uky.edu/publichealth/documents/degreeprogram/PhD\\_EPB\\_Handbook.pdf](http://www.mc.uky.edu/publichealth/documents/degreeprogram/PhD_EPB_Handbook.pdf) for additional application requirements, including the submission of some material through SOPHAS.

Financial aid may be available to qualified applicants. For further information about financial aid, academic policies, courses, and other program requirements, please refer to the handbook. The Director of Graduate Studies, Dr. Steven Browning, may be reached by e-mail: [srbrown@uky.edu](mailto:srbrown@uky.edu)

## GRADUATE COURSES

BST 675	BIOMETRICS I	(4)
BST 676	BIOMETRICS II	(4)
BST 701	BAYESIAN MODELING IN BIOSTATISTICS	(3)
BST 713/STA 653	CLINICAL TRIALS	(3)
BST 740	SPATIAL STATISTICS	(3)
BST 760	ADVANCED REGRESSION	(3)
BST 761	TIME TO EVENT ANALYSIS	(3)
BST 762/STA 632	LONGITUDINAL DATA ANALYSIS	(3)
BST 763/STA 665	ANALYSIS OF CATEGORICAL DATA	(3)
BST 764	APPLIED STATISTICAL MODELING IN MEDICINE AND PUBLIC HEALTH	(3)
BST 765	MISSING DATA METHODOLOGY IN PUBLIC HEALTH	(3)
BST 766	ANALYSIS OF TEMPORAL DATA IN PUBLIC HEALTH	(3)
CPH 610	INJURY EPIDEMIOLOGY	(3)
CPH 616	CARDIOVASCULAR EPIDEMIOLOGY	(3)
CPH 617	ENVIRONMENTAL AND OCCUPATIONAL EPIDEMIOLOGY	(3)
CPH 631	DESIGN AND ANALYSIS OF HEALTH SURVEYS	(3)

CPH 636	DATA MINING IN PUBLIC HEALTH	(3)
CPH 662	PUBLIC HEALTH RESPONSE TO TERRORISM AND DISASTERS	(3)
CPH 701	CURRENT ISSUES IN PUBLIC HEALTH	(1)
CPH 711	CHRONIC DISEASE EPIDEMIOLOGY	(3)
CPH 712	ADVANCED EPIDEMIOLOGY	(3)
CPH 718	SPECIAL TOPICS IN EPIDEMIOLOGY	(3)
CPH 767	DISSERTATION RESIDENCY CREDIT	(2)
CPH 786	DOCTORAL SEMINAR	(1)
EPI 714	EPIDEMIOLOGIC STUDY DESIGN	(3)
EPI 715	RESEARCH METHODS IN EPIDEMIOLOGY AND BIOSTATISTICS	(3)
EPI 716	INFECTIOUS DISEASE EPIDEMIOLOGY	(3)

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## FAMILY SCIENCES

The Department of Family Sciences offers M.S. and Ph.D. programs in Family Sciences. For more details and to apply for one of our graduate programs, see [www.fam.uky.edu/grad](http://www.fam.uky.edu/grad).

### Master of Science in Family Sciences

Areas of emphasis within the master's program are: (a) adolescent development, (b) aging, (c) couples and family therapy, (d) family finance and economics, and (e) family processes. The curriculum for each emphasis area except couples and family therapy requires a minimum of 30 credit hours, comprised of 15 credit hours of core courses (FAM 601, FAM 652, FAM 654, FAM 668, and FAM 690), 5 hours of electives, 3 hours of a data analysis or program evaluation course, 1 hour of a professional development seminar, and 6 credit hours for the thesis (Plan A) or scholarly project (Plan B).

The couple and family therapy emphasis area is accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) and requires a prescribed curriculum totaling 53 credit hours (2 years, including one summer), comprised of 15 credit hours of core family sciences courses, 18 hours of core couples and family therapy courses, 10 hours of supervised practicum, 3 hours of a data analysis or program evaluation course, 1 hour of a professional development seminar, and 6 credit hours for the thesis (Plan A) or scholarly project (Plan B).

### Admission Requirements

Students must have a bachelor's degree prior to admission into the master's program. Admissions are conducted one time each year; the application deadline is January 15 for admission Fall Semester of the same calendar year. Applicants must submit a statement of their academic goals for the M.S. degree and three letters of recommendation. See [www.fam.uky.edu/apply/](http://www.fam.uky.edu/apply/) for details.

### Doctor of Philosophy

Areas of emphasis within the doctoral program are: (a) adolescent development, (b) aging, (c) family finance and economics, and (d) family processes. The doctoral program is a research-based curriculum



designed particularly for those desiring a research career in family science, including 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.

The curriculum is competency based, but minimal coursework requirements prior to the qualifying examination include 2 years of residency and 36 credit hours, comprised of 20 credit hours of foundational courses (if not taken in master's program), 9 hours of research methods and theory, 9 credit hours of statistics, 7 credit hours of professional development, and 15 credit hours in a specialization area.

## Admission Requirements

Master's level practitioners, educators, and researchers in the social sciences are best suited for the doctoral program. Previous research experience is desirable, but not required. Although students generally must have a master's degree prior to admission into the doctoral program, particularly outstanding applicants who have earned a bachelor's degree but not a master's degree may be considered for admission into the doctoral program.

Admissions are conducted one time each year; the application deadline is January 15 for admission Fall Semester of the same calendar year. Applicants must submit a statement of clearly developed academic and research goals for the Ph.D. degree and three letters of recommendation. See [www.fam.uky.edu/apply/](http://www.fam.uky.edu/apply/) for details.

For additional information, see [fam.uky.edu/grad](http://fam.uky.edu/grad) or contact the Director of Graduate Studies, Department of Family Sciences, 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 553	PARENT-CHILD RELATIONSHIPS ACROSS THE LIFECYCLE	(3)
FAM 554	WORKING WITH PARENTS	(3)
FAM 563	FAMILIES, LEGISLATION AND PUBLIC POLICY	(3)
FAM 585	AGING AND ENVIRONMENT (SAME AS GEO 585/GRN 585)	(3)
FAM 601	FAMILY PROCESSES	(3)
FAM 622	THE FAMILY'S ROLE IN EARLY CHILDHOOD EDUCATION (SAM AS EDS 622)	(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	THE LIFECOURSE PERSPECTIVE ON FAMILIES	(3)
FAM 657	FAMILY SYSTEMS THEORY	(3)
FAM 658	ADOLESCENT DEVELOPMENT	(3)

FAM 660	AGING ISSUES AND FAMILY RELATIONS (SAME AS GRN 660)	(3)
FAM 661	HEALTH AND FINANCIAL ISSUES OF AGING FAMILIES	(3)
FAM 668	ALLOCATION OF FAMILY RESOURCES	(3)
FAM 673	FAMILY LIFE EDUCATION	(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 690	RESEARCH METHODS IN FAMILY SCIENCES	(3)
FAM 699	FIELD EXPERIENCES IN FAMILY SCIENCES	(1-3)
FAM 703	ADVANCED THEORIES AND RESEARCH IN FAMILY ECONOMICS AND MANAGEMENT	(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 755	ADVANCED THEORY AND DYNAMICS OF HUMAN DEVELOPMENT ACROSS THE LIFE COURSE	(3)
FAM 759	SPECIAL ADVANCED TOPICS IN FAMILY SCIENCES	(1-3)
FAM 763	SEMINAR IN PRIMARY PREVENTION FOR FAMILY SCIENCES	(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	PROFESSIONAL DEVELOPMENT SEMINAR	(1-3)
FAM 776	PROSEMINAR IN MARRIAGE AND FAMILY THERAPY (SUBTITLE REQUIRED)	(1-3)
FAM 777	APPLIED STATISTICS IN FAMILY SCIENCE	(3)
FAM 784	RESEARCH PRACTICUM IN FAMILY SCIENCES	(3)
FAM 785	ADVANCED PROBLEMS IN FAMILY SCIENCES	(1-3)
FAM 786	TEACHING PRACTICUM IN FAMILY SCIENCES	(3)
FAM 787	SUPERVISED EXPERIENCE IN THE PRACTICE OF MARRIAGE AND FAMILY THERAPY	(1-6)
FAM 790	ADVANCED RESEARCH METHODS IN FAMILY SCIENCES	(3)

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## FORESTRY

Students may elect to pursue the Master of Science in Forestry degree under Plan A, which requires a minimum of 24 semester hours of graduate course work plus an acceptable thesis, or under a non-thesis option (Plan B), which requires a minimum of 30 semester hours of graduate course work that includes an area of specialization. All forestry graduate students take:

- FOR 601 (Research Methods in Forestry, taught every fall semester)
- FOR 602 (Renewable Natural Resources in a Global Perspective, taught in the fall semesters of odd-numbered calendar years)
- FOR 770 three times (Forestry Seminar, at least one section of which is taught each fall and spring semester).

A goal of the Forestry Graduate Program is to contribute to improved forest health and management through enhanced understanding of relevant ecological and social benefits and constraints. Consequently, a student's degree program may be directed toward any of the disciplinary or interdisciplinary fields in forestry, which range from molecular to landscape and societal levels. The Program's current research has particular strengths in southern Appalachian hardwood forest ecology and management, forest hydrology and watershed management, reforestation and mine reclamation, invasive species and forest health, animal ecology and management, and human dimensions including forest policy and economics.

In addition to mentoring Master's students, faculty members of the Department of Forestry serve as major professors for Ph.D. students in other academic programs. Examples of graduate programs in which forestry Ph.D. students have enrolled include agricultural economics, animal science, biology, crop science, geography, geology, plant physiology, and plant & soil science. Details about Ph.D. opportunities available in the Department of Forestry are available by contacting individual faculty members directly (<http://www.ca.uky.edu/forestry/people.php>).

## Admission Requirements

Applicants for admission to the Master of Science in Forestry degree program must hold (by the time of enrollment in the program) an awarded four-year baccalaureate degree from an accredited institution of higher learning. Although it is not required that an applicant's undergraduate degree be in forestry or another natural resource field, a student admitted to the program who lacks essential undergraduate courses may be required by an advisory committee to take them. 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 (GRE) of 1000 (if the GRE is taken prior to 1 August 2011). If the revised GRE is taken on or after 1 August 2011, the minimum expected combined score is 297. Applications are submitted online (<http://www.gradschool.uky.edu/ProspectiveStudents/Admission.html>). Each applicant must identify (in the personal statement) a graduate faculty member who agrees to serve as his/her major advisor and whether or not the applicant wishes to be considered for an assistantship. Applications for fall admission that are complete by February 1 are eligible to be considered for departmentally-funded research and teaching assistantships that normally begin on July 1 of the same calendar year. Research assistantships are sometimes funded by the grants and contracts of individual faculty members; applications for such assistantships may be subject to different deadlines.

More detailed information concerning the Forestry Graduate Program's admission procedures, assistantships, degree requirements, and previous theses/dissertations may be obtained:

- at <http://www.ca.uky.edu/forestry/acad-ms.php>
- from our individual faculty members in your specific area(s) of interest, listed at <http://www.ca.uky.edu/forestry/people.php>
- at <http://www.ca.uky.edu/forestry/theses.php>
- by contacting the Director of Graduate Studies, Dr. David B. Wagner, at [dwagner@uky.edu](mailto:dwagner@uky.edu) or (859) 257-3773

## 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 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 AND FRANCOPHONE STUDIES

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 (non-thesis) 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 the Department of 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 digital-format recording 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 ensuring 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 statement of purpose in seeking the M.A. in French.
4. 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.
5. Three letters of recommendation addressing the applicant's qualifications for graduate work in French.
6. A writing sample in French by the applicant (analytical prose, typically a graded term paper; not a creative work).
7. Non-native speakers of French must submit a digital-format recording (3-4 minutes) of themselves reading a contemporary prose passage in French (a newspaper or magazine article, not a literary work).
8. Non-native speakers of English must submit a digital-format 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.
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.

All application materials should be uploaded directly to the UK Graduate School's Apply Yourself program on the application website (<http://www.gradschool.uky.edu>).

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, culture, and literature and the arts. 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 and April. 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 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 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 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 612	STRUCTURE AND STYLISTICS OF FRENCH	(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 780	SPECIAL STUDIES IN FRENCH	(3)

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## GENDER AND WOMEN'S STUDIES

The Department of Gender and Women's Studies offers Ph.D., M.A. and Graduate Certificate degree programs. Students are accepted only into the Ph.D. and Graduate Certificate programs. All degree programs share a core curriculum of courses. Information about the specific requirements for each degree is available on the Department of Gender and Women's Studies website <http://gws.as.uky.edu/>

Applicants for the Ph.D. degree program may be accepted from any undergraduate degree field. Applicants will be accepted into the program with or without an M.A. or equivalent advanced degree. For students without an M.A., the degree will be earned as part of their Ph.D. program.

The Ph.D. program includes required coursework and specialized coursework. The purposes of the required coursework are (1) to familiarize students with fundamental concepts, theories and frameworks for

scholarly feminist inquiry, and (2) to familiarize students with different approaches to inquiry and research in gender and women's studies.

The Ph.D. program allows students to establish mentoring relationships with the faculty and their advisory committee members. The advisory committee will assist students in designing a specific program of study to prepare the student for their qualifying exams and to write their dissertation within an area of study.

The Graduate Certificate program is a 12 hour curriculum that students take as a complement to a graduate disciplinary degree program or as a stand-alone curriculum. The aim of the Graduate Certificate curriculum is to provide a coherent, graduate-level interdisciplinary grounding in Gender and Women's Studies scholarship and to create an intellectual community among faculty and graduate students who share a scholarly interest in Gender and Women's Studies.

The M.A. program is connected to the Ph.D. program and does not admit students for M.A. study only.

## GRADUATE COURSES

GWS 595	ISSUES IN GENDER AND WOMEN'S STUDIES	(3-12)
GWS 600	TOPICS IN GENDER AND WOMEN'S STUDIES	(3-12)
GWS 610	WOMEN AND MADNESS	(3)
GWS 630	RESEARCH METHODS IN GENDER AND WOMEN'S STUDIES	(3)
GWS 640	FEMINIST THOUGHT AND ACTION	(3)
GWS 650	FEMINIST THEORY AND HISTORY	(3)
GWS 690	GRADUATE RESEARCH IN GENDER AND WOMEN'S STUDIES	(3-12)
GWS 700	TOPICAL SEMINAR IN GENDER AND WOMEN'S STUDIES	(3-12)
GWS 710	ATIN AMERICAN AND U.S. LATINA WOMEN'S LIVES	(3)

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## GEOGRAPHY

The Department of Geography offers both M.A. 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 primary objective of the graduate program is to prepare students for research-oriented careers in universities, government, and industry. Emphasis in graduate seminars is on developing the background and skills necessary for original contributions to geographic knowledge. The Department is known for high quality research and graduate education in human geography, and recently we have added faculty in physical geography in accordance with our strategic plan, and funded in part through our RCTF designation, to build up a focused research cluster in Earth Surface Systems. In addition, we are now building a program in critical cartography/GIS, participatory mapping, and the geospatial web. Program strengths include close faculty/student interaction, flexibility in designing an appropriate plan of study, and research training in seminar environments. Emphasis at both the M.A. and Ph.D. levels is placed on theoretical and methodological training and is closely integrated with both breadth and depth in substantive literatures. Student research also is empirically rich, with data regularly acquired through off-campus fieldwork. Members of the faculty are committed to assisting students in disseminating their research through publications in professional journals and presentations at conferences, and in obtaining external funding. Graduate students also gain valuable experience as instructors in

undergraduate courses. Rounding out graduate students' experiences is their active participation in departmental governance and service on departmental committees.

Faculty and student research in the Department focuses on interrelated thematic clusters. Research seminars are organized around topics relevant to these clusters. The thematic content of seminars varies in accordance with the current interests of graduate students and faculty. The research clusters we presently feature are:

- **Cultural Geographies:** Interpretation and analysis of cultural landscapes and the built environment; space and representation; the political economy of landscape production; racialized landscapes; historical geographies of settlement; questions of space and power relating to race, class, gender and their intersection; historic preservation; US roadscapes; regional imagery; popular culture; community, identity and belonging and their social construction; the diasporic identities of migrants and immigrants, Islamic/Muslim cultural practices in the Middle East, Europe, and the United States; recreation, tourism and society.
- **Critical Mapping:** Social implications of geospatial technologies; critical GIS/cartography; histories of cartography and GIS; public participation GIS, and community-based GIS; volunteered geographic information and neogeographies; mapping 2.0 and the geoweb; spatialities of user-generated content; geographies of the Internet; digital/spatial humanities. Research in this area is organized through the [New Mappings Collaboratory](#) established in 2011.
- **Development Studies:** Policies and practices of development; political economy perspectives on development; anti-development and postcolonial theory; household survival strategies; the relations between migration, transportation, tourism, and economic development; environmental management and sustainable development.
- **Economic Geography:** The political economy of urban and regional economic change; globalization, and in particular the critical geographies of global finance: information and telecommunications, especially the economic geography of the internet; the oil and resource extractive industries; the geography of multinational corporations, foreign direct investment, and global production and commodity chains; economic clusters; alternative forms of urban and economic development (including craft-oriented production, immigrant entrepreneurship, informal employment, local currency systems and Islamic banking); the geography of labor and employment; labor migration and migrant labor.
- **Environmental Geography:** Critical theories of nature (political ecology, ecological economics, green social movements, environmental sustainability, the politics of environmental management and conservation policy); environment and development (post-colonial environmental history, models of environmental management in development, local environmental movements in developing areas, global environmental policymaking); resource geographies of Asia and the United States (especially oil); trade, markets and environment (markets in ecosystem services, fair trade networks, neoliberal environmental policy, environmental policies of multinational corporations).
- **Physical Geography:** Fluvial and soil geomorphology; surface and subsurface weathering processes; ecological biogeography and biogeomorphic approaches; bioclimatology and human climate change; hydrology; earth surface systems modeling; remote sensing and geospatial applications, theories of scale and scaling.
- **Political Geography:** Questions of states, territory, and law; citizenship; migration and immigration; transnationalism; post-colonial and imperial geographies; Islamist politics; feminist geopolitics; political economy of environmental movements; political economy of globalization discourses and practices; urban governance; and the politics of urban and regional development.



- **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 poststructuralism; continental philosophy, feminist theory; queer theory; identity theory; race theory; geographic thought and society; technology and society.
- **Urban Geography:** The local politics of urban development; urban social fragmentation; post-suburban development; urban property markets; questions of citizenship and public space; urban space and identities relating to 'race', gender, class, and migrants and immigrants; urban historical geography; urban landscapes; racialized landscapes; historical preservation; labor migration and urban economic development (especially cities and informal employment); critical geographies of urban transportation.

Faculty members have regional expertise in South and Southeast Asia, Japan, the Himalayas, Mexico, the Caribbean, Central and Eastern Europe, the Middle East (particularly Turkey), the Central Asian republics, Western Europe, and Canada and the U.S. (particularly the Upland South).

In addition, students have access to faculty with expertise in a variety of methodological areas including field methods; qualitative research methodologies (such as interviews; focus groups; critical ethnography; experiential methods; textual and visual methods and deconstruction) quantitative methods (especially multivariate statistics, modeling and mathematical demography); as well as GIS and remote sensing methods (such as participatory GIS; digital image processing; crowd-sourced data collection; automated and production cartography).

## Admission Requirements

In addition to the basic graduate school requirements (see the Graduate School for application procedures), the following materials should be sent by e-mail to the Department of Geography (details of the application procedure can be found on our Departmental website):

- 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)
- A curriculum vitae (if available)
- 1 official or unofficial copy of all transcripts from prior universities or other institutions

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	(1-9)
	(SUBTITLE REQUIRED)	
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	(3)
	(SAME AS BIO 530)	
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)

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## 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:

John Watkins, 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**

#### **Core Requirements**

CPH 701 Issues in Public Health (1hr)

- GRN 600 A Study of the Older Person (3 hrs)
- GRN 612 Biology of Aging (3 hrs)
- GRN 620 Human Aging and Adjustment (3 hrs)
- GRN 650 Research Design in Gerontology (4 hrs)
- GRN 656 Integrative Studies in Gerontology (3 hrs)
- GRN 781 Student Development Practicum (5 hours)

STA 570 (4) or 580 (3) Basic Statistical Analysis / Biostatistics  
 Elective Methods (6 hrs minimum)  
 Approved courses in area of specialization (minimum of 15 hrs)

Elective courses should be selected by the student with the guidance of the student's advisor and/or Advisory Committee. No more than 9 hours of independent readings or research may be used to fulfill this requirement.

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 DGS, will determine the amount of prior course work to be credited toward specific requirements.

**Core Competency Evaluation:** All students must pass an oral evaluation of competency in foundational gerontology knowledge. Students must sit for a 'Gerontology Core Examination' at the completion of all required coursework and pass the exam, and before they can scheduling the qualifying examination. The purpose of this examination is to ensure that students are capable of articulating and synthesizing central and fundamental aspects of gerontology along the spectrum from cell to society.

**Committee Composition Requirements:** In addition to Graduate School requirements for Doctoral committees, all students will have at least one member of each end of the cell to society spectrum. This has been added to help insure that student's dissertation research is influenced across this spectrum. Selection of committee members is done by the student with consultation and approval of the student's chair, co-chair (if applicable) and the DGS. Final determinations of whether membership requirements are met are made by the DGS.

Possible elective courses from within or outside the Gerontology Program 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)
- GRN 544 Demography and Aging (3)
- GRN 585 Aging and Environment (3)
- GRN 600 A Study of the Older Person (3)
- GRN 602 Certification Practicum in Gerontology (3)
- GRN 610 Psychology of Aging (3)
- GRN 612 Biology of Aging (3)
- GRN 615 Seminar in Teaching Medical Science (Medical Science Teaching I) (2)
- GRN 616 Teaching Seminar in Gerontology (2)

- GRN 617 Teaching Practicum in Gerontology (3)
- GRN 618 Epidemiology of Aging (3)
- GRN 620 Human Aging and Adjustment (3)
- GRN 643 Biomedical Aspects of Aging (3)
- GRN 644 Demography and Aging (3)
- GRN 650 Research Design in Gerontology (4)
- GRN 651 Qualitative Gerontology (3)
- GRN 652 Quantitative Gerontology (3)
- GRN 653 Laboratory Research in Gerontology (1)
- GRN 656 Integrative Studies in Gerontology (3)
- GRN 660 Aging and Family Values (3)
- GRN 704 Mental Health and Aging (3)
- GRN 705 Cognitive Aging (3)
- GRN 710 Aging of the Nervous System (3)
- GRN 715 Health Policy and Aging (3)
- GRN 720 Gerontology/Geriatric Dentistry (1)
- GRN 731 Elder Mistreatment (3)
- GRN 770 Special Topics in Gerontology (1-6)
- GRN 771 Aging in Rural Environments (3)
- GRN 772 Aging and the Life Course (3)
- GRN 773 Ethics and Aging (3)
- GRN 774 Aging and Public Policy (3)
- GRN 775 Clinical Geriatrics (3)
- GRN 778 Current Topics in Brain Aging (3)
- GRN 780 Applied Gerontology Practicum (1-3)
- GRN 781 Applied Gerontology Practicum II (1-3)
- GRN 782 Women's Health and Aging (3)
- GRN 783 Public Health and Aging (3)
- GRN 785 Independent Research in Gerontology (1-6)
- GRN 786 Independent Readings in Gerontology (1-6)
- GRN 790 Professional Development in Gerontology (1)

## 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)<br>(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<br>(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 (MHA) program is offered in the College of Public Health. Its purpose is to provide graduates with critical competencies required to succeed in post-graduate positions in hospitals, multi-unit health systems, and other complex health-related organizations, and to build a solid foundation for future leadership development. The MHA program focuses on preparing students for roles that require management and strategic abilities, and places special emphasis on needs and opportunities in healthcare organizations within Kentucky and the region. MHA courses draw on the expertise of faculty from several UK colleges, UK HealthCare, and other healthcare organizations in Kentucky and beyond.

### Admission Requirements

- A 3.0 or higher undergraduate grade point average is recommended.
- Official scores on the Graduate Record Examination (GRE) or Graduate Management Admissions Test (GMAT). Verbal and quantitative scores at the 50 percentile or better are recommended.
- Three letters of recommendation (at least one from a faculty member who has taught or supervised the applicant).
- Personal Statement
- Official TOEFL scores (International students only).

#### Application Process:

- Official GRE/ GMAT, TOEFL scores and copies of official transcripts must be submitted by the applicant directly to SOPHAS <http://www.sophas.org/>.
- Applicants must also submit a supplemental application to the University of Kentucky's Graduate School; <http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html>

#### Deadline to Apply:

- Applicants are encouraged to apply early for all scholarship/financial aid consideration.
- Application deadline for International students March 15.
- Application deadline for all other applicants is May 15.
- Admission is competitive and decisions are made on a rolling basis, so applicants are encouraged to apply early.
- Students are admitted only in the fall semester.

## Pre-requisites

Students who have not taken courses in financial accounting and microeconomics are required to take ECO 201 and ACC 201 or the equivalent before they begin the economics and accounting courses in the MHA curriculum.

## Curriculum

The MHA curriculum includes foundation courses, healthcare management core and specialized courses, an internship, and a final master's examination project. The total program consists of 54 semester hours, including a master's examination project. Degree requirements include the successful completion of all course work with a 3.0 or better GPA and successful completion of the master's examination project.

For more information about the program, contact:

Director of Student Affairs  
University of Kentucky  
College of Public Health Building, Suite 120  
Lexington, KY 40506-0003  
859.218.0112

## Course Requirements

Completion of 54 credit hours of coursework is required.

### **MHA CURRICULUM FOUNDATION CORE (15 HOURS)**

HA 601	OVERVIEW OF U.S. HEALTHCARE	(3)
HA 621	QUANTITATIVE METHODS FOR HEALTHCARE MANAGEMENT	(3)
HA 635	MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS	(3)
CPH 614	MANAGERIAL EPIDEMIOLOGY	(3)
CPH 663	PUBLIC HEALTH PRACTICE AND ADMINISTRATION	(3)

### **HEALTHCARE MANAGEMENT CORE (29 HOURS)**

HA 602	STRATEGIC PLANNING AND MARKETING IN HEALTHCARE	(3)
HA 603	LEGAL ASPECTS OF HEALTHCARE MANAGEMENT	(3)
HA 604	HEALTHCARE ETHICS AND GOVERNANCE	(2)
HA 623	HEALTHCARE OPERATIONS ANALYSIS & MANAGEMENT	(3)
HA 624	INFORMATION SYSTEMS IN HEALTHCARE	(3)
HA 628	HUMAN RESOURCES MANAGEMENT IN HEALTHCARE	(3)
HA 636	HEALTH ECONOMICS	(3)
HA 637	HEALTH FINANCE	(3)
HA 642	ORGANIZATION THEORY AND BEHAVIOR	(3)
HA 673	HEALTH POLICY	(3)

### APPLICATION AND ELECTIVE COURSES (10 HOURS)

HA 660	DECISION MAKING IN HEALTHCARE ORGANIZATIONS	(3)
HA 711	PRACTICUM IN HEALTH ADMINISTRATION	(1)
HA 785	INDEPENDENT STUDY IN HEALTHCARE ADMINISTRATION/ MASTER'S EXAMINATION PROJECT	(1)

ELECTIVES: MINIMUM OF 5 CREDIT HOURS

### GRADUATE COURSES

HA 601	OVERVIEW OF U.S. HEALTH CARE	(3)
HA 602	STRATEGIC PLANNING AND MARKETING IN HEALTHCARE	(3)
HA 603	LEGAL ASPECTS OF HEALTHCARE MANAGEMENT	(3)
HA 604	HEALTHCARE ETHICS AND GOVERNANCE	(2)
HA 621	QUANITATIVE METHODS FOR HEALTHCARE MANAGEMENT	(3)
HA 623	HEALTHCARE OPERATIONS ANALYSIS AND MANAGEMENT	(3)
HA 624	INFORMATION SYSTEMS IN HEALTH CARE	(3)
HA 628	HUMAN RESOURCES MANAGEMENT IN HEALTHCARE	(3)
HA 635	MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS	(3)
HA 636	HEALTH ECONOMICS	(3)
HA 637	HEALTH FINANCE	(3)
HA 642	ORGANIZATION THEORY AND BEHAVIOR	(3)
HA 660	DECISION MAKING IN HEALTH CARE ORGANIZATIONS	(3)
HA 673	HEALTH POLICY	(3)
HA 711	PRACTICUM IN HEALTH ADMINISTRATION	(1)
HA 775	SPECIAL TOPICS IN HEALTH ADMINISTRATION	(1-3)
HA 785	INDEPENDENT STUDY IN HEALTH ADMINISTRATION	(1-3)

Incoming students are informed of the graduate school/departmental academic policies at the MHA Orientation held before classes begin each fall. This day-long orientation includes a review of the MHA handbook. Both a print copy and an electronic copy of the handbook are shared with each incoming student. The MHA handbook is also on the College of Public Health Website:

<http://www.uky.edu/publichealth/student-resources/student-handbooks>

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## HISPANIC STUDIES

### Master of Arts

#### Admission Requirements

We require a B.A. in Hispanic Studies or a related area, demonstrated fluency in Spanish and English, 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 M.A. and Doctoral degrees.

## Degree Requirements

32 credit hours total. Reading knowledge of one foreign language in addition to Spanish and/or English; successful completion of SPA 553 (Pedagogy and the Teaching of Spanish), SPA 602 (Studies in Spanish Linguistics), SPA 606 (Introduction to Cultural and Literary Theory) and SPA 770 (Introduction to Hispanic Studies). Successful completion of an additional 24 hours of credits of which 6 may 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. One half of the exam is designed to test the candidate's knowledge of the M.A. Reading List (located at <https://hs.as.uky.edu/sites/default/files/MARReadingListFINAL2007.pdf>) and the other half is based on the candidate's graduate-level coursework. A student who plans to complete only the M.A. degree (or is not admitted into the Ph.D. program) has four semesters to complete the coursework towards the MA. M.A. exams are given in August and January.

NOTE: Students who are admitted into the Ph.D. program during the fourth semester of coursework are not required **to take an M.A. exam after four semesters**. The M.A. degree will be conferred to them upon successful completion of the doctoral Qualifying Exam. Students who enter the program with an M.A. from another institution will be evaluated by the Graduate Studies Committee at the beginning of the third semester of coursework. 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 Ph.D.

## Doctor of Philosophy

### Degree 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 Cultural and Literary Theory) and SPA 770 (Introduction to Hispanic Studies). 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 one language other than Spanish and English. The successful candidate will defend a dissertation prospectus, successfully complete Parts A and B of the Doctoral 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 or Linguistics) 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 12 credit hours in the Allied Fields; 6 graduate credits 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.
- 7) U.S. Latino 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 programs in Social Theory, Gender and Women's Studies, Latin American Studies, Environmental Studies and Appalachian Studies in considering transdisciplinary possibilities for their doctoral theses.

**The Doctoral 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 created under the supervision of 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 519	THEMES IN MEDIEVAL AND EARLY MODERN SPANISH LITERATURE AND CULTURE	(3)
SPA 529	THEMES IN MODERN AND CONTEMPORARY SPANISH LITERATURE, CULTURE AND FILM	(3)
SPA 539	THEMES IN LATIN AMERICAN LITERATURE, CULTURE AND FILM	(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 603	SPANISH APPLIED LINGUISTICS	(3)
SPA 604	SOCIOLINGUISTICS OF THE SPANISH-SPEAKING WORLD	(3)
SPA 605	HISTORY OF THE SPANISH LANGUAGE	(3)

SPA 606	INTRODUCTION TO CULTURAL AND LITERARY THEORY	(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 653	STUDIES IN SPANISH PEDAGOGY	(3)
SPA 654	SPANISH DIALECTOLOGY	(3)
SPA 655	COMPARATIVE-HISTORICAL ROMANCE LINGUISTICS	(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 703	SEMINAR IN SLA THEORY IN SPANISH L2 LEARNING	(3)
SPA 704	SEMINAR IN LINGUISTIC ANALYSIS OF SPANISH DISCOURSE	(3)
SPA 705	SEMINAR IN HISTORICAL LANGUAGE CONTACT IN THE SPANISH SPEAKING WORLD	(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 770	INTRODUCTION TO HISPANIC STUDIES	(3)
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)

## 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, including Building Revitalization, Community Engagement, and Rural Preservation. 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 writing, drawing, drafting, and/or 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, 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 609	URBAN REVITALIZATION IN THE UNITED STATES	(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 615	AMERICAN SETTLEMENT PATTERNS	(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)

## HISTORY

### The M.A. and Ph.D. Programs

The Department of History offers both the M. A. and the Ph.D. degrees. A reading knowledge of at least one foreign language is required for both degrees. The M.A. degree may be obtained either by Plan A (thesis) or Plan B (non-thesis). 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. Program requirements vary depending on specific concentrations. More detailed information may be found at: <http://www.uky.edu/AS/History/>

### Admission Procedures and Requirements

Students applying for either the MA or the Ph.D. program should submit evidence of extensive undergraduate preparation in history (preferably an undergraduate major). Applicants who wish to be considered for financial assistance and fellowships should review the departments web-site for specific deadlines and must apply no later than December 15<sup>th</sup>.

For additional requirements and information on application procedures, consult:  
<http://history.as.uky.edu/history-graduate-program>.



## 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 506	HISTORY OF SEXUALITY IN THE US	(3)
HIS 509	ROMAN LAW (SAME AS CLA 509)	(3)
HIS 510	MEDIEVAL LAW	(3)
HIS 511	BARBARIANS	(3)
HIS 512	CAROLINGIAN EMPIRE	(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	EARLY MODERN 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 549	HISTORY OF THE MIDDLE EAST: 1952 TO PRESENT	(3)
HIS 552	TUDOR-STUART BRITAIN, 1485-1714	(3)
HIS 553	EIGHTEENTH CENTURY BRITAIN	(3)
HIS 554	BRITISH HISTORY 1815-1901	(3)
HIS 555	BRITISH HISTORY SINCE 1901	(3)
HIS 556	THE BRITISH EMPIRE, 1322-1879	(3)
HIS 557	THE BRITISH EMPIRE AND COMMONWEALTH, 1880-2000	(3)
HIS 561	CULTURE, IDEAS, AND SOCIETY IN LATIN AMERICA	(3)
HIS 562	MODERN MEXICO	(3)
HIS 563	THE HISTORY OF WOMEN IN LATIN AMERICA	(3)
HIS 564	HISTORY OF BRAZIL	(3)
HIS 574	THE DIPLOMACY AND FOREIGN POLICY OF THE US 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 584	HEALTH AND DISEASE IN THE U.S.	(3)

HIS 587	THE CIVIL RIGHTS MOVEMENTS IN THE U.S. SINCE 1930	(3)
HIS 593	EAST ASIAN HISTORY SINCE WORLD WAR II	(3)
HIS 595	STUDIES IN HISTORY	(3)
HIS 598	CHINA IN REVOLUTION, 1895-1976	(3)
HIS 606	HISTORICAL CRITICISM	(3)
HIS 611	READINGS IN EARLY CHRISTIANITY	(3)
HIS 612	READINGS IN LATE ANTIQUITY	(3)
HIS 613	READINGS IN EARLY MEDIEVAL HISTORY	(3)
HIS 614	READINGS IN HIGH AND LATE MEDIEVAL HISTORY	(3)
HIS 615	MANUSCRIPT CULTURES	(3)
HIS 616	PALEOGRAPHY	(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	BRITAIN, 1688-1815	(3)
HIS 626	BRITAIN, 1792-1914	(3)
HIS 627	BRITISH EMPIRE, 1763-1914	(3)
HIS 628	COLLOQUIUM ON MODERN EUROPEAN HISTORY	(3)
HIS 637	READINGS IN COLONIAL LATIN AMERICAN HISTORY	(3)
HIS 638	READINGS IN LATIN AMERICAN HISTORY	(3)
HIS 640	READINGS IN AMERICAN HISTORY TO 1877	(3)
HIS 641	READINGS IN AMERICAN HISTORY SINCE 1877	(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 701	RESEARCH SEMINAR IN AMERICAN HISTORY	(3)
HIS 705	COLLOQUIUM IN EARLY MODERN EUROPE, 1450-1648	(3)
HIS 706	SEMINAR IN MEDIEVAL HISTORY	(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 750	INTRODUCTION TO THE HISTORICAL PROFESSION	(1)
HIS 767	DISSERTATION RESIDENCY CREDIT	(2)
HIS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)

# 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 intrapersonal 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.

## DIETETICS ADMINISTRATION

Courses are designed to:

- Examine leadership and administrative concepts
- Provide instruction on theories and concepts in institutional organization for dietetics
- Study financial decision making and the reimbursement process in dietetics
- Advance medical nutrition foundations in dietetics
- Analyze public policy and community nutrition advances in dietetics

## Degree Requirements

### CORE COURSES

HES 600	RESEARCH METHODS IN HUMAN ENVIRONMENTAL SCIENCES	(3)
DHN 648	MANAGEMENT OF HOSPITALITY AND DIETETICS ORGANIZATIONS	(3)
DHN 770	SEMINAR IN HOSPITALITY AND DIETETICS ADMINISTRATION	(1)
DHN 772	CURRENT TOPICS IN HOSPITALITY & DIETETICS ADMINISTRATION	(2)
STA 570	BASIC STATISTICAL ANALYSIS	(4)
STA 671	REGRESSION AND CORRELATION	(2)

### HOSPITALITY ADMINISTRATION

NFS 694	STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM	(3)
NFS 646	ADVANCED INFORMATION TECHNOLOGY IN THE HOSPITALITY INDUSTRY	(3)
NFS 781	ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM	(3)

PLAN B REQUIRES 12 ADDITIONAL HOURS OF ELECTIVES

### DIETETICS ADMINISTRATION

DHN 603	ADVANCED COMMUNITY PROGRAM DEVELOPMENT	(3)
DHN 784	SPECIAL PROBLEMS IN FINANCIAL MANAGEMENT	(3)
DHN 690	ADVANCED WORK IN DIETETICS	(3)

PLAN B REQUIRES 12 ADDITIONAL HOURS OF ELECTIVES; THESE CAN BE TAKEN IN CLINICAL, MANAGEMENT, COMMUNITY AND WELLNESS COURSES.

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. Six additional credit hours are allowed for thesis research. Plan B requires 36 credit hours of course work without a thesis (12 additional hours of electives).

## Admission Requirements

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

- 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). Students with a grade point of 2.8 may be accepted conditionally to the graduate program with the expectation they will increase that GPA before moving to full graduate status.
- have a Test of English as a Foreign Language (TOEFL) score of 79 (internet-based) or better or an IELTS score of 6.5 or greater if an international student. These scores must be no more than two years old.

Application forms can be found at: <http://www.gradschool.uky.edu/ProspectiveStudents/Admission.html>

Applicants to this program must submit a statement of purpose and three letters of recommendation with their online application.

## 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

DHN 408G	SEMINAR IN FOOD AND NUTRITION	(1)
DHN 510	ADVANCED NUTRITION	(3)
DHN 512	MEDICAL NUTRITION THERAPY 1	(4)
DHN 514	DIETETICS: COUNSELING AND COMMUNICATION THEORIES AND APPLICATIONS	(3)
DHN 517	MEDICAL NUTRITION THERAPY 2	(3)
DHN 516	MATERNAL AND CHILD NUTRITION	(3)
DHN 591	SPECIAL PROBLEMS IN FOODS AND NUTRITION	(1-3)
DHN 603	ADVANCED COMMUNITY PROGRAM DEVELOPMENT	(3)
DHN 607	FOOD RELATED BEHAVIORS	(3)

	(SAME AS NS/ANT/BSC 607)	
NFS 646	ADVANCED INFORMATION TECHNOLOGY IN THE HOSPITALITY INDUSTRY	(3)
NFS 648	INSTITUTION ADMINISTRATION	(3)
DHN 690	ADVANCED WORK IN DIETETICS	(3)
NFS 694	STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM	(3)
DHN 748	MASTER'S THESIS RESEARCH (SAME AS NS 748)	(0)
DHN 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE (SAME AS NS 768)	(1-6)
DHN 770	SEMINAR IN HOSPITALITY AND DIETETICS ADMINISTRATION	(1)
DHN 772	CURRENT TOPICS IN HOSPITALITY AND DIETETICS ADMINISTRATION	(2)
NFS 781	ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM	(3)
DHN 782	SPECIAL PROBLEMS (SAME AS NS/CNU 782)	(1-6)
DHN 784	SPECIAL PROBLEMS IN FINANCIAL MANAGEMENT	(3)
DHN 790	RESEARCH IN NUTRITIONAL SCIENCES (SAME AS NS/CNU 790)	(0-6)
HES 596	SPECIAL PROBLEMS IN HUMAN ENVIRONMENTAL SCIENCES	(1-3)

## INFORMATION COMMUNICATION TECHNOLOGY

### Master of Science

Our Information Communication Technology program strives to educate students to assume roles where the application of information technology (IT) is concerned, with the ultimate goal of connecting people, organizations, and communities to enhance their ability to succeed. This master's program focuses on providing students with the knowledge and skills to assume leadership positions charged with effectively applying, using, and managing technology when solving problems specifically related to information and communication. It provides a human and organizational focus on technology – teaching students how to be effective users of technology. In general, the ICT program focuses on the intersection of technology, the people who use that technology, the policies and regulations governing or affecting use of that technology, and the community or environment in which that technology is used, in order to facilitate communicating information in meaningful ways.

### Admission Requirements

Students are admitted for fall and spring semesters. Application deadlines are July 15 for fall admission and November 15 for spring admission. Students pursuing the degree will apply to the Graduate School for admission to the ICT MS degree program. There is no preferred undergraduate degree program. Admission to the ICT MS degree program requires 1) a bachelor's degree from an accredited institution; 2) a grade point average of 3.0 or higher on any prior undergraduate or graduate work, in both cases on a scale with A = 4.0; and 3) Graduate Record Exam scores, verbal: new exam 150 or higher OR old exam

140 or higher, quantitative: new exam 140 or higher OR old exam 450 or higher, and analytical writing 4.0 or higher. Applicants for whom English is not the native language must achieve a TOEFL score of 550 for the paper-based test (213 for computer-based test or 79 for the internet-based test). Students may take 500-level undergraduate courses, with the advice of faculty or staff, to remedy any deficiencies. Students who are admitted will be expected to complete online Microsoft Office trainings, available through the University at no charge, for Word, Access, Excel, and PowerPoint by the end of their second semester. These trainings serve a leveling function and help to ensure that students entering the graduate program possess baseline skills with general office productivity applications.

## **Degree Requirements**

The ICT master's degree program requires successful completion of 36 hours (18 hours of electives along with 18 hours of required core courses) and a program portfolio. With the faculty advisor's prior approval, as many as 6 elective hours may be taken in a cognate area of study.

Candidates for the master's degree must produce a satisfactory program portfolio which is used to evaluate the candidate's ability to discuss significant aspects of Information Communication Technology in an integrated and coherent manner. A student who has an I grade or who is on academic probation is not permitted to submit a portfolio. Ultimately, it is the student's responsibility to see that all School and Graduate School requirements are met prior to submitting a program portfolio.

The program portfolio provides the student with the opportunity for self-reflection, formative self-evaluation, and synthesis of desired learning outcomes. Students have the opportunity through the portfolio to holistically examine their program of study and highlight their accomplishments in the program, reflect on their learning in the context of core competencies, and reflect on how their work in the program has prepared them for their career goals.

### **Required Core Courses**

ICT 600	ICT in Society	(3)
ICT 601	Information Representation and Access	(3)
ICT 630	Information Retrieval, CL with LIS 630	(3)
ICT 596	Practicum, 3 credit hours repeated (6 total)	(3-6)

### **Elective Courses**

ICT 550	Security Informatics	(3)
ICT 552	Cybercrime and Digital Law Enforcement	(3)
LIS 605	Information Policy & Regulation	(3)
ICT 626	Electronic Information Resources in the Health Sciences	(3)
ICT 627	Consumer Health Information Resources	(3)
ICT 630	Proseminar in Mass Media Law and Public Policy	(3)
ICT 638	Advanced Web Design	(3)
ICT 640	Health Information Resource Services	(3)
ICT 651	Technology Security	(3)
ICT 658	Knowledge Management	(3)
ICT 668	Information Systems Design	(3)
CJT 730	Seminar in Mass Media and Public Policy	(3)
CJT 771	Seminar in Health Communication	(3)
CJT 775	Seminar in Health Communication Campaigns	(3)

LIS 634	Information Architecture	(3)
LIS 639	Introduction to Medical Informatics	(3)

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## INTEGRATED BIOMEDICAL SCIENCES

Graduate students pursuing doctoral degrees in the Basic Science Departments 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 seven departments. Students achieve these objectives through course work as well as four, 8-week laboratory rotations. On completion of the IBS Curriculum, students select their doctoral degree program based on research interests and mentoring relationships in one of the departments listed below:

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

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 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 required. Students must meet the admissions requirements set by the Graduate School, including a bachelor's degree from a fully accredited institution of higher learning. International applicants must also submit TOEFL scores.

IBS applicants 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  
 138 Leader Avenue, Room 114  
 Lexington, KY 40506-9983

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	MOLECULAR BIOLOGY AND GENETICS	(3)
IBS 603	CELL BIOLOGY AND CELL SIGNALLING	(3)
IBS 606	PHYSIOLOGICAL COMMUNICATIONS	(3)
IBS 607	SEMINAR IN INTEGRATED BIOMEDICAL SCIENCES	(0)
IBS 608	SPECIAL TOPICS IN INTEGRATED BIOMEDICAL SCIENCES	(2)
IBS 609	RESEARCH IN INTEGRATED BIOMEDICAL SCIENCES	(2)
IBS 610	CRITICAL READINGS IN INTEGRATED BIOMEDICAL SCIENCES	(2)
IBS 611	PRACTICAL STATISTICAL APPLICATIONS	(1)
TOX 600	ETHICS	(1)

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## INTEGRATED PLANT AND SOIL SCIENCES (IPSS)

The interdepartmental graduate program in Integrated Plant and Soil Sciences offers graduate work leading to the Master of Science and Doctor of Philosophy degrees with specialization in Crop Science, Horticultural Science, Forest Science, Plant Biology, and Soil Science. Faculty members belong to the Departments of Forestry, Horticulture, and Plant and Soil Sciences in the College of Agriculture.

The IPSS M.S. program replaces the M.S. program in Plant and Soil Sciences. The IPSS PhD program replaces the PhD programs in Crop Science, Plant Physiology, and Soil Science. Students currently matriculating in any of those graduate programs should consult the 2010-2011 version of the Graduate Bulletin for applicable guidelines.

### 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. Admission to the IPSS 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 will meet the minimum standards established by the University of Kentucky Graduate School. Applicants will automatically be considered for departmental research assistantships, which are awarded on a competitive basis.

Graduate students in IPSS have flexibility in designing course work to suit individual goals, but are expected to demonstrate competence in basic areas of plant and soil science and excellence in their chosen area of specialization as demonstrated by novel research leading to a published thesis or dissertation.



So 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:

1. Chemistry – a first semester course in organic chemistry (equivalent to CHE 230)
2. Calculus – a first semester course (equivalent to MA 113)
3. Physics – a first semester course (equivalent to PHY 201)

For PhD students with a specialization in Soil Science, the following preparation is suggested:

1. Chemistry - Analytical Chemistry (equivalent to CHE 226) and Organic Chemistry (equivalent to CHE 230 or 236)
2. Calculus – a first semester course (equivalent to MA 123 or MA 113)
3. Physics – a first semester course (equivalent to PHY 201)
4. Introductory Soil Science with a lab (equivalent to PLS 366) and at least two additional soils courses
5. Biology, two courses in basic biology (equivalent to BIO 151/152) and two additional courses in crop science, plant biology, or microbiology
6. Statistics, including regression and experiment design (equivalent to STA 570, 671, and 672)

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, which includes IPS 610, IPS 625, and PLS 772 plus an acceptable thesis are required. There is a non-thesis option requiring 30 hours of coursework for students who wish to make the M.S. a terminal degree. Work leading to advanced degrees must conform to the general rules and regulations of the Graduate School. Individual programs include a strong course work component and a meaningful research experience.

For the Ph.D. degree a minimum of 18 hours of course work in residence at the University of Kentucky, which includes IPS 610, IPS 625, and PLS 772, plus an acceptable dissertation are required. Additional coursework may be required by the student's dissertation committee.

Details regarding the curriculum, program areas, and areas of specialization, financial aid, faculty research interests, and the application process may be found at [www.ca.uky.edu/pss/academics/ipss](http://www.ca.uky.edu/pss/academics/ipss)

## GRADUATE COURSES

IPS 610	TRANS-DISCIPLINARY COMMUNICATION IN IPSS	(1)
IPS 625	TRANS-DISCIPLINARY RESEARCH IN IPSS	(2)
PLS 450G	BIOGEOCHEMISTRY (SAME AS NRE 450G)	(3)
PLS 455G	WETLAND DELINEATION (SAME AS NRE 455G)	(3)
PLS 456 G	CONSTRUCTED WETLANDS (SAME AS NRE 456G)	(3)
PLS 468G	SOIL USE AND MANAGEMENT (SAME AS NRE 468G)	(3)

PLS 470G	SOIL NUTRIENT MANAGEMENT (SAME AS NRE 470G)	(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	NURSERY AND FLORICULTURE CROP PRODUCTION	(4)
PLS 531	FIELD SCHOOLS IN CROP PEST MANAGEMENT	(2)
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 SCIENCES (SUBTOPIC REQUIRED)	(1-3)
PLS 599	SPECIAL PROBLEMS IN PLANT AND SOIL SCIENCES (OFF CAMPUS INDEPENDENT RESEARCH)	(1-8)
PLS 601	SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS	(1)
PLS 602	PRINCIPLES OF YIELD PHYSIOLOGY	(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 650	SOIL-PLANT RELATIONSHIPS	(3)
PLS 655	SPATIAL AND TEMPORAL STATISTICS	(3)
PLS 660	ADVANCED SOIL BIOLOGY	(2)
PLS 664	PLANT BREEDING I	(3)
PLS 671	SOIL CHEMISTRY	(4)
PLS 676	QUANTITATIVE INHERITANCE IN PLANT POPULATIONS	(3)
PLS 697	SPECIAL TOPICS IN PLANT AND SOIL SCIENCES	(1-3)
PLS 712	ADVANCED SOIL FERTILITY	(3)
PLS 741	CLAY MINERALOGY (SAME AS GLY 741)	(3)
PLS 748	MASTER'S THESIS RESEARCH	(0)
PLS 767	POST QUALIFYING EXAM RESIDENCY CREDIT	(2)
PLS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PLS 772	SEMINAR IN IPSS	(1)
PLS 799	NON DISSERTATION RESEARCH IN PLANT AND SOIL SCIENCES	(1-4)

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## 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 M.Ed. 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.

The IEC program admits twice a year: October 15<sup>th</sup> is the deadline for completed Department application submissions for Spring or Summer admission; March 15<sup>th</sup> is the deadline for completed Department application submissions for Summer or Fall. After completed applications are received by the deadline, candidates with complete applications are invited for an interview. Upon admission to the program, students are assigned an advisor and a Curriculum Contract is completed.

For application procedures, please go to the Graduate School web site (<http://www.gradschool.uky.edu/>) and follow the directions for the Apply Yourself application. This electronic application incorporates the program and Graduate School application process.

### **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 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)
IEC 621:	Issues in Interdisciplinary Early Childhood Education	(3)
IEC 623:	Practicum in IECE	(3)
IEC 710:	Advanced Instructional Methods in IECE	(3)
IEC 659:	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)
- OR**
- c) EDP 557 & EDP 660 (6)

## ELECTIVES

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

1. Administration & Program Development
2. Curriculum Leadership & Technical Assistance
3. Policy & Advocacy
4. Higher Education & Research

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## INTERDISCIPLINARY Ph.D. IN EDUCATION SCIENCES

### Program Overview

The Interdisciplinary Ph.D. in Education Sciences (major code: EDSC) program is designed for individuals seeking careers in educational research. Graduates of the program are prepared to meet the growing national need for educators who are well trained in methodological issues in education research. This Ph.D. program prepares individuals who will have careers in research universities, educational research labs and corporations, and research groups within education agencies.

All EDSC students will be encouraged to apply for 20-hour per week research assistantships on grant-supported projects in the College of Education and other units at the University of Kentucky. In addition to coursework, students will be expected to attend local, state, or national professional conferences during the first and second years of their programs. All students will be expected to present their research at professional conferences by their third year in the program. EDSC doctoral students are expected to submit manuscripts to professional journals and accomplish refereed publications during their doctoral study. Presentations and publications may be scholarly works with a single author or groups of co-authors.

## Curriculum

EDSC is a rigorous doctoral program that requires year-round, full-time study. Students are encouraged to apply for admission for the Fall semester. Students seeking Spring admission should contact the program DGS to determine if the strand they are interested in allows for Spring admissions. Students will be required to complete a set of core courses in research methods and education policy; in addition, students will then be able to follow a particular “strand” of courses in an area of specialization. All students will be involved in educational research projects throughout their time in the program.

EDSC doctoral students will be required to designate *at the time of application* the strand that they would like to complete. These include advanced concentrations in the areas of:

- a. Curriculum and instruction
- b. Educational leadership
- c. Educational policy studies: Educational evaluation and policy
- d. Educational policy studies: Philosophical and cultural inquiry
- e. Health education
- f. Interdisciplinary early childhood education
- g. Physical education
- h. Rehabilitation counseling
- i. Special education
- j. STEM education

Additional information about the curriculum, including specific course requirements, may be found in the document: [Interdisciplinary Ph.D. in Education Sciences Program Plan and Curriculum Sheet](#). This document is a tool for current and prospective students and faculty advisors.

## Applications

Qualified applicants will have earned baccalaureate and master’s degrees from fully accredited institutions. Applicants must meet admission requirements set by the University of Kentucky Graduate School. Applications to the Interdisciplinary Ph.D. in Education Sciences are made online through the UK Graduate School Apply Yourself application process. Details about the application process can be found at <http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html> .

## Contact Information

For additional information, contact the Director of Graduate Studies for EDSC, Associate Dean Robert Shapiro at [rshap01@uky.edu](mailto:rshap01@uky.edu) or 859-257-9795.

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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 and sport leadership. The Ed.D. degree has concentrations in health promotion and in physical education. The Ph.D. degree in Exercise Science offers specializations in biomechanics or exercise physiology.

### **Doctor of Philosophy**

The Ph.D. 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 18+ 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 18+ credits)**

KHP 615	Biomechanics of Fundamental Movements	(3)
KHP 620	Advanced Exercise Physiology	(3)
KHP 640	Laboratory Methods in Exercise Science	(3)
KHP 695/782	Independent Research	(3)
GS 650	Preparing Future Faculty	(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 members of the student's advisory committee based on their assessment of the student's background and professional 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 students who desire advanced study to enhance their professional knowledge and skills as well as for students who complete the master's degree 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 course work and program experiences are designed to enable graduate students in the Department of Kinesiology and Health Promotion to demonstrate:

1. Educational, professional and technological standards.
2. Literacy skills for life-long professional learning
3. Current, factual, and functional content knowledge.
4. Functional skills and dispositions of professionals.
5. Skills for research and reflection for learning and leading.
6. Skills to plan, implement, and evaluate basic and applied research.
7. Skills to analyze and interpret research data.
8. Skills to design, implement and evaluate programs.

The program needed to accomplish these outcomes 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+)</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+)</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 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 550	PRINCIPLES OF RESISTANCE TRAINING	(3)
KHP 573	MANAGEMENT OF SPORT	(3)
KHP 577	PRACTICUM IN KINESIOLOGY AND HEALTH PROMOTION	(3-6)
KHP 579	ADAPTED PHYSICAL EDUCATION	(3)
KHP 585	FOUNDATIONS OF SPORT MANAGEMENT	(3)
KHP 590	ADVANCED HEALTH CONCEPTS	(3)
KHP 600	EXERCISE STRESS TESTING AND PRESCRIPTION	(3)
KHP 601	TEACHER EFFECTIVENESS AND LEADERSHIP IN KINESIOLOGY AND HEALTH PROMOTION	(3)

KHP 602	PROMOTING PHYSICAL ACTIVITY FOR YOUTH	(3)
KHP 609	SEMINAR IN HEALTH AND SAFETY EDUCATION	(3)
KHP 616	SPORTS BIOMECHANICS	(3)
KHP 615	BIOMECHANICS OF FUNDAMENTAL MOVEMENTS	(3)
KHP 617	GAIT ANALYSIS	(3)
KHP 620	ADVANCED EXERCISE PHYSIOLOGY	(3)
KHP 640	LAB METHODS IN EXERCISE SCIENCE	(3)
KHP 644	RESEARCH TECHNIQUES APPLIED TO KINESIOLOGY AND HEALTH PROMOTION	(3)
KHP 673	HEALTH PROMOTION AND BEHAVIOR CHANGE	(3)
KHP 674	FOUNDATIONS OF HEALTH PROMOTION	(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 682	CONTEMPORARY SPORT LEADERS	(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)

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## LIBRARY SCIENCE

### Master's Program

The School of Library and Information Science offers the Master of Science in Library Science (MSLS). This degree can be completed entirely online with no required travel to Lexington, Kentucky.

### Degree Requirements

To successfully complete the MSLS degree, a student must successfully complete 36 hours of course work and a program portfolio. The 36 hours (12 courses) are made up of 12 hours of required courses, 6 hours of technology electives, 6 hours of foundational courses and 12 hours of student selected electives.

**Required Courses** (all 4 courses required)

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)

**Foundational Courses** (select 2)

LIS 621	INTRODUCTION TO INFORMATION SERVICES	(3)
LIS 630	ONLINE INFORMATION RETRIEVAL	(3)
LIS 672	PRACTICUM	(3)

**Technology Electives** (select 2)

LIS 636	FOUNDATIONS OF INFORMATION TECHNOLOGY	(3)
LIS 637	INFORMATION TECHNOLOGY	(3)
LIS 638	INTERNET TECHNOLOGIES AND INFORMATION SERVICES	(3)
LIS 668	INFORMATION SYSTEMS DESIGN	(3)

\*Student can select another technology elective if it is first approved by the adviser.

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.

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 by a faculty advisor who provides guidance and counsel. Ultimately, however, it is the student's responsibility to see that all School and Graduate School requirements are met prior to taking submitting the program portfolio.

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.

**Admission Requirements**

Applicants to this program must first meet all minimum requirements of the University of Kentucky Graduate School. In addition, applicants must also meet (or exceed) additional requirements of the School.

- Applicants should have a 3.0 GPA on any previously completed graduate or undergraduate work
- Applicants must submit GRE scores (except for candidates with an earned PhD)
- Applicants must submit additional application materials including a personal statement and 3 recommendations

## Minimum Suggested GRE Scores

General Test	Minimum score (after 8/1/11)	Minimum score (before 8/1/11)
Verbal	150	450
Quantitative OR Analytical	140 4.0	400 4.0

*For the quantitative and analytical scores, applicants should meet at least one of the minimum scores.*

## GRADUATE COURSES

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 REGULATION	(3)
LIS 608	METHODS OF RESEARCH IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 609	CURRENT PROBLEMS IN LIBRARY AND INFORMATION SCIENCE	(3)
LIS 610	LIBRARY MATERIALS AND LITERATURE FOR CHILDREN	(3)
LIS 611	CRITICAL ANALYSIS OF CHILDREN'S LITERATURE	(3)
LIS 613	INFORMATION RESOURCES AND SERVICES FOR CHILDREN	(3)
LIS 614	LIBRARY MATERIALS AND LITERATURE FOR YOUNG ADULTS	(3)
LIS 615	PROSEMINAR IN COMMUNICATIONS AND INFORMATION SYSTEMS	(3)
LIS 621	INTRODUCTION TO INFORMATION SERVICES	(3)
LIS 622	SOCIAL SCIENCE INFORMATION	(3)
LIS 623	ADVANCED REFERENCE SERVICES	(3)
LIS 624	INFORMATION IN SCIENCE AND TECHNOLOGY	(3)
LIS 625	INSTRUCTIONAL SERVICES	(3)
LIS 627	CONSUMER HEALTH INFORMATION RESOURCES	(3)
LIS 630	ONLINE INFORMATION RETRIEVAL	(3)
LIS 634	INFORMATION ARCHITECTURE	(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 658	KNOWLEDGE MANAGEMENT	(3)
LIS 659	COLLECTION DEVELOPMENT	(3)
LIS 665	INTRODUCTION TO DIGITAL LIBRARIES	(3)
LIS 668	INFORMATION SYSTEMS DESIGN	(3)
LIS 672	PRACTICUM	(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)

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## LINGUISTIC THEORY AND TYPOLOGY

The MA in Linguistic Theory & Typology (MALTT) offers training by a world class faculty in theoretical frameworks for approaching descriptive and sociolinguistic data with a special focus on how grammatical features are distributed across the world's languages. Emphasis is given to language modeling through computational and quantitative methods. There are two main tracks, a morphosyntax track and a sociolinguistics track. As well as providing invaluable intellectual preparation for doctoral studies in linguistics, the MALTT program prepares students for careers in high-tech industry, text-based consultancies in law and medicine, and jobs in government agencies.

### Admissions Requirements

We welcome students with a BA/BS major or minor in Linguistics. Students with degrees in cognate disciplines are also welcome to apply but will have to take an introductory course in linguistics prior to enrollment. We run such a course as a summer online course. Minimum GPA is 3.3. Funded positions are available (TA, RA) on a competitive basis.

### Degree Requirements

Students take 30 hours of course work and complete a thesis. The course work must include at least 15 hours taken at the 600 or 700 level. Mandatory courses are LIN 601 Research Methods and Lin 701 Research Seminar in Linguistic Theory & Typology. All students must take a syntax course (LIN 512 or its 600 level version), and a phonology course (LIN 515 or its 600 level version). Students pursuing the morphosyntax must in addition take LIN 505 Morphology (or its 600 version); students pursuing the sociolinguistic track must take LIN 500 Phonetics (or its 600 version). The thesis component consists of a written research project of up to sixty pages; and oral examination. The thesis must be approved by a committee of three faculty.

## GRADUATE COURSES

LIN 500	PHONETICS	(3)
LIN 505	LINGUISTIC MORPHOLOGY	(3)
LIN 506	SOCIOLINGUISTICS	(3)
LIN 507	LINGUISTIC ANTHROPOLOGY	(3)

LIN 508	DISCOURSE ANALYSIS	(3)
LIN 509	SEMANTICS AND PRAGMATICS	(3)
LIN 511	COMPUTATIONAL LINGUISTICS	(3)
LIN 512	ANALYSIS OF ENGLISH SYNTAX	(3)
LIN 515	PHONOLOGICAL ANALYSIS	(3)
LIN 516	GRAMMATICAL TYPOLOGY	(3)
LIN 517	TOPICS IN LINGUISTICS (SUBTITLE REQUIRED)	(3)
LIN 519	HISTORICAL LINGUISTICS	(3)
LIN 601	RESEARCH METHODS IN LINGUISTICS	(3)
LIN 617	ADVANCED TOPICS IN LINGUISTICS (SUBTITLE REQUIRED)	(3)
LIN 701	RESEARCH SEMINAR IN LINGUISTIC THEORY & TYPOLOGY*	(3)
LIN 748	MASTERS THESIS RESEARCH	(0)

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## **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)

## 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 applied mathematics, discrete mathematics, numerical analysis, partial differential equations, and topology. Each student must pass three comprehensive examinations in one of the six areas of algebra, analysis, discrete mathematics, numerical analysis, partial differential equations, and topology.

### 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 admissions committee reviews transcripts, letters of recommendation, the candidate's personal statement, and GRE scores 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 complete studies in a minor field (either inside or outside the department) and successfully complete three comprehensive examinations as described above. Subsequent work becomes highly specialized through seminars, independent study, and finally, work on a dissertation is an original contribution to the candidate's major field. The faculty has research expertise in algebraic topology, coding theory, ring theory, algebraic geometry, number theory, complex variables, rational approximation, operator theory, partial differential equations, mathematical physics, 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. 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	ENumerative 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 M.S. and Ph.D. Degrees in Mechanical Engineering. Financial assistance is available to qualified applicants in the form of graduate teaching assistantships, research assistantships and fellowships. Stipends vary depending on the student's program level and type of support.

Graduate students work closely with faculty, often recognized as renowned authorities in their discipline, in conducting research at the forefront of science and technology. Such graduate studies may be focused in any of the following areas.

**Manufacturing:** analytical and numerical modeling, optimization of machining processes and systems, lean, sustainable, 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 element methods, vibration and noise prediction, rotating machinery dynamics, engineered surfaces, magnetic bearing technology, control of systems, micro-scale design and fabrication, MEMS, biologically-inspired design, and boundary element methods in acoustics.

**Thermal-Fluid Sciences:** experimental and computational combustion and fire research, computational and experimental fluid dynamics, turbulence research and nonlinear dynamical systems, convection, phase change and radiation heat transfer, nano-technology, optics, and painting technology.

### 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 minimum 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).

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

There are two options, A and B, for fulfilling the requirements for the M.S. degree. Students are admitted into Option A by default. Transfers between options must be approved by the DGS.

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

A minimum of 24 semester hours of course work and a research 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 599, ME 699, ME 780-783 or ME 790 or independent courses/projects may be counted towards fulfilling requirements for the Master's degree.

Instructors of independent course projects must provide the DGS with a course syllabus in order to obtain approval for use of the course toward satisfaction of M.S. requirements.

**b. Option B (Non-Thesis Plan)**

A minimum of 30 semester hours of coursework is required for this program. This option is only allowed on a case-by-case basis with approval of the DGS, and is intended primarily for students with significant industrial experience and a desire to complete degree requirements on a part-time basis. A final oral examination administered by the student's committee must be passed to complete degree requirements.

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

This Option B program is designed for students at the Paducah campus. The admission requirements are the same as those of the Lexington campus Option B program. However, course requirements are modified to provide more flexibility for students taking ITV classes transmitted 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) Maintain a 3.333 overall GPA
- (d) Pass the Pre-Qualifying Examination after the first semester of the Ph.D. program.
- (e) 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.
- (f) 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.
- (g) Pass the Final Examination. This exam is mandated by the Graduate School, and therefore all Graduate School regulations regarding this exam must be met.
- (h) 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 a considerable number of research laboratories: Acoustics Lab, Advanced Structures Lab, Bearings and Seals Lab, CAD/CAM/CAE Lab, Combustion and Fire Research Lab, Computational Fluid Dynamics (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, 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 530	GAS DYNAMICS	(3)
ME 531	FLUID DYNAMICS I	(3)
ME 532	ADVANCED STRENGTH OF MATERIALS	(3)
ME 548	AERODYNAMICS OF TURBOMACHINERY	(3)
ME 549	POWER GENERATION	(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 767	DISSERTATION RESIDENCY CREDIT	(2)
ME 780	SPECIAL PROBLEMS IN MECHANICAL ENGINEERING	(3)
ME 790	RESEARCH IN MECHANICAL ENGINEERING	(1-9)

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## MEDICAL SCIENCES

### Admission Requirements

The Master's of Science in Medical Sciences (MSMS) is a broad interdisciplinary degree program housed in the College of Medicine. Participating Departments and Centers include Anatomy and Neurobiology; Behavioral Sciences; Graduate Center for Nutritional Sciences; Graduate Center for Toxicology; Microbiology, Immunology and Molecular Genetics; Molecular and Biomedical Pharmacology; Molecular and Cellular Biochemistry; and Physiology. The MSMS may be used as a stand-alone degree by students seeking career enhancement in fields such as basic biomedical research, the pharmaceutical industry, or the health science professions; by students seeking academic credentials in the biomedical sciences prior to applying for medical school or other health related professional degree programs; or by students seeking to enhance their knowledge base prior to choosing a career direction.

The MSMS degree may also provide supplemental or joint training for practitioners in the health professions (e.g., physicians, dentists, pharmacists), or students in professional health science programs based on individual career goals and research training needs. Finally, the MSMS program provides students with the opportunity to opt out of a Ph.D. program and receive a master's degree.

Admission to the graduate program is competitive and is based upon academic background, professional recommendations, performance on either the Graduate Record Examination (GRE), Medical College Admission Test (MCAT), or Dental Admission Test (DAT), and experience. 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, calculus, physics, biochemistry (optional but likely helpful) and the biological sciences.

### Degree Requirements

The Medical Sciences program encompasses the disciplines of anatomy and neurobiology; behavioral science; nutritional sciences; toxicology; microbiology, immunology and molecular genetics; molecular and biomedical pharmacology; molecular and cellular biochemistry; and physiology. Students are required to select one of the eight 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 eight (8) 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 eight (8) hours in molecular biology, genetics, and physiology. 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 (Dr. Joe Springer at [jspring@uky.edu](mailto:jspring@uky.edu)).

## Core Curriculum

The plan of study for the MSMS program consists of an eight (8) credit hour core curriculum and a recommended course of study based on career tracks. The eight credit hour core curriculum consists of the following courses:

- IBS 602 Molecular Biology and Genetics (3 credit hours)
- IBS 606 Physiological Communications (3 credit hours)
- TOX 600 Ethics in Scientific Research (1 credit hour)
- Seminar in area of interest/specialization (1 credit hour)

### Recommended Courses (representative list):

- ANA 511 - Introduction to Human Anatomy
- ANA 512 - Microscopy and Ultrastructure
- ANA 611 - Regional Human Anatomy
- ANA/PGY 605 - Neurobiology of CNS Injury and Repair
- BCH 401G - Fundamentals of Biochemistry
- BCH 419G – Molecular Basis of Human Disease
- BSC 626 - Survey of Health Psychology
- BSC 731 – Methods and Technologies in Clinical and Translational Science
- IBS 601/BCH 607 - Biomolecules and Metabolism
- IBS 6XX Cell Biology and Signaling
- MI 494G - Immunobiology
- MI 598 - Clinical Microbiology
- MI 685 - Immunology, Infection, and Inflammation
- NS 601/2/3 - Integrated Nutritional Sciences I/II/III
- NS 605 - Wellness and Sports Nutrition
- PGY 412G - Principles of Human Physiology
- PGY 611 - Advanced Medical Physiology
- PHA 522 – Systems Pharmacology
- PHA 621 - Principles of Drug Action
- PHA 622 - Molecular Drug Targets and Therapeutics
- TOX 508 - Research Methods in Toxicology
- TOX 690 - Practical Analytical Toxicology

**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. Eight hours of core curriculum (see above).
4. The Advisor will work with the student to identify the remainder of hours in the area of the student's specialization.

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**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. 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 510	BRAND MANAGEMENT	(3)
MAT 514	RETAIL ENTREPRENEURSHIP	(3)
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 and 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, microbial pathogenesis, cellular and molecular immunology, mucosal immunology, host immune responses to infection, 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 have the opportunity to participate in graduate seminars, journal clubs, research seminars; to interact with visiting scholars; and to present the results of their research at national and international 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, as well as 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 IBS program and admission forms are available on their web site: <http://www.mc.uky.edu/ibs/>. 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)
MI 798	RESEARCH IN MICROBIOLOGY (SAME AS BIO 798)	(1-9)

## 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 (SAME AS MFS 563)	(3)
MNG 563	SIMULATION OF MINE PRODUCTION SYSTEMS	(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)

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## 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 in investigating topics such as: Cardiovascular Disease and Obesity; Molecular Biology of Carcinogenesis and Metastasis; and Neurobiology of Aging and Neurodegenerative Disease, with emphases on memory, hormones, stress, and Type II Diabetes.

### 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 422G	PHARMACOLOGY OF TREATING HUMAN DISEASE	(3)
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 (SAME AS PGY 617)	(2)
PHA 621	ADVANCED PHARMACODYNAMICS	(3)
PHA 622	MOLECULAR DRUG TARGETS & THERAPEUTICS CARDIOVASCULAR PHARMACOLOGY (SECT 001) NEUROPHARMACOLOGY (SECT 002) CHEMOTHERAPEUTIC AGENTS (SECT 003) AUTOCOIDS, ENDOCRINE PHARMACOLOGY, AND TOXICOLOGY (SECT 004)	(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)

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## 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)

## 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, music therapy, 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. (Note: Music therapy students will take a discipline-specific music theory and music history exam, due to the specific requirements designated by music therapy professional/accrediting bodies.) Applicants to programs in music education, music therapy, 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: in November, in January/February, in February/March, and 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 first complete the online application at the Graduate School homepage, then complete the online application at the School of Music website, 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)
<b>Total</b>	<b>(30)</b>

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)**

<b>UK Requirements:</b>	<b>(27)</b>
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 (Choose from MUS 560, MUS 561, MUS 650 or other graduate music education course in consultation with advisor)	(3)
Internship	(3)
Specialized area of study	(10)
<b>Course work at an accredited seminary or other institution specializing in religious studies</b>	<b>(6-9)</b>

(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)**

**Core Requirements:** (12)

MUS 600 Research I (3)  
MUS 601 Foundations of Music Education (3)  
Music History and Literature (3)  
Music Theory (3)  
(including MUS 578, MUS 670, MUS 671, or MUS 672)

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.

**Total** (30)

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)**

**Core Requirements:** (12)

MUS 600 Research I (3)  
MUS 601 Foundations of Music Education (3)  
Music History and Literature (3)  
Music Theory (3)  
(including MUS 578, 670, 671, 672, or 676)

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 student's needs)	
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)

### MASTER OF MUSIC (Music Therapy)

Equivalency Requirements: Combined equivalency/master's students must have met all AMTA Professional Competencies before finalizing the Master of Music in Music Therapy degree. The number of credits required to complete the equivalency option will vary based on previous courses taken.

All students (both traditional and combined equivalency/master's degree students) must complete the following coursework to finalize the master's degree. *Please note:* any graduate coursework taken to remediate professional competencies will not count toward the master's degree.

MUS 600 Research I	(3)
MUS 648 Thesis	(6)
MUS 633 Graduate Clinical Placement Music Therapy	(1) (11)
(The student will select 11 hours from the following courses: MUS 630; MUS 631; MUS 632; MUS 664; MUS 706; MUS 730; MUS 770)	
Electives	(9)
(The student will select 9 hours of electives based on consultation with his or her Academic advisor.)	
Total	(30)

## 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 pass 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, after completing Parts I and II successfully.

Requirements for doctoral projects differ 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. For specific requirements in each performance area, please consult the Graduate Music Handbook posted at [www.uky.edu/FineArts/Music/DGS](http://www.uky.edu/FineArts/Music/DGS).

## DOCTOR OF MUSICAL ARTS

The minimum course requirements for all DMA students 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)  
**Total (30-39)**

#Must include two regular courses offered by the Division of Musicology (one 700-level course recommended) and those required by the specific performance major area. One course may be from the Division of Musicology, Theory, Music Education, or Performance.

### **DOCTOR OF MUSICAL ARTS (Voice Performance)**

Research Methods (MUS 618)\* (3)  
Music History and Literature (6)  
(must include MUS 623 or 627\*)  
Advanced Music Theory\*\* (6)  
Voice Performance (12)  
Performance Related Study (6-15)  
(must include MUS 665\*, 667\*, and 620\*)  
Directed Research in Vocal Literature (MUS 780) (6)  
Minor (Optional)\*\*\* (9)  
**Total (33-51)**

### **DOCTOR OF MUSICAL ARTS (Choral Conducting)**

Research Methods (MUS 618)\* (3)  
Music History and Literature (9)  
(must include MUS 625)  
Advanced Music Theory\*\* (6)  
Advanced Choral Methods (MUS 660) (3)  
Performance Major\*\*\*\* (12)  
Minor (Optional)\*\*\* (9)  
**Total (33-42)**

### **DOCTOR OF MUSICAL ARTS (Instrumental Conducting)**

Research Methods (MUS 618)\* (3)  
Music History and Literature (9)  
(must include MUS 622 or MUS 680)  
Advanced Music Theory\*\* (6)  
Advanced Rehearsal Techniques (MUS 681) (3)  
Performance Major (12)  
(6 hours of MUP 658 and 6 hours of MUP 758)  
Minor (Optional)\*\*\* (9)  
**Total (33-42)**

\*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

## COMBINED M.A./PH.D PROGRAM IN MUSICOLOGY & ETHNOMUSICOLOGY

### The First Two Years

The first two years of study provide training in the practice and methodology of musicology and ethnomusicology. A minimum of 30 hours of graduate credit is required during the first two years of graduate study.

### Second-Year Review; Examinations and Research Paper

During the second year of graduate study the student will be expected to:

- Take an examination designed to test the student's knowledge of European and American music and of music theory. This will include a four-hour written examination in general music history, and a four-hour written examination in music theory.
- Write a paper on a topic of the student's choice, and with approval of the student's advisor. This third-term paper should explain and review a selected topic in musicology or ethnomusicology, survey and evaluate the available literature on the topic, and identify lines of inquiry which remain to be pursued. The recommended length for this paper is 25-30 pages of prose, in addition to the bibliography, with appendices and musical examples as needed. Three copies of the paper are to be submitted to the Division of Musicology, which may require revisions before final acceptance.

The departmental evaluation of all students in the second year is based on course work completed to date, the paper, the results of the preliminary exam, and the student's prospects for continued success in the field. The department's judgment is a collective one. If the evaluation is favorable, the student may continue in the Ph.D. program. If a student has not successfully fulfilled the requirements of the second-year review, but has performed adequately in other respects, he or she will, upon completion of 36 credits of coursework, be awarded a terminal master's degree.

Students entering the program with M.A. degrees in Musicology from the University of Kentucky or other institutions may make a written petition to the departmental faculty to participate in the Second-Year Review during their first year of residency. Note: In order for the petition to be considered, the student must have been admitted without the requirement of any remedial work, and must have taken an appropriate research method class as part of the master's program.

### **The Third Year**

During the third year of study, the student will take additional courses in musicology, ethnomusicology, theory, and any appropriate cognate areas within or outside the music program; a limited number of these courses may be independent study in the area of specialization.

The student will take the qualifying examinations, which will consist of a special field examination in musicology or ethnomusicology, the general sense and limits of which have been discussed in advance with the prospective dissertation advisor and the student's advisory committee. If necessary, the committee may also retest areas in which the second-year exams demonstrated deficiencies.

### **The Dissertation**

As soon as possible after the successful completion of Qualifying Examinations, the student should submit a dissertation proposal to his/her Advisory Committee. The student will defend this proposal at a meeting of the committee, and is expected to submit any required revisions within two months.

The dissertation itself will meet all the requirements of the University of Kentucky Graduate School, and will be defended following the usual Final Examination procedures.

### **Course Requirements**

MUS 618 - Research Methods	3
MUS 703 - Proseminar in Musicological Methods	3
MUS 700 - Medieval and Renaissance Notation	3
MUS 702 - Seminar in Musicology (variable topics)	12-18
MUS 710 - Introduction to Ethnomusicology	3
MUS 711 - Seminar in Ethnomusicology (variable topics)	3-6
Advanced Music Theory (not including MUS 578)	9
Directed electives (including independent study)	<u>9-18</u>
Total	54

Note: Students entering the program with a Master's degree, whose petition to enter in the second year has been approved, will be required to take 36 hours, with specific courses to be determined by the Advisory Committee based on the evaluation of coursework taken in the previous degree.

### **Foreign Language**

All students in the combined M.A./Ph.D. program must demonstrate reading knowledge of two foreign languages. One of these is usually French or German, but they may also be other languages appropriate to the students' research interests. The Graduate School offers reading knowledge courses in French, German, and Spanish.

### **Advising**

Students in the M.A./Ph.D. program will work initially with an individual advisor, and then with an Advisory Committee. For further details on the program see the program webpage:

<http://finearts.uky.edu/music/musicology> .

## 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 666 Independent Project	(1-3)

The content for MUS 666 and MUS 560 must be pre-approved by the UK Director of Orff Schulwerk. 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 VOCAL PEDAGOGY

The School of Music offers course work leading to the Certificate in Vocal Pedagogy. The Certificate requires a total of 15 hours consisting of the following courses:

MUP 502/602 Voice	(3)
MUS 665 Physiology & Functioning of the Singing Voice	(3)

MUS 667	Materials, Techniques & Literature of Voice Teaching	(3)
MUS 668/695	Internship in Vocal Pedagogy	(2)
CSD 670	Voice Disorders	(3)
CSD 789	Independent Study in Communication Disorders	(1)

Optional and recommended for students interested in doing scientific research:

MUS 600	Research I	(3)
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The content for Internship and Independent Study must be pre-approved by the course instructor and the Director of the Vocal Pedagogy. 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.

### 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	(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 666	ADVANCED ORFF SCHULWERK	(1-3)
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)
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 research doctorate, the Doctor of Philosophy in Nursing and a professional degree program leading to the clinical doctorate, the Doctor of Nursing Practice. The College of Nursing is not admitting new students to the Master of Science in Nursing degree program. The college will continue to work with students currently enrolled through degree completion. The College will continue to prepare advanced registered nurse practitioners in the Doctorate of Nursing Practice program.

### Doctor of Philosophy

The Doctor of Philosophy in Nursing offers both a post-Baccalaureate of Science in Nursing (B.S.N.) and a post Masters of Science in Nursing (M.S.N.) entry option to prepare 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.

## **Doctor of Nursing Practice**

The College of Nursing offers a post-Baccalaureate of Science in Nursing (B.S.N.) entry option to the Doctorate of Nursing Practice (DNP) program to prepare nurse practitioners, clinical nurse specialists, public health nurses and nurse managers. This professional, clinical doctoral program builds on the B.S.N. degree and the practice experience of a Registered Nurse (R.N.). A post MSN entry option is also available. Information about the DNP program, admission requirements and sample curriculum plans may be found on the College of Nursing Web page, [www.uknursing.uky.edu](http://www.uknursing.uky.edu).

### **Admission Requirements**

#### **MSN- PhD in Nursing**

Applicants to the PhD 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 (MSN) 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 optional but highly recommended; GRE scores are used for competitive funding opportunities, particularly those from the Graduate School. Personal interviews, a goal statement, and three references are required. Final admission recommendations are made on a competitive basis.

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. 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 BSN - PhD option which allows students to move directly from a baccalaureate degree in nursing to a Doctor of Philosophy final degree. 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 3.3 or higher, on a 4.0 scale; a Kentucky Registered Nurse license; GRE general test scores are optional but highly recommended; GRE scores are used for competitive funding opportunities, particularly those from the Graduate School; three references; personal interview(s); a goal statement, an example of scholarly written work and clinical experience prior to first clinical course.

The BSN-PhD option includes two clinical specialty courses related to the student's population of interest. Full-time students will be able to complete the degree requirements in 3 years of course work, plus a minimum of two semesters of dissertation research residency credit. Written and oral examinations are required to qualify as a degree candidate. There is a final examination for defense of the dissertation research.

## GRADUATE COURSES

NUR 511	END OF LIFE CARE IN THE ACUTE CARE SETTING	(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 530	EXPLORING MEDICAL MISSIONS: A MULTIDISCIPLINARY PERSPECTIVE	(3)
NUR 601	THEORETICAL BASIS FOR ADVANCED PRACTICE NURSING	(2)
NUR 602	RESEARCH METHODS IN ADVANCED PRACTICE NURSING (SAME AS NUR 925)	(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 620	PROBLEMS IN CLINICAL NURSING	(2-6)
NUR 629	EPIDEMIOLOGICAL PRINCIPLES APPLIED TO HEALTH CARE AND NURSING PRACTICE	(3)
NUR 631	APPLICATIONS OF ADVANCED HEALTH ASSESSMENT (SAME AS NUR 923)	(3)
NUR 632	COMPREHENSIVE PATIENT MANAGEMENT I	(2)
NUR 633	COMPREHENSIVE PATIENT MANAGEMENT II	(4)
NUR 652	PHARMACOLOGIC APPLICATIONS IN PRIMARY CARE (SAME AS NUR 922)	(3)
NUR 653	PATHOPHYSIOLOGY (SAME AS NUR 921)	(3)
NUR 668	PSYCHOTHERAPEUTICS FOR ADVANCED NURSING PRACTICE (SAME AS PHR 668)	(3)
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 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 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 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 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 770	PHILOSOPHICAL FOUNDATIONS OF NURSING PRACTICE	(3)
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 impact of nutrition on health and disease has produced major clinical and public policy challenges that are shaping research and career opportunities for highly trained nutritional scientists in academia, industry and government. Disease prevention efforts, increased health consciousness and an aging population are further fueling the demand for nutritional scientists. The interdisciplinary Graduate Center for Nutritional Sciences enables students in its Ph.D. and Master's of Science programs to explore the interrelationship between environmental factors and nutrients and their effect on biochemistry, physiology and disease development. More than 60 faculty members provide teaching and individualized research guidance across 28 departments and divisions at the University's Colleges of Medicine, Health Sciences and Agriculture, as well as the Colleges of Arts and Sciences and Education.

One of the Center's primary areas of research and training targets nutrition and chronic diseases, with a focus on obesity and associated disorders of cardiovascular disease, diabetes and cancer. Other specialty areas include nutrition and oxidative stress, nutrition and aging, clinical nutrition, animal nutrition and food science.

Further information may be obtained by writing to the Director of Graduate Studies, Graduate Center for Nutritional Sciences, 209A CTW Building, 900 South Limestone, University of Kentucky, Lexington, KY 40506-0003.

Applicants for the Ph.D. and Master's of Science programs must meet admissions requirements for the both the University of Kentucky Graduate School and for the Graduate Center for Nutritional Sciences.

## Admission Requirements

There are two ways to be admitted into the PhD program:

- 1) **Direct Admission** <http://www.mc.uky.edu/nutrisci/phdapplication.asp> or
- 2) **IBS Program** <http://www.mc.uky.edu/ibs/default.asp>

### Direct Admission Requirements for the Ph.D. Program

Applicants must meet the following requirements for admission to the University of Kentucky Graduate School and the Graduate Center for Nutritional Sciences:

1. A baccalaureate degree from a fully accredited institution of higher learning.
2. An M.S. degree with a Grade Point Average (GPA) of 3.2 or above on a 4.0 scale, or a B.S. degree with a GPA of 3.0 or above on a 4.0 scale.
3. An average Graduate Record Examination (GRE) score on the verbal, quantitative and analytical sections that is greater than the 50th percentile.

For international applicants, a minimum score of 550 out 667 maximum possible is required on the paper-based Test of English as a Foreign Language (TOEFL), a minimum 213 score on the computer-based TOEFL (maximum 300), or 79 on the internet-based TOEFL. The minimum International English Language Testing Service (IELTS) score is 6.5. All applicants must demonstrate proficiency in verbal and written English.

### Applicants for the Ph.D. program

All those interested in graduate study at the University of Kentucky Graduate School must apply online via Hobson's [ApplyYourself Application Network](#). There is a \$65 application fee for domestic applicants and a \$75 application fee for international applicants. Please note that the application cannot be submitted without paying this fee.

The following information must be submitted online to the Graduate School via [ApplyYourself](#):

1. **Transcripts** from all higher education institutions attended. The Graduate School requires an average of 2.9 on all undergraduate work, and a 3.00 on all graduate work. Please note: the Graduate Center for Nutritional Sciences requirements are higher. **GRE** scores are required for admission. GRE scores should be sent directly from Educational Testing Service (ETS); the Institutional Code for the GRE for the UK Graduate School is R1837.
2. **TOEFL or IELTS** scores are required for all applications whose native language is not English.
  - a. TOEFL scores should be sent directly from ETS; the Institutional Code for the TOEFL for the UK Graduate School is R1837.
  - b. IELTS scores should be sent directly from the IELTS, specifying the University of Kentucky Graduate School, Lexington, KY as the recipient institution.
3. Curriculum vitae
4. A brief essay, no longer than two single-spaced pages, describing long-term career goals and how the Ph.D. Program in Nutritional Sciences would advance these goals.
5. Three letters of recommendation
6. Completed Research Assistant Application Form.

### **Research Assistantships and Laboratory Rotations:**

- Ph.D. applicants are required to apply for a Research Assistantship, which represents an integral part of the Ph.D. program.
- Applicants accepted into the Ph.D. program also may apply to participate in a Laboratory Rotation Program. This program enables students to work four to six months in as many as three laboratories before selecting an advisor.

### **M.S. Admission Requirements**

1. A baccalaureate degree from a fully accredited institution of higher learning.
2. A minimum undergraduate grade point average of 2.9 on undergraduate coursework and a 3.0 on all graduate work.
3. An average Graduate Record Examination (GRE) score on the verbal, quantitative and analytical sections greater than the 30th percentile.
4. For international applicants, a minimum score of 550 on the paper-based Test of English as a Foreign Language (TOEFL), which has a maximum score of 667; score of 213 on the computer-based TOEFL (maximum 300), or 79 on the internet-based TOEFL. The minimum International English Language Testing Service (IELTS) score is a 6.5. All applicants must demonstrate proficiency in verbal and written English.
5. Admission for the M.S. in Nutritional Sciences with Clinical Nutrition Emphasis is limited to those with a B.S. in Dietetics, having an RD, or being RD eligible.

### **Process:**

All those interested in graduate study at the University of Kentucky Graduate School must apply online via Hobson's [ApplyYourself](#) Application Network. There is a \$65 application fee for domestic applicants and a \$75 application fee for international applicants. Please note that the application cannot be submitted without paying this fee.

The following information must be submitted online to the Graduate School via [ApplyYourself](#):

1. **Transcripts** from all higher education institutions attended. The Graduate School requires an overall grade point average of 2.9 on all undergraduate work, and a 3.00 on all graduate work
2. **GRE scores** are required for admission. GRE scores should be sent directly from Educational Testing Service (ETS); the Institutional Code for the GRE for the UK Graduate School is R1837.
3. **TOEFL or IELTS** scores are required for all applicants whose native language is not English
  - a. TOEFL scores should be sent directly from Educational Testing Service (ETS); the Institutional Code for the TOEFL for the UK Graduate School is R1837.
  - b. IELTS scores should be sent directly from the International English Language Testing Service, specifying the University of Kentucky Graduate School, Lexington KY as the recipient institution.
4. Curriculum vitae.
5. A brief essay, no longer than two single-spaced pages, describing long-term career goals and how the M.S. Program in Nutritional Sciences would advance these goals.
6. Three letters of recommendation.
7. Research Assistantship Application Form (optional).



### Research Assistantships:

Applicants who have been accepted into the M.S. program and can also apply for a Research Assistantship with individual faculty. Interested applicants should submit a completed Research Assistantship Application Form with their application materials to the Center's Director of Graduate Studies by the application deadline listed below.

### Doctoral Degree Requirements

Students are required to complete the core curriculum. Elective courses to be taken will be recommended by the advisory committee.

### Academic Course Prerequisites to Program:

Biology (2 semesters)  
General Chemistry (2 semesters)  
Organic Chemistry (1 semester)  
Undergraduate Biochemistry and Physiology highly recommended

Some courses are cross-listed with other units and departments, but for clarity, only the "NS" prefixes are listed below.

### Core Curriculum

NS 601	Integrated Nutritional Sciences I	3 credits
NS 602	Integrated Nutritional Sciences II	3 credits
NS 603	Integrated Nutritional Sciences III	2 credits
NS 704	Current Topics in Nutrition	1 credit
NS 771	Graduate Seminar in Nutritional Sciences	1 credit**
NS 609	Ethics in Clinical Research	1 credit
Or		
TOX 600	Ethics in Scientific Research	1 credits
STA 570	Basic Statistical Analysis	4 credits
IBS 601/BCH 607	Biomolecules & Metabolism	3 credits
Or		
CHE 550	or Biological Chemistry I	3 credits
IBS 602/BCH 608	Biomolecules & Molecular Biology	3 credits
Or		
CHE 552	Biological Chemistry II	3 credits
IBS 603	Cell Biology	3 credits
IBS 606	Integrated Medical Sciences	4 credits
Or		
PGY 502	Principles of Systems, Cellular and Molecular Physiology	5 credits
Electives		8 credits
<b>Total</b>		<b>36 credits</b>

\*\*All Ph.D. students must register for 0 credit (except the semester register for 1 credit) and attend all GCNS seminars during their residency at the University of Kentucky. Minimum of 1 credit is required before qualifying examination. In addition, all GCNS doctoral candidates will present a seminar once/year post-qualifying exam.

Electives The student must successfully complete a minimum of 8 credit hours in electives. Elective courses are recommended by the Advisor and approved by the Advisory Committee.

Suggested courses are listed below:

IBS 607	Seminar in Integrated Biomedical Sciences	0 credit
IBS 608	Special Topics in Integrated Biomedical Sci.	2 credits
IBS 609	Research in Integrated Biomedical Sciences	1 credit
IBS 610	Critical Readings/Small Groups	2 credits
NS/CNU 606	Molecular Biology Applications in Nutrition	2 credits
NS 790	Research in Nutritional Sciences (before qualifying exam)	1-6 credits
CNU 501	Nutraceuticals and Functional Foods	2 credits
CNU 502	Obesity: Cell to Community	2 credits
CNU 611	Advanced Medical Nutrition Therapy	2 credits
CNU 612	Examination Skills for the Clinical Nutritionist	2 credits
CNU/NS 604	Lipid Metabolism	3 credits
CNU/NS 608	Nutritional Immunology	3 credits
CNU/NS 605	Wellness and Sports Nutrition	3 credits
CNU/NS 702	Problem-Based Case Studies	1-5 credits
ASC 681	Energy Metabolism	3 credits
ASC 683	Protein metabolism	3 credits
ASC 689	Physiology of Nutrient Digestion/Absorption	3 credits
ASC 684	Advanced Ruminant Nutrition	3 credits
ASC 686	Advanced Non-ruminant Nutrition	3 credits
FSC 638	Food Proteins	3 credits
FSC 640	Food Lipids	3 credits
FSC 434G	Food Chemistry	4 credits
BCH 610	Biochemistry of Lipids and Membranes	3 credits
BCH/BIO/MI 615	Molecular Biology	3 credits
CPH 605/PM 620	Epidemiology	3 credits
CPH 645	Food Systems, Malnutrition and Public Health	3 credits
EDP 605	Counseling Techniques	3 credits
GS 610	College Teaching	3 credits
KHP 420G	Physiology of Exercise	3 credits
KHP 620	Advanced Exercise Physiology	3 credits
KHP 621	Exercise and Coronary Heart Disease	3 credits
KHP 720	Sport Medicine	3 credits
KHP 781	Theory and Methodology of Body Composition	3 credits
MI 685	Advanced Immunology	3 credits
MI 710	Molecular Cell Biology	3 credits
PGY 604	Advanced Cardiovascular Physiology	3 credits

PGY 607	Hormonal Control Mechanisms	3 credits
BCH 609	Plant Biochemistry	3 credits

### Residency Requirement

NS 767	Residency Credit in Nutritional Sciences (post-qualifying exam)	2 hr/semester
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### Masters Degree Requirements

Prerequisites-200 level or equivalent physiology course. Recommended a 400 level biochemistry course

#### Core Courses      Total credits required for degree (30)

NS/CNU 601	Integrated Nutritional Sciences Part I	3 credits
NS/ASC/CNU 602	Integrated Nutritional Sciences Part II	3 credits
NS/CNU/FCS 603	Integrated Nutritional Sciences Part III	2 credits
NS/CNU/NFS704	Current Topics	1 credit
STA 570	Basic Statistical Analysis	4 credits
NS 771	Seminar in Nutritional Sciences	0-1** credits
NS/CNU/NFS 782	Special Problems	1-6* credits
NS/CNU 609	Ethics	1 credits

Core Credits = 15    \*Plan B Only \*\*Plan A Only

#### Courses for Emphasis in Clinical Nutrition *Prerequisite- B.S. in Dietetics and/or meeting ADA Dietetics requirements for internship*

CNU 501	Nutraceuticals and Functional Foods	2 credits
Or CNU 502	Obesity: Cell to Community	2 credits
NS/CNU 702	Clinical Nutrition Problem Based Case Studies	1-3 credits
CNU 611	Advanced Medical Nutrition Therapy	2 credits
CNU 612	Examination Skills for the Clinical Nutritionist	2 credits

Emphasis Credits = 8-10 Electives to equal a minimum of 30 credit hours

#### Courses for Emphasis in Wellness and Sports Nutrition

NS/CNU 605	Wellness and Sports Nutrition	3 credits
KHP 600	Exercise Stress Testing and Prescription	3 credits
KHP 620	Advanced Exercise Physiology	3 credits
CNU 501	Nutraceuticals and Functional Foods	2 credits

Emphasis credits = 14    Electives to equal a minimum of 30 credit hours

#### Courses for Emphasis in Community Nutrition

CPH 605	Epidemiology	3 credits
DHN 603	Advanced Community Program Development	3 credits
DHN 607	Food Related Behaviors	3 credits

Emphasis credits= 15    Electives to equal a minimum of 30 credit hours

### **Courses for Emphasis in Molecular and Biochemical Nutrition**

BCH 607 (IBS 601)	Biomolecules & Metabolism	3 credits
Or CHE 550	Biological Chemistry I	3 credits
BCH 608 (IBS 602)	Biomolecules and Molecular Biology	3 credits
Or CHE 552	Biological Chemistry II	3 credits
NS/CNU 606	Molecular Biology Applications in Nutrition	2 credits
Emphasis Credits= 8	Electives to equal a minimum of 30 credit hours	

### **Approved Electives**

The student must successfully complete a minimum of 6 credit hours in electives. Elective courses are recommended by the DGS and/or the Advisor.

Suggested elective courses include:

IBS 604	Cell Signaling	3 credits
IBS 605	Experimental Genetics	2 credits
IBS 607	Seminar in Integrated Biomedical Sciences	0 credit
IBS 609	Research in Integrated Biomedical Sciences	1 credit
NS/CNU 606	Molecular Biology Applications in Nutrition	2 credits
CNU 501	Nutraceuticals and Functional Foods	2 credits
CNU 502	Obesity: Cell to Community	2 credits
CNU 611	Advanced Medical Nutrition Therapy	2 credits
CNU 612	Examination Skills for the Clinical Nutritionist	2 credits
CNU/NS 604	Lipid Metabolism	3 credits
CNU/NS 608	Nutritional Immunology	3 credits
CNU/NS 605	Wellness and Sports Nutrition	3 credits
CNU/NS 702	Problem-Based Case Studies	1-5 credits
ASC 681	Energy Metabolism	3 credits
ASC 683	Protein metabolism	3 credits
ASC 689	Physiology of Nutrient Digestion/Absorption	3 credits
ASC 684	Advanced Ruminant Nutrition	3 credits
ASC 686	Advanced Non-ruminant Nutrition	3 credits
FSC 638	Food Proteins	3 credits
FSC 640	Food Lipids	3 credits
FSC 434G	Food Chemistry	4 credits
BCH 610	Biochemistry of Lipids and Membranes	3 credits
BCH/BIO/MI 615	Molecular Biology	3 credits
CPH 605/PM 620	Epidemiology	3 credits
CPH 645	Food Systems, Malnutrition and Public Health	3 credits
EDP 661	Counseling Techniques II	3 credits
GS 610	College Teaching	3 credits
KHP 420G	Physiology of Exercise	3 credits
KHP 621	Advanced Exercise Physiology	3 credits
KHP 621	Exercise and Coronary Heart Disease	3 credits
KHP 720	Sport Medicine	3 credits
KHP 781	Theory and Methodology of Body Composition	3 credits
MI 685	Advanced Immunology	3 credits

MI 710	Molecular Cell Biology	3 credits
PGY 604	Advanced Cardiovascular Physiology	3 credits
PGY 607	Hormonal Control Mechanisms	3 credits
BCH 609	Plant Biochemistry	3 credits

## 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)

## 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 300 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 Outcomes and Policy Track**

The focus of this training program is the relationship between pharmacotherapy and health outcomes, pharmacoconomics, pharmacoepidemiology, informatics, and pharmaceutical policy. The program will prepare students for careers in the pharmaceutical industry, governmental positions related to pharmaceuticals, and academic positions focused on research related to pharmaceutical outcomes and policy. For information regarding recommended coursework for this track, please contact Dr. Jeffrey Talbert ([jeff.talbert@uky.edu](mailto:jeff.talbert@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.

PHS 760	Introduction to Pharmaceutical Sciences	(1)
IBS 601	Biomolecules and Metabolism	(3)
IBS 602	Molecular Biology and Genetics	(3)
PHS 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 603	Cell Biology and Signaling	(3)
MA 213	Calculus III	(4)
PGY 502	Physiology	(5)
PHA 622	Molecular Drug Targets and Therapeutics	(1)
STA 570	Basic Statistical Analysis	(4)
PHS 510	Modern Methods in Pharmaceutical Analysis	(5)
PHS 545	Sterile Parenterals and Devices	(2-3)
PHS 612	Quantitative Pharmacodynamics: Pharmacokinetics	(3)
PHS 622	Advanced Biopharmaceutics	(2)
PHS 630	Pharmaceutical Rate Processes	(3)
PHS 631	Equilibrium Phenomena in Pharmaceutical Systems	(3)
PHS 632	The Practice of Drug Metabolism	(3)
PHS 649	Advanced Molecular Pharmacology	(2)
PHS 660	Biosynthesis of Natural Products	(3)
PHS 662	Bioorganic Mechanisms	(3)
PHS 663	Molecular Neurobiology of Abused Drugs	(3)
PHS 665	Neurotoxicology	(2)
PPS 520	Special Topics in Pharmacy Law	(2)
PPS 705	Pharmacoeconomics and Decision Analysis	(2)
PPS 665	Ethical issues in Clinical Research	(3)
PPS 700	Introduction to Pharmaceutical Outcomes and Policy	(2-3)
PPS 701	Pharmacoepidemiology	(3)
PPS 702	Pharmaceutical Health Policy	(2-3)



PPS 704	Pharmacy Informatics	(2-3)
PPS 706	Intermediate Pharmacoeconomics and Decision Analysis	(3)
PPS 750	Pharmaceutical Outcomes and Policy Journal Club	(1)
PPS 760	Special Topics in Pharmacy Practice and Science	(1-4)
PPS 764	Drug Development, Regulation and Clinical Research	(3)
PPS 767	Dissertation Residency Credit	(2)

For further information visit our Web site: [www.mc.uky.edu/Pharmacy/](http://www.mc.uky.edu/Pharmacy/) .

## GRADUATE COURSES

PHS 510	MODERN METHODS IN PHARMACEUTICAL ANALYSIS	(5)
PHS 545	STERILE PARENTERALS AND DEVICES	(2-3)
PHS 612	QUANTITATIVE PHARMACODYNAMICS: PHARMACOKINETICS (SAME AS PHA 612)	(3)
PHS 622	ADVANCED BIOPHARMACEUTICS	(2)
PHS 630	PHARMACEUTICAL RATE PROCESSES	(3)
PHS 631	EQUILIBRIUM PHENOMENA IN PHARMACEUTICAL SYSTEMS	(3)
PHS 632	THE PRACTICE OF DRUG METABOLISM	(3)
PHS 649	ADVANCED MOLECULAR PHARMACOLOGY (SAME AS PHA/TOX 649)	(2)
PHS 660	BIOSYNTHESIS OF NATURAL PRODUCTS	(3)
PHS 662	BIOORGANIC MECHANISMS	(3)
PHS 663	MOLECULAR NEUROBIOLOGY OF ABUSED DRUGS	(3)
PHS 665	NEUROTOXICOLOGY	(2)
PHS 748	MASTER'S THESIS RESEARCH	(0)
PHS 749	DISSERTATION RESEARCH	(0)
PHS 750	PHARMACEUTICAL SCIENCES JOURNAL CLUBS Neuroscience Journal Club Pharmacokinetics, Pharmacodynamics and Drug Metabolism Solid State Chemistry Review Cancer Biology Bioorganic Natural Chemistry Molecular Pharmaceutics Transport Proteins Pharmacogenomics	(1)
PHS 760	TOPICS IN PHARMACEUTICAL SCIENCES Topics covered in recent years include: Introduction to Pharmaceutical Sciences Techniques in Pharm Analysis Drug Delivery Design of Molecules with Drug-like Properties	(1-4)
PHS 767	DISSERTATION RESIDENCY CREDIT	(2)
PHS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
PHS 769	RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE	(0-12)
PHS 778	SEMINAR IN PHARMACEUTICAL SCIENCES II	(1)
PHS 780	SPECIAL PROBLEMS IN PHARMACEUTICAL SCIENCES	(1-6)
PHS 790	RESEARCH IN PHARMACEUTICAL SCIENCES	(1-12)
PPS 520	SPECIAL TOPICS IN PHARMACY LAW	(2)
PPS 605	PHARMACOECONOMICS AND DECISION ANALYSIS	(2)
PPS 665	ETHICAL ISSUES IN CLINICAL RESEARCH	(1)

PPS 700	INTRODUCTION TO PHARMACEUTICAL OUTCOMES AND POLICY	(2-3)
PPS 701	PHARMACOEPIDEMOLOGY	(3)
PPS 702	PHARMACEUTICAL HEALTH POLICY	(2-3)
PPS 704	PHARMACY INFORMATICS	(2-3)
PPS 706	INTERMEDIATE PHARMACOECONOMICS AND DECISION ANALYSIS	(3)
PPS 750	PHARMACEUTICAL OUTCOMES AND POLICY JOURNAL CLUB	(1)
PPS 760	SPECIAL TOPICS IN PHARMACY PRACTICE AND SCIENCE	(1-4)
PPS 764	DRUG DEVELOPMENT REGULATION AND CLINICAL RESEARCH	(3)
PPS 767	DISSERTATION RESIDENCY CREDIT	(2)
PPS 778	SEMINARS IN PHARMACY PRACTICE AND SCIENCE	(1)
PPS 790	RESEARCH IN PHARMACY PRACTICE AND SCIENCE – PRE QUAL	(1-12)

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## 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)	
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 740	PROSEMINAR IN TEACHING METHODS	(1)
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 (PAS) 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 students who wish to become PAs and hold a baccalaureate or will have earned a baccalaureate degree by the time they enter the program. The M.S.P.A.S. program is offered at the University of Kentucky and in both Lexington and Morehead, Kentucky.

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 comprehensive health histories, perform physical examinations, interpret and evaluate diagnostic data, establish treatment plans, counsel and educate, and respond appropriately to commonly encountered emergency care situations. Physician assistants serve in a variety of health care settings, such as primary care practices, subspecialty clinics, inpatient hospitals, 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 NCCPA Exam, graduates are eligible for state certification/licensure to practice as certified physician assistants.

### Admission Requirements

Admission to the M.S.P.A.S. program occurs annually, with a new class beginning each January. Qualified applicants for the Lexington or Morehead campuses must simultaneously apply to the Centralized Application Service for Physician Assistants (CASPA) and the UK Graduate School.

Students must satisfy admissions requirements for both the Graduate School and the Physician Assistant Studies Program. Applicants must achieve a minimum of 900 combined score on the Verbal and Quantitative portions of the old (prior to 2011) Graduate Record Examination (GRE). *The GRE must have been taken within the last five years of application to the program. All applicants must meet the minimum academic requirements of the Graduate School. Note: previous class averages for the new GRE have been 150 for Verbal and 150 for Quantitative.* International students and domestic students who attended a high school in which English was not the primary language of instruction must submit TOEFLiBT scores in addition to the required GRE.

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) and must meet the **minimum academic standards of the Graduate School**.

Applicants may have only two outstanding prerequisite requirements at the time of application submission. Applicants **must** complete all prerequisite courses by August 8, 2014.

### Prerequisite Courses<sup>1</sup>

A "C" grade or better must be earned in the following prerequisite courses:

General Chemistry with laboratory	2 semesters
Organic Chemistry with laboratory (Pre-med or Chemistry major level)	1 semester
General Psychology <sup>2</sup>	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 (minimum 2 credits)	1 semester
Statistics	1 semester

1. For more detailed information on prerequisites and course equivalencies, please visit the program website. <http://www.mc.uky.edu/PA/admissions.html>
2. Prerequisites requirements are currently under review. Several courses, including these, may be removed as requirements.

Three (3) letters of recommendation are required from people acquainted with the applicant for at least one year and familiar with his/her professional goals and must be submitted with the CASPA application packet, along with an admission essay. The admission essay must be 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 and the Physician Assistant Studies Program.

Health care experience is required and deemed beneficial to students entering the Physician Assistant Studies Program. Applicants are required to have a minimum of 50 hours shadowing a physician assistant in various medical specialties. Although 50 is the required minimum, typical applicants' average greater than 100 shadowing hours, depending on the year of application.

Additionally, applicants must have a total of 1,000 hours of paid or volunteer direct patient care experience. It is highly recommended that hours be obtained in a formally trained medical discipline (e.g., as a registered nurse, certified nursing assistant, emergency technician, certified medical assistant, etc.). However, only 500 hours of experience obtained from selected medical disciplines (i.e., pharmacy, dentistry, physical therapy and athletic training) will be counted toward the required 1,000 hours of paid or volunteer direct patient care. Lastly, volunteer hours may be in either primary and/or non-primary care settings and with various practitioners (e.g., physicians, nurse practitioners, etc).

Due to the competitive nature and large number of students applying to the program, not all applicants who meet minimum requirements will be invited for an interview.

THE DEADLINE FOR APPLICATIONS IS—JULY 15, 2014

For more information and dates of General Information Sessions please visit our website at [www.mc.uky.edu/pa/](http://www.mc.uky.edu/pa/) .If you have questions after visiting our website and attending an information session you may contact:

Corrie Scott, Student Affairs Officer  
Office of Admissions and Student Affairs  
College of Health Sciences  
900 S. Limestone, Room 111 Charles T. Wethington Building  
Lexington, KY 40536-0200  
859.218-80546  
Email: [cyscott@uky.edu](mailto:cyscott@uky.edu)

## **M.S.P.A.S. Program Curriculum Requirements**

### **All students enrolled in the program will take the following courses: Spring**

ANA 611	Human Gross Anatomy	(5)
PAS 651	Introduction to PA Profession	(2)
HSM 601	Overview of the Health Care Delivery System	(3)
PGY 412G	Human Physiology	(4)

### **4-Week Intersession**

PAS 610	Research Methods and Epidemiology	(3)
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### **8-Week Intersession**

PAS 678	Seminar in PA Studies I	(2)
PAS 653	Introduction to Human Disease	(3)

### **Fall**

PAS 654	Clinical Lecture Series	(4)
PAS 672	Pharmacology I	(3)
PAS 657	Clinical Laboratory Procedures	(3)
PAS 850	Clinical Methods	(3)
PAS 645	Master's Project I	(1)

### **Spring**

PAS 658	Clinical Lecture Series II	(4)
PAS 673	Pharmacology II	(3)
PAS 655	Psychosocial Factors in Primary Care	(3)
PAS 656	Patient Evaluation and Management	(3)
PAS 646	Master's Project II	(2)

### **4-Week Intersession**

PAS 640	Survey of Geriatric Medicine	(3)
CNU 503	Applied Nutrition	(1)

### **8-Week Intersession, 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 662	Obstetrics and Gynecology Clerkship	(3)
PAS 663	Surgery Clerkship	(6)
PAS 664	Geriatrics Clerkship	(3)
PAS 665	Elective Clerkship	(3)
PAS 665	Selective Clerkship	(3)
PAS 669	Internal Medicine Clerkship	(6)
PAS 670	Emergency Medicine Clerkship	(3)
PAS 671	Psychiatry Clerkship	(3)
PAS 680	Seminar in PA Studies II	(2)

Please note that any course offered in the PA program curriculum must be taken while in the program. No courses will be allowed to transfer into the program (PGY 412G, HSM 601, etc.).

After completing the course work and clerkship requirements with a minimum 3.0 GPA, students who receive passing scores on written and practical 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 also eligible for state certification/licensure to practice as certified physician assistants.

## Dual Degree Programs

The College of Pharmacy and the Division of Physician Assistant Studies offers a dual degree program which allows enrolled students to distinguish themselves while completing the Doctor of Pharmacy degree. The dual degree program requires additional formal application, admissions and course work. Students are eligible to apply for the Master of Science in Physician Assistant Studies (MSPAS) following the second semester of the second professional year in Pharmacy with a minimum pharmacy GPA of 3.0, 1000 direct patient care contact hours, 50 PA shadowing hours, and additional pre-requisite courses. Two courses in the Pharmacy program provide 320 hours toward the direct patient care hours needed for application. Students who maintain a 3.0 cumulative pharmacy/PAS GPA and satisfy all requirements of both programs will be awarded the Doctor of Pharmacy and the MSPAS degree simultaneously. To learn more about the program please visit the website <http://pharmacy.mc.uky.edu/programs/prepharm/mspas.php>

## M.S.P.A.S. for Graduates of Programs in Physician Assistant Studies

PAs 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  
 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)

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## 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

The M.S. program can include an emphasis on basic or applied physics or physics education, and students are encouraged to take courses in related programs that satisfy the appropriate academic objectives.

Before taking the M.S. oral exam, the M.S. student must have completed (with a B average) 16 (plan A with a thesis) or 20 (plan B without a thesis) credit hours in approved graduate courses.

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 I	(3)
PHY 521	INTRODUCTION TO QUANTUM MECHANICS II	(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 605	GRAVITY	(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)

## 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 601	MAMMALIAN ENDOCRINOLOGY (SAME AS ASC 601)	(3)
PGY 602	READINGS IN SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY	(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 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 625	MUSCLE FORUM	(1)
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 749	DISSERTATION RESEARCH	(0)
PGY 766	TOPICAL SEMINAR BEHAVIORAL NEUROSCIENCE (SAME AS PSY 766)	(3)
PGY 767	DISERTATION 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 774	GRADUATE SEMINAR IN PHYSIOLOGY	(1)
PGY 791	RESEARCH IN PHYSIOLOGY	(1-15)

## PLANT AND SOIL SCIENCE

Note: The M.S. in Plant and Soil Sciences (PLS) was changed to the M.S. in Integrated Plant and Soil Sciences (IPSS) in Fall 2011. See the Bulletin Description for IPSS for more details about the M.S. program. Students currently matriculating in the M.S. in PLS program should consult the 2010-2011 version of the Graduate Bulletin for applicable guidelines.

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 Sciences. Most of the graduate faculty in Plant and Soil Sciences 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 655	SPATIAL AND TEMPORAL STATISTICS	(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)	(4)
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)

## 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	(3)
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	(3)	PPA 670	(1)
PPA 671	(2)	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 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

**Note:** Admission to this program was suspended after Fall 2011. It has been replaced by the PhD Program in Integrated Plant and Soil Sciences (IPSS). See the Bulletin Description for IPSS for more details. Students currently matriculating in this graduate program should consult the 2010-2011 version of the Graduate Bulletin for applicable guidelines.

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, PLS 609, PLS 620, PLS 622, PLS 623, PLS 772, 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 apply using the Graduate College online application system, which is available at <http://www.gradschool.uky.edu/>. Required information includes (1) a copy of transcripts and GRE scores; (2) a one- to three-page Statement of Purpose explaining why the student wishes to pursue a Ph.D. degree; (3) three letters of recommendation from persons familiar with the applicant's academic performance; (4) a sample of writing on a topic relevant to political science; (5) a resume or curriculum vitae, and (6) TOEFL scores if the applicant's first language is not English. Applications will only be considered for the fall semester.

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, writing samples, and other relevant information. The department usually only accepts applicants to the Ph.D. program. 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 of study prepared with their Advisory Committee. The student takes advanced work in at least two substantive fields in political science. The student completes qualifying exams prior to defending the prospectus for the dissertation. 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. 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	(3)
	(SUBTITLE REQUIRED)	
PS 731	INTERNATIONAL SECURITY/CONFLICT ANALYSIS	(3)
PS 732	COMPARATIVE FOREIGN POLICY	(3)
	(SUBTITLE REQUIRED)	
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	(3)
	(SUBTITLE REQUIRED)	
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)

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## PSYCHOLOGY

The department offers the Ph.D. degree in psychology in two programs: clinical psychology and experimental psychology, the latter subdivided into cognitive studies/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 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, animal cognition and the application of cognitive theories to everyday 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 developmental studies area focuses on typical and atypical development in human infancy and childhood, and the major aim of graduate training is to develop strong theoretical and methodological foundations in these fields. The primary emphasis is on research, while students are also encouraged to develop expertise in teaching. Training is tailored to individual students' needs. The developmental area is associated with the Children at Risk research cluster, which involves faculty and students from many programs across campus and provides opportunities for multi-disciplinary research and training.

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. 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 POLICY AND ADMINISTRATION

The Martin School of Public Policy and Administration, a research, academic and service unit of the Graduate School, offers the Ph.D. in Public Policy and Administration, the Master in Public Administration (MPA), and the Master in Public Policy (MPP) degrees. The Ph.D. in Public Administration is designed to prepare students for positions with academic institutions or policy think tanks. 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 interdisciplinary members of the 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 Pharmacy, the College of Education, or the College of Agriculture.

## 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

The University of Kentucky uses the Hobson's ApplyYourself system. All documents must be submitted online: <http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html> Be prepared to upload:

1. A one to three page statement explaining why you wish to pursue a Ph.D. degree.
2. A resume or CV
3. An official or unofficial transcript from each post-secondary institution that you have attended.
4. The e-mail addresses of at least three individuals who have agreed to write a recommendation letter on your behalf. Ideally, at least two letters are from academic references.
5. A writing sample, while optional, is encouraged.

You will enter your GRE or GMAT scores in the Graduate School application but will also need to submit official scores from ETS.

Questions may be addressed to:

Student Affairs Office

The Martin School of Public Policy and Administration

413 Patterson Office Tower

University of Kentucky

Lexington, KY 40506-0027

**Profile of our Students:** 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 score at or above the 60th percentile in the quantitative and verbal sections of the GRE or on the GMAT. However, the Martin School does not have "cut-off" scores and considers all aspects of the student's record, including evidence of improving performance during the student's academic career. The final selection of students for admission will be subject to the discretion of the director of Graduate Studies based on the advice of the admissions committee of the Ph.D. program. Competitive admission is based on a consideration of the documents listed above.

**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 or their equivalents. Students who have not fulfilled these class requirements

will do so before taking the relevant Ph.D. core classes. All students are also expected to have a strong background in research methodology and will need to take calculus before beginning the Ph.D. classes.

## **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 15 credit hours of core courses, 15 credit hours in the area of concentration, 3 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.

### **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)

## **Financial Aid**

Financial Support is available to qualified students through fellowships, assistantships and research grants. All students will be considered for aid. No separate form is required. Applications received by January 15 have the maximum chance of receiving support.

## **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**

The University of Kentucky uses the Hobson's ApplyYourself system. All documents must be submitted on-line: <http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html> Be prepared to download:

1. A one to three page statement explaining why you wish to pursue an MPA degree.
2. A resume or CV
3. An official or unofficial transcript from each post-secondary institution that you have attended.
4. The e-mail addresses of at least three individuals who have agreed to write a recommendation letter on your behalf. Ideally, at least two letters are from academic references.

You will enter your GRE or GMAT scores in the Graduate School application but will also need to submit official scores from ETS.



Questions may be addressed to:  
Student Affairs Office  
The Martin School of Public Policy and Administration  
413 Patterson Office Tower  
University of Kentucky  
Lexington, KY 40506-0027

## Deadlines

Deadlines for the program are the same as the Graduate School admission deadlines. Applications completed by January 15 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).

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*.

## Degree Requirements

Completion of a minimum of 42 semester hours of graduate work is required:

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.
  - a. PA 602 Strategic Planning and Organizational Change in the Public (3) and Nonprofit Sectors
  - b. PA 621 Quantitative Methods of Research (3)
  - c. PA 622 Public Program Evaluation (3)
  - d. PA 623 Decision Analysis (3)
  - e. PA 624 Information Systems in Government (2)
  - f. PA 631 Public Financial Management (3)
  - g. PA 632 Public Funds Management (3)
  - h. PA 642 Public Organization Theory and Behavior (3)
2. An area of concentration of 6 semester hours in a stated area of specialization (public financial management, policy analysis, local economic development; non-profit management, environmental management, education policy, health policy, gerontology, international public policy, or transportation systems management) or in an individually designed concentration:
  1. **Economic Development**
    - a. Take PA 653 and one of the following:
    - b. PA 683 Tax Policy (3)
    - c. PA 680 Benefit-Cost Analysis (3)
  2. **Education Policy**
    - a. PA 795: Special Topics in Public Administration: Education Policy (3) and either
    - b. PA 680 Benefit-Cost Analysis (3)
    - c. OR PA 690 Public Policy Analysis Overview (3)

3. **Environmental Policy:** Martin School graduates with a concentration in environmental management will be ready to contribute to the design and implementation of environmental policy. Complete both of the following courses:
    - a. PA 727 Environmental Economics, Regulation and Policy (3)
    - b. PA 680 Benefit-Cost Analysis (3) or
    - c. PA 795: Special Topics in Public Administration: Environmental Policy (3)
  4. **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:
    - a. PA 636 Health Economics (3)
    - b. PA 673 Health Policy Development (2)
    - c. PA 785 Independent Study in Health Administration (3)
    - d. OR PA 680 Benefit-Cost Analysis (3)
  5. **International Policy:**
    - a. PA 667 Policymaking in an international Context: Political and Organizational Dimensions (3) and
    - b. Public Policy and Political Economy in an International Context (3)
  6. **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. Students wanting to earn the certificate will need to take additional courses.
  7. **Non-Profit management Non-Profit Management prepares students for leadership positions in non-profit organizations.**
    - a. PA 661 Financial Management of Non-Profit Organizations (3)
    - b. PA 662 Non-Profit Management (3)
  8. **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. Students wanting to earn the certificate will need to take additional courses
  9. **Public Financial Management:** Students completing this specialization will be prepared for entry-level professional positions in public and not-for-profit organizations. Specific positions would include budget analyst, bond marketing analyst, bond rating specialist, controller and various other public and quasi-public sector positions. Students will take two of the following:
    - a. PA 683 Tax Policy (3)
    - b. PA 661 Financial Management of Non-Profit Organizations
    - c. PA 665 Public Policy and Economy in an International Context
    - d. PA 633 Municipal Bonds.
  10. **Individually Tailored Area of Concentration:** In addition to the offered areas of concentration, students may develop an individually tailored area of specialization in consultation with a faculty advisor and with the approval of the Director of Graduate Studies.
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3. **Capstone Course and Capstone Project** PA 681 Capstone in Public Administration (3)  
 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. Oral presentation of the project before a faculty committee serves as the final masters' exam.

4. **Internship:** PA 711 Internship in Public Administration (3)

An administrative internship at an appropriate agency for 400 hours. Students with a significant professional experience may substitute an independent study policy paper or an additional graduate course.

## 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, but should have taken calculus and undergraduate micro-economics.

### Admission Requirements

The University of Kentucky uses the Hobson's ApplyYourself system. All documents must be submitted online: <http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html>. Be prepared to download:

1. A one to three page statement explaining why you wish to pursue an MPA degree.
2. A resume or CV
3. An official or unofficial transcript from each post-secondary institution that you have attended.
4. The e-mail addresses of at least three individuals who have agreed to write a recommendation letter on your behalf. Ideally, at least two letters are from academic references.

You will enter your GRE or GMAT scores in the Graduate School application but will also need to submit official scores from ETS. International students will also need English Language test scores.

Questions may be addressed to:

Student Affairs Office  
The Martin School of Public Policy and Administration  
413 Patterson Office Tower  
University of Kentucky  
Lexington, KY 40506-0027

### Deadlines

Deadlines for the program are the same as the Graduate School admission deadlines. Applications completed by January 15 will have priority for financial aid. 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.

**Course Requirements:** The M.P.P. program incorporates:

1. 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:
  - a. PA 621 Quantitative Methods of Research (3)
  - b. PA 622 Public Program Evaluation (3)
  - c. PA 631 Public Financial Management (3)
  - d. PA 642/HA 642 Public Organization, Theory and Behavior (3)
  - e. PA 651 The Policy Process (3)
  - f. PA 652/ECO 652 Public Policy Economics (3)
  - g. PA 680 Benefit-Cost Analysis (3)
  - h. PA 681 Capstone in Public Administration (3)
  - i. PA 690 Public Policy Analysis Overview (3)
  - j. PA 692 Research Methods for Public Policy and Administration (3)
  - k. PA 795 Mathematics for Policy Analysis (1)

**2. Area of Specialization (6 Semester Hours)**

6 semester hours in a functional area such as Health, Transportation, Education, Environmental Financial, Social Welfare, International Policy or another approved area.

**3. 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 Masters exam.

**4. Internship: PA 711 Internship in Public Administration (3)**

An administrative internship at an appropriate agency for 400 hours. Students with a significant professional experience may substitute an independent study policy paper or an additional graduate course.

## GRADUATE COURSES

PA 602	STRATEGIC PLANNING AND ORGANIZATIONAL CHANGE IN THE PUBLIC AND NONPROFIT SECTORS.	(3)
PA 621	QUANTITATIVE METHODS OF RESEARCH.	(3)
PA 622	PUBLIC PROGRAM EVALUATION.	(3)
PA 623	DECISION ANALYSIS AND DECISION SUPPORT SYSTEMS.	(3)
PA 624	GOVERNMENT INFORMATION SYSTEMS.	(2)
PA 628	HUMAN RESOURCES MANAGEMENT IN HEALTHCARE.	(3)
PA 631	PUBLIC FINANCIAL MANAGEMENT.	(3)
PA 632	PUBLIC FUNDS MANAGEMENT.	(3)
PA 633	MUNICIPAL SECURITIES.	(3)
PA 636	HEALTH ECONOMICS.	(3)
PA 637	HEALTH FINANCE.	(3)
PA 642	PUBLIC ORGANIZATION THEORY AND BEHAVIOR.	(3)
PA 651	THE POLICY PROCESS.	(3)
PA 652	PUBLIC POLICY ECONOMICS.	(3)
PA 653	LOCAL ECONOMIC DEVELOPMENT.	(3)
PA 660	PUBLIC POLICY OF THE NONPROFIT SECTOR.	(3)

PA 661	FINANCIAL MANAGEMENT OF NONPROFIT ORGANIZATION.	(3)
PA 662	NON-PROFIT MANAGEMENT.	(3)
PA 665	PUBLIC POLICY AND POLITICAL ECONOMY IN AN INTERNATIONAL CONTEXT.	(3)
PA 667	POLICYMAKING IN AN INTERNATIONAL CONTEXT: POLITICAL AND ORGANIZATIONAL DIMENSIONS.	(3)
PA 671	OVERVIEW OF U.S. HEALTHCARE.	(3)
PA 673	HEALTH POLICY.	(3)
PA 680	BENEFIT-COST ANALYSIS.	(3)
PA 681	CAPSTONE IN PUBLIC ADMINISTRATION.	(3)
PA 683	TAX POLICY.	(3)
PA 690	PUBLIC POLICY ANALYSIS OVERVIEW.	(3)
PA 691	ETHICS AND PUBLIC POLICY.	(1)
PA 692	ECONOMETRICS FOR POLICY ANALYSTS.	(3)
PA 711	INTERNSHIP IN PUBLIC ADMINISTRATION.	(3)
PA 722	POLICY AND PROGRAM EVALUATION.	(3)
PA 727	ENVIRONMENTAL ECONOMICS, REGULATION AND POLICY.	(3)
PA 731	FISCAL AND BUDGETARY POLICY.	(3)
PA 742	THEORY OF PUBLIC ORGANIZATIONS.	(3)
PA 750	INTRODUCTION TO ECONOMICS FOR PUBLIC POLICY.	(3)
PA 751	PUBLIC POLICY FORMULATION AND IMPLEMENTATION.	(3)
PA 752	THE ECONOMICS OF POLICY ANALYSIS.	(3)
PA 754	ADVANCED TOPICS IN PUBLIC FINANCE.	(3)
PA 767	DISSERTATION RESIDENCY CREDIT.	(2)
PA 775	SPECIAL TOPICS IN HEALTH ADMINISTRATION.	(1-3)
PA 785	INDEPENDENT STUDY IN HEALTH ADMINISTRATION.	(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 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, military service, 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, three hours of field practicum experience (CPH 609), and a three hour final integrative Capstone Project (CPH 608) are required. The dual M.D./M.P.H. and PharmD/M.P.H. degrees are currently available.

## 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) 218-2096, 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 613	MOLECULAR EPIDEMIOLOGY, CANCER PREVENTION AND CONTROL	(3)
CPH 614	MANAGERIAL EPIDEMIOLOGY	(3)
CPH 615	CANCER 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 622	TOXIC AGENTS AND THEIR IMPLICATIONS IN PUBLIC HEALTH	(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 641	PUBLIC HEALTH AND ANTHROPOLOGY	(3)
CPH 644	RURAL HEALTH DISPARITIES	(3)
CPH 645	FOOD SYSTEMS AND PUBLIC HEALTH	(3)
CPH 646	SPEC TOPS IN BEHAVIORAL HEALTH	(3)
CPH 647	RESEARCH METHODS FOR PUBLIC HEALTH	(3)
CPH 648	ELIMINATING RACIAL AND ETHNIC DISPARITIES	(3)
CPH 649	INDEPENDENT STUDIES IN HEALTH BEHAVIOR	(3)
CPH 650	MANAGEMENT OF PUBLIC HEALTH ORGANIZATIONS	(3)
CPH 652	HEALTH FINANCE	(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	HEALTH OF AGRICULTURAL POPULATIONS	(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 740	MATERNAL AND CHILD HEALTH	(3)
CPH 751	GLOBAL PUBLIC HEALTH	(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)
CPH 790	WATER SANITATION AND HEALTH	(3)
HSM 635	MANAGEMENT ACCOUNTING	(3)

## RADIATION SCIENCE

The Radiation Sciences program in the Department of Radiation Medicine offers a Plan B, non-thesis, Master of Science in Radiological Medical Physics degree. 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. The program offers a small class size (eight students per year) and is uniquely geared toward clinical training. We have historically concentrated our clinical training in Radiation Therapy but we are continuing a small pilot program in 2014 aimed at clinical training for Diagnostic Imaging Physics. For more information, please visit <http://radiationmedicine.med.uky.edu/radiation-sciences-graduate-programs>.

### Admission Requirements

In addition to the general requirements of the Graduate School, the Radiological Medical Physics Program requires the following. At a minimum, candidates must show the equivalence of a minor in physics. To meet this requirement, candidates must have completed the following: 1) Calculus through Ordinary Differential Equations; 2) The Calculus-based introductory General Physics sequence with labs (2 semesters); and 3) Three upper division Physics electives (300 level or above). Courses in Human Anatomy, Physiology, Computer Science, and Scientific Statistics are preferred but, if missing, may be incorporated into the graduate program at the discretion of the Director of Graduate Studies.

### Application Information

Application to the program is online through the Graduate School using the link <http://www.gradschool.uky.edu/ProspectiveStudents/prospective.html>. The applicant will be required to submit GRE General Test scores, transcripts for all undergraduate work, and three letters of recommendation. Only self-reported, unofficial General GRE scores and transcripts are required at the time of application. Official versions must be submitted upon entry into the program. A personal statement and/or a CV may be included but are not required. A personal interview, typically on-campus, is required. However, on-line interviews may be allowed in cases of severe travel restrictions. Fluent spoken English skills are required and are assessed during the interview.

Admission to the program occurs once annually with new classes beginning in the Fall semester. The deadline for applications is April 30<sup>th</sup>, however, offers for admission are usually made early in the preceding Spring semester with completion of the class roster by May. Therefore, it is recommended that applications be completed by January 31 to assure full consideration.

### Degree Requirements

The Master of Science in Radiological Medical Physics is interdisciplinary. Plan B (non-thesis) guidelines are utilized for the graduate work, incorporating specific courses in several departments. There is no language requirement. A suitable undergraduate course in Electronic Instrumentation may be substituted for PHY/EE 402G Electronic Instrumentation and Measurements at the discretion of the Director of Graduate Studies. A coursework outline is given as follows.



### Program Coursework

PHY/RM 472G	Interaction of Radiation with Matter	(3)
PHY/EE 402G	Electronic Instrumentation and Measurements	(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/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)
RAS/RM 695	Research in the Health-Related Radiation Sciences	(2)
RAS 710	Radiation Science Seminar	(1)
RM/BIO 740	Mammalian Radiation Biology	(2)

**TOTAL CREDIT HOURS** **30**

### Available Electives (Partial Listing)

RM 660	Graduate Practicum in Radiation Medicine	(1-6)
RAS/RM 650	Brachytherapy Physics	(2)
RM 842	Radiation Oncology	(1)
RM 848	Practicum in Brachytherapy Physics	(1-3)
RM 849	Practicum in External Beam Therapy Physics	(1-6)
EE 630	Digital Signal Processing	(3)
EE 635	Image Processing	(3)

### GRADUATE COURSES

PHY402G	ELECTRONIC INSTRUMENTATION AND MEASUREMENTS (SAME AS EE 402G)	(3)
RM 472G	INTERACTION OF RADIATION WITH MATTER (SAME AS PHY 472G)	(3)
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 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 650	BRACHYTHERAPY PHYSICS (SAME AS RM 650)	(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	(1)
RM 660	GRADUATE PRACTICUM IN RADIATION MEDICINE	(1-6)
RM 740	MAMMALIAN RADIATION BIOLOGY (SAME AS BIO 740)	(2)
EE 630	DIGITAL SIGNAL PROCESSING	(3)
EE 635	IMAGE PROCESSING	(3)

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## REHABILITATION COUNSELING

The Graduate Program in Rehabilitation Counseling in the Department of Early Childhood, Special Education, and Rehabilitation Counseling offers both a Master's and doctoral degree in Rehabilitation Counseling. For application procedures, please go to the Graduate School web site (<http://www.gradschool.uky.edu/>) and follow the directions for the Apply Yourself application. This electronic application incorporates the program and Graduate School application process.

### Master's Degree in Rehabilitation Counseling

The master's 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 fully accredited by the Council on Rehabilitation Education (CORE) and fulfills national certification requirements in Rehabilitation Counseling. Program graduates are eligible to sit for the Rehabilitation Counseling Certification (CRCC) Examination, state licensure as a Professional Counselor (LPC), and other national and state certifications.

The program trains students to understand the physical, psychological, social, cultural, global, and economic factors affecting persons with disabilities, and to provide counseling for people with disabilities in a wide variety of professional settings. Rehabilitation Counseling is among the fastest growing professions. Rehabilitation Counselors are professional counselors who provide and coordinate services to persons with emotional, physical, neurological, learning, and developmental disabilities that may interfere with productive functioning, quality of life, 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.

The Master's program is offered on campus and via on line web based instruction for employed rehabilitation professionals. These two programs are equivalent with regard to content and student learning outcomes and can be completed in the same timeframe. Please contact the Program Coordinator regarding eligibility requirements for the on line program.

Emphasis is placed on social justice, severe disability and its consequences, independent living, job development and placement, human growth and development, the provision of services in rural communities, technology, business and industry, and consumer issues and rights. Graduates of the program are employed in a wide range of public and private Rehabilitation Counseling, health, educational, mental health, and human service settings. Students interested in obtaining a terminal degree in

Rehabilitation Counseling following the completion of their master's degree are encouraged to apply to the doctoral program, described below.

Students who express an interest in employment in public rehabilitation are eligible for a federal personnel preparation scholarship, when available. 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 and University Scholars Program in conjunction with Kentucky State University facilitate the enrollment of persons from culturally diverse backgrounds. An 18-hour certificate program for employed rehabilitation professionals desiring the Certified Rehabilitation Counseling designation has recently been approved. Please contact the Program Coordinator for more information about this new certificate and eligibility requirement.

### **Master's Program Admission Requirements**

The Rehabilitation Counseling master's 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, 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. Students are admitted for the fall, spring, or summer semesters. Admission requirements are the same for the campus and on line programs except that we do not admit online distance learning students in the summer semester but do admit campus students in the summer.

### **Master's Program Requirements**

Course and fieldwork total a minimum of 48 credit hours if the student has a bachelor's degree in Rehabilitation Counseling 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. Campus 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 for practicing rehabilitation counselors on a web-based distance education basis.

### **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 20 hours of graduate study. The decision to advance to fieldwork includes successful completion of the admission to fieldwork 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) or S grades. Any E grades must also be cleared with a regular letter grade prior to beginning fieldwork. Students must also be in good academic standing in order to begin fieldwork.

## **Field Work**

The first fieldwork component is a three-credit practicum, which consists of 200 clock hours of supervised experience in Rehabilitation Counseling or rehabilitation-related setting, a weekly seminar, and individual supervision. 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 successfully pass the fieldwork examination 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 who are federal Rehabilitation Services Administration Scholars must do their fieldwork in a public rehabilitation agency and must obtain employment in a public rehabilitation program or an agency or program that provides services to the state federal program.

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. Students also have the option of using the Certified Rehabilitation Counselor examination as their final program exam.

Program of Studies and Sequence of Courses: Master's Program\*

### **Fall Semester (First Year)**

RC 515 Medical & Psychosocial Aspects I (3)  
RC 520 Principles of Rehabilitation (3)  
RC 525 Human Growth, Disability, & Development Across the Lifespan (3)  
RC 530 Cultural Diversity in Rehabilitation (3)  
RC 650 Rehabilitation Counseling Theories and Techniques I (3)

### **Spring Semester (First Year)**

RC 516 Medical & Psychosocial Aspects II (3)  
RC 610 Case Management in Rehabilitation (3)  
RC 620 Vocational Evaluation and Work Adjustment (3)  
RC 660 Rehabilitation Counseling Theories and Techniques II (3)  
RC 750 Rehabilitation Counseling Research and Program Evaluation (3)

### **Intersession (First Year)**

RC 558 Special Topics: (Mental Health/Psychopharmacology, Ethics) (1)

RC 640 Rehabilitation in Business and Industry (3)

**RC 680 Mental Health Diagnosis and Treatment Planning (3)**

### **Summer Session (First Year)**

RC 560 Supported Employment/Independent Living/Transition (3)

RC 630 Placement Services and Techniques (3)

RC 710 Practicum in Rehabilitation\*\* (3)

### **Fall Semester (Second Year)**

RC 540 Rehabilitation in Alcoholism and Drug Dependency (3-elective)

RC 670 Group and Family Rehabilitation Counseling (3)

RC 730 Internship in Rehabilitation\*\* (9)

### **Other Rehabilitation Counseling Courses**

RC 517 Assistive Technology in Special Education and Rehabilitation Counseling (3)

RC 558 Mental Health Diagnosis (3)

RC 782 Directed Independent Study (1-3)

RC 711: Doctoral Seminar in Rehabilitation Counseling (3)

RC 740: Doctoral Seminar: Administration, Supervision & Program Evaluation in Rehabilitation Counseling (3)

RC 760: Contemporary Practices in Rehabilitation Counseling (3)

RC 735: Methods for Teaching and Conducting Research in Rehabilitation Counseling (3)

\*A separate rotating sequence of courses is offered for students enrolled in the program through Distance Learning.

\*\*RC 710 and 730 (Practicum and Internship) are offered every semester for part-time students.

## **Doctoral Rehabilitation Counseling Education, Research, & Policy Program**

The Rehabilitation Counseling Doctoral Program offers a Departmental Ph.D. degree with a formal option in **Rehabilitation Counseling Education, Research, and Policy**. The doctoral program is campus-based (not offered on-line). We have carefully designed our doctoral curriculum to meet the needs of students who are preparing for careers in rehabilitation counselor education, research, and administration. Our students complete advanced doctoral seminars in rehabilitation counseling research, psychosocial aspects of chronic illnesses and disability, rehabilitation counseling theory, professional rehabilitation counseling issues, and rehabilitation administration and policy. In these courses, students explore a wide range of psychosocial, societal, and international perspectives on disability and rehabilitation counseling. In addition to the rehabilitation counseling professional seminars, doctoral students complete coursework in the following areas:

1. **A Rehabilitation Counseling core (21 hours)**, including coursework in college and university teaching, grant writing, practicum experiences in university teaching, and dissertation residency;
2. **A Rehabilitation Counseling area of emphasis core (15 hours)** (rehabilitation counseling professional seminars, described above);
3. **A thematic support area from outside the departmental area of emphasis (15 hours)**, including interdisciplinary coursework consisting of courses from outside the department, such as: Psychology, Rehabilitation Sciences, Educational and Counseling Psychology, Social Work, Sociology, Communication Disorders, or other areas, designed to develop the student's expertise in a focused area of rehabilitation counseling research, and typically this core directly relates to the student's dissertation topic;
4. **A research block (21 hours)**, including course work in statistical methods, quantitative research methods, qualitative research methods, and mixed method approaches, and research internships.

Each student's program of studies is planned and supervised by an Advisory Committee consisting of 4 individuals, including the student's major professor and two other members from the Department. The remaining member represents the student's outside support area.

Upon completion of the prescribed coursework, students are examined to evaluate their preparedness to be advanced to candidacy for the Doctor of Philosophy degree. The basis of this evaluation is completion of a qualifying examination administered by the student's Advisory Committee.

## Doctoral Program Admissions Requirements

Applicants are required to have an undergraduate GPA of at least 2.75; a Master's Degree in Rehabilitation Counseling or a related field with a grade point average of at least 3.5; a minimum of one year (at least two preferred) of experience in Rehabilitation Counseling or a related field. The GRE is required but is used along with other information in making an admission recommendation. However, for advisory purposes GRE scores on the quantitative and verbal reasoning sections in the 50% percentile are competitive with other applicants.

In addition, applicants are required to submit at least four (4) positive recommendations attesting to the candidate's ability as a professional with potential for success in doctoral study; a statement of the applicant's objectives for completing a doctoral program; a brief autobiographical statement; and a sample of the applicant's academic and/or professional writing.

Program of Studies and Sequence of Courses: Doctoral Program\*

### A typical course sequence is as follows:

#### Graduate Core:

1. Coursework from Professional Seminars in Advanced Rehabilitation Counseling may include:
  - **RC 740** Administration, Supervision, & Program Evaluation in Rehabilitation Counseling
  - **RC 735** Advanced Methods for Teaching and Conducting Research in Rehabilitation Counseling
  - **RC 711**: Advanced Seminar in Rehabilitation Counseling
  - **RC 760**: Contemporary Practices in Rehabilitation Counseling
  - **RC 715**: Advanced Seminar in Psychosocial Aspects of Chronic Illness and Disability

- **RC 770:** Advanced Seminar in Rehabilitation Counseling Theory, Practice, and Education
2. **EDS 701 / RC 701 / IEC 701:** Seminar for Leadership Personnel (1 credit each, 4 semesters) (4)
  3. **EDS 712 / RC 712 / IEC 712:** Seminar in Professional Services (3)
  4. **EDS 720 / RC 720 / IEC 720:** Seminar in Personnel Preparation (3)
  5. **EDS 721 / RC 721 / IEC 721:** Practicum in Personnel Preparation (3-9)
  6. **EDS 767 / RC 767 / IEC 767:** Dissertation Residency Credit ( $\geq 4$ ). EDS 767 is taken for a minimum of two credits per semester for two semesters (excluding summer terms) after successful completion of the qualifying examination.

**Rehabilitation Counseling Area of Emphasis (15 credits)**

**Thematic Support Area (15 credits)**

**Research Tools (21 credits)**

**Candidacy Requirements**

Upon completion of the prescribed coursework, students are examined to evaluate their preparedness to be advanced to candidacy for the Doctor of Philosophy degree. The basis of this evaluation is completion of a qualifying examination administered by the student's Advisory Committee.

**Practicum Experiences**

Practicum experiences are required of all doctoral students. As with the didactic portion of the curriculum, practica are planned according to the individual backgrounds and needs of each student. Students work with their Advisory Committee to determine the type and duration of these experiences. Students usually have several practica experiences. For example, a student may teach a campus-based rehabilitation counseling graduate course, supervise Master's student's completing their fieldwork requirements, and teach a distance learning rehabilitation counseling graduate course.

**Professional Involvement**

We encourage and support student's professional development, with an emphasis on participation in the rehabilitation counseling profession at the national level through research, publication, and participation in national conferences and leadership opportunities in our national and regional rehabilitation counseling professional associations. We provide support to our students through research grants and teaching assistantships, and a number of funding opportunities that are available to our doctoral students through our graduate school.

**GRADUATE COURSES**

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 670	GROUP AND FAMILY REHABILITATION COUNSELING	(3)
RC 680	MENTAL HEALTH DIAGNOSIS AND TREATMENT PLANNING	(3)
RC 710	PRACTICUM IN REHABILITATION COUNSELING	(3)
RC 711	SEMINAR IN ADVANCED REHABILITATION COUNSELING	(1-3)
RC 715	ADVANCED SEMINAR IN PSYCHOSOCIAL ASPECTS OF CHRONIC ILLNESS AND DISABILITY	(1-3)
RC 730	INTERNSHIP IN REHABILITATION COUNSELING	(3-9)
RC 735	ADVANCED METHODS FOR TEACHING AND CONDUCTING RESEARCH IN REHABILITATION COUNSELING: FROM THEORY TO PRACTICE	(1-3)
RC 740	ADMINISTRATION, SUPERVISION AND PROGRAM EVALUATION IN REHABILITATION COUNSELING	(1-3)
RC 750	REHABILITATION RESEARCH	(1-3)
RC 760	CONTEMPORARY ISSUES IN REHABILITATION	(1-3)
RC 770	ADVANCED SEMINAR IN REHABILITATION THEORY, PRACTICE AND EDUCATION	(1-3)
RC 782	DIRECTED INDEPENDENT STUDY	(1-3)

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## REHABILITATION SCIENCES

The Divisions of Athletic Training, Communication Sciences and 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 prepares scholars and scientists in rehabilitation science to teach at the university level, direct discipline specific educational programs, work in rehabilitation services field and collaborate with other professionals on 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. Program application materials can be obtained from [www.mc.uky.edu/rehabsciences](http://www.mc.uky.edu/rehabsciences). An interview is strongly encouraged and may be scheduled after your application has been reviewed by RHB faculty.

## Area of Specialization

Students in the Program have the unique opportunity to study with professionals from all four 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. Individuals not eligible for licensure will be considered on an exceptional basis.

## 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)

### 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 Coursework**	(min of 6-9 credits)
Cognate Coursework**	(min of 6-9 credits)

*\*\* Combined Discipline Specific and Coursework must equal a minimum of 15 credits with no less than 6 credits in one area and 9 credits in the other area.*

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 767 Residence Credit for the Doctoral Degree (4)  
(2 Credits per semester for a maximum of 5 years)

For Additional Information, contact:

Anne Olson, PhD, CCC-A  
Director of Graduate Studies  
Rehabilitation Sciences Doctoral Program  
University of Kentucky  
Charles T. Wethington Jr. Building  
900 S. Limestone  
Lexington, KY 40536-0200  
859.218.0572

Occupational Therapy courses are available through our partnership with the Department of Occupational Therapy at Eastern Kentucky University.

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## **REPRODUCTIVE SCIENCES**

***This program is not currently admitting students.***

The Division of Clinical and Reproductive Sciences offers a Ph.D. in Reproductive Sciences, a Master of Science degree in Clinical Sciences (Reproductive Laboratory Science track: RLS), and a Graduate Certificate in Reproductive Laboratory Science. Applications for all programs must be submitted to both the University of Kentucky (UK) Graduate School and the UK College of Health Sciences Reproductive Sciences Graduate Program.

### **Ph.D. in Reproductive Sciences**

The Ph.D. Program in Reproductive Sciences is designed for students wishing to pursue academic and/or professional careers in the reproductive sciences. The Reproductive Sciences Ph.D. is unique in that students preparing for careers in assisted reproductive technology have the option of completing clinical courses and practica to fulfill requirements for a Graduate Certificate in Reproductive Laboratory Science. The Ph.D. program does not have a fixed time course. Time for completion will depend on the progress of individual students. It is anticipated that a student with a bachelor degree in science would complete the

Ph.D. program in four to five years. Students electing to complete the Graduate Certificate in Reproductive Laboratory Science should expect to extend time in the program by two semesters.

## Admission Requirements

Minimum Criteria for Application for Admission include:

- A genuine desire to complete graduate work and basic research in reproductive science leading to a professional career in a research and/or clinically based field in reproduction
- Bachelor's degree in science from an accredited university that includes the following courses:
  - Biology (2 semesters)
  - Physiology (1 semester)
  - Chemistry (2 semesters)
  - Organic Chemistry (2 semesters)
  - Physics (1 semester)
  - Statistics (1 semester)
- A minimum cumulative GPA of 3.0 on a 4.0 scale and a minimum GPA of 3.0 for any graduate work completed
- GRE taken within the past three years with a combined minimum score of 1000 on the verbal and quantitative sections and a 3.5 on the analytical portion
- International applicants from non-English speaking areas must complete a TOEFL examination with a score of 550 (paper) or 213 (computerized), or 79 (Internet-based). Minimum IELTS score is 6.5
- Ability to meet the Technical Standards established by the UK College of Health Sciences and the Reproductive Sciences Program
- Three professional letters of recommendation
- Interview with members of the graduate faculty of the Reproductive Sciences Graduate Program.

## Degree Requirements

IBS 601	Biomolecules and Metabolism	(3)
IBS 603	Cell Biology	(3)
STA 570	Statistics	(4)
CSC 789	Research Apprenticeship	(3)
CSC 602	Seminar	(2)
IBS 602	Biomolecules and Molecular Biology	(3)
CSC 600	Pathophysiology	(4)
CSC 604	Research Methods	(4)
CSC 790	Pre-qualifying Research	(11)
RSC 700	Mammalian Reproduction	(3)
RSC 701	Advanced Reproductive Immunology	(3)
RSC 702	Molecular Reproduction	(3)
RSC 703	Biology and Therapy of Reproductive Cancers	(3)
CSC 763	Flow Cytometry	(3)
CSC 767	Dissertation Research	(2)

(each remaining semester following successful completion of the qualifying examination.)

Additional science courses will be recommended by student's Graduate Committee. Refer to [www.mc.uky.edu/CLS/RLS.PhD.htm](http://www.mc.uky.edu/CLS/RLS.PhD.htm) for sample schedules.

## Master of Science - Reproductive Laboratory Science

The Master's degree is a clinically focused curriculum consisting of a minimum of 31 hours of didactic and laboratory work followed by clinical practica in assisted reproductive technology (ART) affiliate laboratories. The Master of Science degree, along with acceptable experience, prepares the graduate for supervisory and advanced technical positions in ART and related fields in research, industry, and marketing. Degree requirements may be completed in *one* calendar year.

### Admission Requirements

Minimum Criteria for Application for Admission include:

- Bachelor's degree in science or clinical laboratory science from an accredited university with a minimum GPA of 2.75 on a 4.0 scale
- GRE taken within the past three years with a combined minimum score of 1000 on the verbal and quantitative portions
- International applicants from non-English speaking areas must complete a TOEFL examination with a score of 550 (paper) or 213 (computerized), or 79 (Internet-based). Minimum IELTS score is 6.5
- Ability to meet the Technical Standards established by the College of Health Sciences and the Reproductive Sciences Program
- Three professional letters of recommendation
- Interview with members of the graduate faculty of the Reproductive Sciences Graduate Program

### Degree Requirements

Selected Science courses	(3) minimum
CSC 600 Human Pathophysiology	(4)
STA 570 Statistics	(4)
CSC 528 Laboratory Techniques*	(2)
CSC 615 Reproductive Laboratory Science	(1)
CSC 616 Andrology	(1)
CSC 617 Reproductive Microbiology and Immunology	(1)
CSC 618 Labs in Andrology, Reproductive Microbiology & Immunology	(1)
CSC 621 Embryology and Assisted Reproductive Technology	(3)
CSC 624 Gamete and Embryo Cryopreservation	(2)
CSC 625 Policy, Management, Ethical, and Legal Issues in Assisted Reproduction	(2)
CSC 628 RLS Seminar	(1)
CSC 630 RLS Research	(1-5)
CSC 626 Andrology Clinical Practicum	(2)
CSC 627 Embryology Clinical Practicum	(3)

\*not required for Clinical Laboratory Science graduates.

## Graduate Certificate - Reproductive Laboratory Science

The Graduate Certificate in Reproductive Laboratory Science is a 14-16 hour curriculum that prepares graduates for entry level technologist positions in assisted reproductive technology and related fields in research, industry, and marketing. Degree requirements may be completed in approximately 7-8 months.

### Admission Requirements

Minimum Criteria for Application for Admission include:

- Bachelor's degree in Clinical Laboratory Science or a Bachelor degree in science with acceptable laboratory experience
- Admission to the Graduate School, including minimum GPA for post-baccalaureate status
- Ability to meet the Technical Standards established by the College of Health Sciences and the Reproductive Sciences Program
- Three professional letters of recommendation
- Interview with members of the graduate faculty may be required

### Graduate Certificate Requirements

CSC 528	Laboratory Techniques*	(2)
CSC 615	Reproductive Laboratory Science	(1)
CSC 616	Andrology	(1)
CSC 617	Reproductive Microbiology and Immunology	(1)
CSC 618	Labs in Andrology, Reproductive Microbiology & Immunology	(1)
CSC 621	Embryology and 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	Embryology Clinical Practicum	(2)

\*not required for Clinical Laboratory Science graduates.

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## SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

The mission of the Department of Science, Technology, Engineering, and Mathematics (STEM) Education is to engage in innovative scholarship, teaching, and service that contributes to improving the quality of P20 science, technology, engineering, and mathematics education in the Commonwealth, the nation, and the world. Faculty members in the department are committed to improving the lives of Kentuckians through scientific literacy, mathematical literacy, and technological literacy from preschool through graduate school

and beyond. Faculty members have expertise in a diverse spectrum of specialties relating to research, teaching, and service in STEM Education, and have developed curricula that are widely disseminated locally and nationally. They conduct research on STEM Education issues, conceptual understanding in STEM education, curriculum implementation and teacher professional development. In addition, faculty members have developed a variety of novel courses in STEM Education to foster problem solving, critical thinking, and innovation in STEM Education. The department offers both master and doctoral programs in STEM Education with the flexibility of focusing on a specific discipline (i.e., mathematics education, science education), or a broader focus on STEM Education.

## Master of Science

The Master of Science in STEM Education is designed for outstanding professionals in education and STEM fields seeking to broaden their knowledge in STEM Education and/or to develop expertise in teaching and research in STEM Education. The Master of Science program includes 30 credit hours of coursework across the following spectrum: (1) 12 credit hours in STEM Education emphasizing pedagogies and the history of STEM Education, (2) 12 credit hours in a STEM content area or a broader focus on STEM or STEM Education, (3) and 6 credit hours in a leadership or research with many options to fit candidates' varied needs and areas of interest. The Master of Science program is a Plan A option requiring a thesis on a particular area of interest within STEM education.

## Admission Requirements

The Master of Science program has a revolving deadline. Applicants planning to begin coursework in the summer or fall semester must apply no later than April 1. Applicants planning to begin coursework in the spring semester must submit completed applications by November 1. Requirements for the program include a minimum undergraduate GPA of 2.75, and minimum graduate GPA of 3.0. Materials required for application to the program include a completed Graduate School application for the Master of Science in STEM Education (see <http://education.uky.edu/STEM/content/msse-application-form>). In addition, official transcripts for all post secondary coursework must be submitted to the Graduate School along with GRE scores for verbal, quantitative, and analytical writing, three letters of recommendation, and a short statement about the applicant's career goals and interests. Contact the Director of Graduate Studies in STEM Education for more details on the program.

## Doctor of Philosophy

The Department of STEM Education offers a PhD program through the Education Sciences Interdisciplinary PhD. For more information, see the information on Education Sciences in the Graduate Bulletin or contact the Director of Graduate Studies or Department chair for the Department of STEM Education.

## GRADUATE COURSES

SEM 575	SEE BLUE MATHEMATICS CLINICS	(3)
SEM 603	CURRICULUM AND INSTRUCTION IN STEM EDUCATION	(3)
SEM 604	HISTORY OF STEM EDUCATION	(3)
SEM 610	TEACHER LEADERSHIP IN STEM EDUCATION	(3)

SEM 613	EFFECTIVE USE OF TECHNOLOGY FOR MODELING-BASED INQUIRY IN STEM EDUCATION	(3)
SEM 620	EQUITY IN STEM EDUCATION	(3)
SEM 634	SCIENCE PEDAGOGY IN THE SECONDARY SCHOOL	(3)
SEM 670	ADVANCED ELEMENTARY MATHEMATICS METHODS	(3)
SEM 674	ADVANCED STUDIES IN TEACHING ELEMENTARY SCHOOL SCIENCE	(3)
SEM 701	HISTORY OF MATHEMATICS EDUCATION	(3)
SEM 702	THEORETICAL FOUNDATIONS IN MATHEMATICS EDUCATION	(3)
SEM 703	ADVANCED RESEARCH IN MATHEMATICS EDUCATION	(3)
SEM 704	DESIGNING PROJECT-ENHANCED ENVIRONMENTS IN STEM EDUCATION	(3)
SEM 706	RESEARCH IN STEM EDUCATION	(3)
SEM 708	ENGINEERING IN STEM EDUCATION	(3)
SEM 746	SUBJECT AREA INSTRUCTION IN THE SECONDARY SCHOOL	(3)
SEM 748	MASTERS THESIS RESEARCH	(0)
SEM 767	DISSERTATION RESIDENCY CREDIT	(2)
SEM 770	SPECIAL TOPICS IN STEM EDUCATION	(3)
SEM 781	INDEPENDENT STUDY IN STEM EDUCATION	(3)

## **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. 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 either for the Community and Social Development or Clinical Social Work concentrations and students complete six 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 21 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 members 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 511	GENOCIDE: INTERVENTION WITH SURVIVORS AND GLOBAL PREVENTION(	(3)
SW 512	SOCIAL WORK IN THE CRIMINAL JUSTICE SYSTEM	(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 571	SOCIAL WORK AND THE LAW	(3)
SW 580	TOPICAL SEMINAR IN SOCIAL WORK	(2-4)
SW 600	THEORY-INFORMED PRACTICE WITH INDIVIDUALS	(3)
SW 601	THEORY -INFORMED PRACTICE WITH FAMILIES	(3)

SW 602	THEORY-INFORMED PRACTICE WITH GROUPS	(3)
SW 603	SOCIAL WORK PRACTICE WITH CHILDREN AND YOUTH	(2)
SW 606	SEMINAR IN CRIMINAL JUSTICE PROCESSES	(2)
SW 612	SEMINAR ON SOCIAL WORK PRACTICE WITH WOMEN	(2-3)
SW 613	URBAN ECOLOGY AND AGING	(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 624	PERSPECTIVES ON HUMAN SEXUALITY (SAME AS FAM 624)	(3)
SW 626	FORENSIC MENTAL HEALTH: EVALUATION AND TREATMENT	(2-3)
SW 627	COLLABORATIVE PRACTICE: SUBSTANCE ABUSE, MENTAL HEALTH AND SOCIAL SERVICES	(2-3)
SW 630	INTRODUCTION TO SOCIAL WELFARE POLICY	(3)
SW 635	INTRODUCTION TO PROFESSIONAL ETHICS	(2)
SW 640	FOUNDATION PRACTICUM	(3)
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 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 718	CLINICAL DECISION-MAKING	(3)
SW 720	SOCIAL WORK PERSPECTIVES ON HUMAN AND CULTURAL DIVERSITY	(2)
SW 721	POVERTY AND INEQUALITY	(3)
SW 722	PSYCHOPATHOLOGY FOR SOCIAL WORK PRACTICE	(3)
SW 724	ASSESSMENT AND TREATMENT PLANNING	(3)
SW 726	PSYCHOPATHOLOGY II	(3)
SW 728	COMPARATIVE TREATMENT MODALITIES	(3)
SW 730	EVIDENCE-BASED PRACTICES	(3)
SW 731	ADVANCED SOCIAL WELFARE POLICY AND ANALYSIS	(3)
SW 733	COMMUNITY-INFORMED ORGANIZATIONAL INTERVENTIONS	(3)
SW 734	INTEGRATIVE SEMINAR FOR CLINICAL SOCIAL WORK	(3)
SW 735	INTEGRATIVE SEMINAR FOR COMMUNITY AND SOCIAL DEVELOPMENT	(3)
SW 737	NON-PROFIT MANAGEMENT IN HUMAN SERVICES	(3)
SW 740	CLINICAL SOCIAL WORK PRACTICUM I	(3)
SW 741	COMMUNITY AND SOCIAL DEVELOPMENT PRACTICUM I	(3)
SW 742	CLINICAL SOCIAL WORK PRACTICUM II	(3)
SW 743	COMMUNITY AND SOCIAL DEVELOPMENT PRACTICUM II	(3)
SW 749	DISSERTATION RESEARCH	(0)
SW 750	CLINICAL SOCIAL WORK ADVANCED RESEARCH	(3)
SW 751	COMMUNITY AND SOCIAL DEVELOPMENT ADVANCED RESEARCH	(3)
SW 767	DISSERTATION RESIDENCY CREDIT	(2)
SW 769	RESIDENCY 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 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 & Deviance; Global Work & Politics; Rural, Community & Environmental Sociology; Health & Medical Sociology; and Social Inequalities. In addition to the two specialization areas, doctoral students must demonstrate competence in theory and methods on the comprehensive assessment examination prior to taking the qualifying examination on their specialization areas.

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, Food, & Environment), 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 African American and Africana Studies, Appalachian Center and Appalachian Studies, the Center for Research on Violence Against Women, Sanders-Brown Center on Aging, Prevention Research Center, Center on Drug and Alcohol Abuse, Center for Poverty Research, the Quantitative Initiative for Policy and Social Research, Committee on Social Theory, International Studies, and Gender and Women's Studies. Assistantships and traineeships are also available to qualified sociology graduate students through these centers and programs.

## Admission Requirements

The percentile rankings of the three components of the Graduate Record Examination (GRE) must average (mean) at least 50 percent. The following additional materials are required to apply for admission to the graduate program in Sociology, and should be sent directly to the Graduate School's ApplyYourself site. Any inquiry on the program requirements and the admission process should be directed to: 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.
- 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 at: <https://soc.as.uky.edu/sites/default/files/application.pdf>.

## GRADUATE COURSES

SOC 517	RURAL SOCIOLOGY	(3)
SOC 534	THE SOUTHERN APPALACHIANS: A SOCIOLOGICAL INTERPRETATION (SAME AS ANT 534)	(3)
SOC 535	STUDIES IN SOCIAL INEQUALITIES (SUBTITLE REQUIRED)	(3)
SOC 539	ADVANCED TOPIOCs IN CRIME, LAW AND DEVIANCE (SUBTITLE REQUIRED)	(3)
SOC 541	ADVANCED TOPICS IN WORK, ORGANIZATION AND ECONOMY (SUBTITLE REQUIRED)	(3)
SOC 543	ADVANCED TOPICS IN POLITICAL SOCIOLOGY (SUBTITLE REQUIRED)	(3)
SOC 550	ADVANCED TOPICS IN SOCIOLOGY (SUBTITLE REQUIRED)	(3)
SOC 565	INDEPENDENT WORK	(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 653	FAMILY THEORY (SAME AS FAM 653)	(3)
SOC 661	SOCIOLOGY OF EDUCATION (SAME AS EPE 661)	(3)
SOC 665	PROGRAM DEVELOPMENT AND EVALUATION (SAME AS CLD 665)	(3)
SOC 675	COMMUNITY DEVELOPMENT AND LEADERSHIP COMMUNICATIONS (SAME AS CLD 675)	(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 684	FARMING SYSTEMS RESEARCH METHODS (SAME AS ANT 684)	(3)
SOC 685	COMMUNITY DEVELOPMENT THEORY AND PRACTICE (SAME AS CLD 685)	(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 751	SEMINAR IN SOCIOLOGICAL THEORY	(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)

## SOIL SCIENCE

**Note:** Admission to this program was suspended after fall 2011. It has been replaced by the PhD Program in Integrated Plant and Soil Sciences (IPSS). See the Bulletin Description for IPSS for more details. Students currently matriculating in this graduate program should consult the 2010-2011 version of the Graduate Bulletin for applicable guidelines.

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 NRC 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 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 581	CHEMICAL ANALYSIS OF SOILS AND PLANTS	(3)
PLS 597	SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (SUBTOPIC REQUIRED)	(1-3)
PLS 599	SPECIAL PROBLEMS IN PLANT AND SOIL 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 SCIENCES (METHODS IN PEDALOGY AND MINERALOGY)	(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 749	DISSERTATION RESEARCH	(0)
PLS 767	DISSERTATION RESIDENCY CREDIT	(2)
PLS 772	PLANT AND SOIL SCIENCE SEMINAR	(1)
PLS 799	RESEARCH IN PLANT AND SOIL SCIENCE	(1-4)

## SPECIAL EDUCATION

Students may enroll for either degree and/or certification graduate programs in the Department of Early Childhood, 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. Students seeking initial or additional certification at the graduate level in Moderate/Severe Disabilities are eligible for a Temporary Provisional Teacher Certification through the alternate certificate program. Certification in Learning and Behavior Disorders at the graduate level is also available to those who already hold a teaching certificate in another area.

An advanced program of study (i.e., not initial certification programs) leading to the Special Education Teacher Leader master's degree for a Rank II are available with tracks of focus in the following areas:

1. Learning and Behavior Disorders
2. Moderate/Severe Disabilities
3. Assistive Technology

The degree programs that are offered lead to the Master of Science in Special 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)
<b>TOTAL</b>	<b>(30)</b>

It should be noted that these are minimum requirements. Program deficiencies may result in programs of study that exceed the minimum. **Program faculty or 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 thesis hours). All students also are required to take the following courses:

Applied Behavioral Analysis, Behavioral Consultation in the Schools, Methods for Teaching Students with Disabilities, Single Subject Research Design, an advanced curriculum course, Leadership in Special Education, 9 hours in their respective program areas, and 2 – 5 hours in designated leadership coursework. 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 an application to the Graduate School and the program. This combined application can be found on the Graduate School website and is an electronic application called Apply Yourself.

This application requires each student to submit (a) transcripts from each previously attended institution of higher education to the department, (b) letters of recommendation, (c) the Graduate Record Examination, and (d) 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 maybe 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 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 634	LEADERSHIP IN SPECIAL EDUCATION	(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.

Both, the M.S. and the Ph.D. program offer a Mathematical Statistics track, as well as a Biostatistics track. The latter tracks are designed for students who envision a future at the interface of Statistics and the Life Sciences.

Course work is available in areas associated with statistics such as biological modeling, probability, inference, experimental design and analysis, computational statistics, nonparametric methods, Bayesian analysis, mixed modeling, clinical trials, and many other selected topics of the student's choice.

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 must have successfully completed a three or four semester sequence in calculus and a course in linear algebra and have good communication skills. In addition, all Ph.D. applicants must have mastered 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.

Please see the departmental website for up-to-date information and answers to frequently asked questions about the admissions process.

## Master's Program

The Statistics Department offers the degree of Master of Science with (Plan A) or without (Plan B) a thesis, and in two different tracks: a Mathematical Statistics track and a Biostatistics track.

### Shared Core (Required for all students)

- STA 602 (4) Introduction to Statistical Methods
- STA 603 (4) Introduction to Linear Models and Experimental Design
- STA 605 (3) Computational Inference
- STA 606 (3) Theory of Statistical Inference I
- STA 623 (3) Theory of Probability
- STA 632 (3) Longitudinal Data Analysis

### Mathematical Statistics Track

Curriculum requirements for the Mathematical Statistics track are the shared core courses above, plus the following courses:

- STA 607 (3) Theory of Statistical Inference II
- STA 624 (3) Applied Stochastic Processes
- STA 643 (3) Advanced Experimental Design

### Biostatistics Track

Curriculum requirements in the Biostatistics track are the shared core courses above, plus:

- STA 635 (3) Survivability and Life Testing
- STA 653 (3) Clinical Trials
- STA 665 (3) Analysis of Categorical Data
- STA 693 (2) Biostatistical Practicum, 1 unit course in each of the two semesters in the second year

Programs of study for Plan B require a total of at least 35 semester hours. Students will typically fulfill this requirement by taking electives (additional courses besides the shared core and track requirements) in the Fall and Spring of their second year. Programs of study for Plan A (with thesis) require a total of at least 29 semester hours which are satisfied by either of the two course lists above.

The electives can be selected from the menu of courses listed below. 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.

### Comprehensive Exams

All master's candidates are required to pass a comprehensive departmental written examination on the content of the courses STA 602, STA 603, STA 605, STA 606, and STA 623. This examination is normally

administered in late May/early June. It is truly comprehensive also in the sense that all parts must be taken together: If a student decides not to take a part of the examination, that part is automatically counted as failed. Students taking the comprehensive exam will receive either a pass at the doctoral level, a pass at the master's level, or a failure. The examination may be repeated only once. Successful completion of the comprehensive examination at the doctoral level is required for admission into the PhD program.

### **Electives**

The electives may be chosen from any course in the following menu that is NOT used as a track requirement.

- MA 471G (3) Advanced Calculus I
- STA 607 (3) Theory of Statistical Inference II
- STA 612 (3) Sequential Analysis
- STA 616 (3) Design and Analysis of Sample Surveys
- STA 621 (3) Nonparametric Inference
- STA 624 (3) Applied Stochastic Processes
- STA 626 (3) Time Series Analysis
- STA 630 (3) Bayesian Inference
- CPH 631 (3) Design and Analysis of Health Survey
- STA 635 (3) Survivability and Life Testing
- CPH 636 (3) Data Mining in Public Health
- STA 643 (3) Advanced Experimental Design
- STA 644 (3) Advanced Linear and Nonlinear Models
- STA 653 (3) Clinical Trials
- STA 661 (3) Multivariate Analysis I
- STA 662 (3) Resampling and Related Methods
- CPH 664 (3) Design and Analysis of Clinical Trials
- STA 665 (3) Analysis of Categorical Data

Any course on this list NOT required for the chosen track may be used as an elective. Thus, for example, STA 665 would count as an elective for the Mathematical Statistics track, but it is a track requirement for the Biostatistics track. Similarly, STA 624 would be an elective for the Biostatistics track but is a track requirement for the Mathematical Statistics track.

\* A student who takes both STA 653 and CPH 664 may only receive credit towards the degree for one of these two courses.

## **Doctoral Program**

The core curriculum in statistics is designed to provide doctoral candidates with a firm foundation in probability theory, inference, and classical methodology. In addition, the theory and application of computational statistics, biostatistics, and state-of-the-art inferential procedures are an integral part of the core curriculum.

Students in the doctoral program in statistics will choose one of two areas of specialization, 1) mathematical statistics/probability or 2) biostatistics. The requirements for these areas of specialization are:

### **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 elective courses chosen by the student and approved by the DGS. These courses must be chosen from among STA 612, STA 616, STA 621, STA 624, STA 626, STA 630, STA 635, STA 643, STA 644, STA 653, STA 661, STA 662, STA 665, CPH 631, CPH 636, and CPH 664. STA 695 will also be considered on a case by case basis. If a student completes both STA702 and STA709, the student may choose their official track and count the non-required course as an elective. Note that STA715 (reading course) may not be used to satisfy elective requirements. Students must successfully complete a common written exam over STA 701 and STA 703 plus respective prerequisites.

\* A student who takes both STA 653 and CPH 664, may only receive credit towards the degree for one of these two courses.

Students must pass a uniform written exam over STA 701 and STA 703 plus respective prerequisites. This exam will normally be offered in January and students will usually sit for the written examination at the beginning of the Spring semester in the third year of the program. The uniform exam can be repeated once. After completion of tract course requirements and successful completion of the written exam, students must also successfully complete an oral qualifying exam which is scheduled through the Graduate School and administered by the student's advisory 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 <http://web.as.uky.edu/statistics/>.

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 a research assistantship working with researchers across campus.

## **GRADUATE COURSES**

STA 417G	PRINCIPLES OF OPERATIONS RESEARCH II (SAME AS MA 417G)	(3)
STA 422G	BASIC STATISTICAL THEORY II	(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 570	BASIC STATISTICAL ANALYSIS	(4)
STA 580	BIOSTATISTICS I	(3)
STA 600	COMMUNICATING IN STATISTICS	(0)
STA 602	INTRODUCTION TO STATISTICAL METHODS	(4)
STA 603	INTRODUCTION TO LINEAR MODELS AND EXPERIMENTAL DESIGN	(4)
STA 605	COMPUTATIONAL INFERENCE	(3)
STA 606	THEORY OF STATISTICAL INFERENCE I	(3)
STA 607T	HEORY OF STATISTICAL INFERENCE II	(3)
STA 612	SEQUENTIAL ANALYSIS	(3)
STA 616	DESIGN AND ANALYSIS OF SAMPLE SURVEYS	(3)
STA 621	NONPARAMETRIC INFERENCE	(3)
STA 623	THEORY OF PROBABILITY	(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 632	LONGITUDINAL DATA ANALYSIS	(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 (SAME AS BST713)	(3)
STA 661	MULTIVARIATE ANALYSIS I	(3)
STA 662	RESAMPLING AND RELATED METHODS	(3)
STA 665	ANALYSIS OF CATEGORICAL DATA (SAME AS BST763)	(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 681	BIOSTATISTICS II (SAME AS CPH630)	(3)
STA 690	SEMINAR IN STATISTICS	(1)
STA 691	SPECIAL TOPICS IN THE PLANNING AND ANALYSIS OF EXPERIMENTS	(1-3)
STA 692	STATISTICAL CONSULTING	(3)
STA 693	BIOSTATISTICAL PRACTICUM	(1-2)
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	(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 ENGLISH AS A SECOND LANGUAGE

The Department of Modern and Classical Languages, Literatures and Cultures offers a graduate program leading to the M.A. degree in Teaching English as a Second Language – MATESL (36 cr.). The general goal of graduate work in the program is to provide students with a quality teacher education program that will prepare candidates for a satisfying career in language teaching.

### Admission Requirements

Applicants for admission must first be approved by the Graduate School. They are then reviewed by the Director of the program in the department of Modern and Classical Languages, Literatures and Cultures, who consults with the MATESL Program Faculty Committee 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 samples, and the oral interviews, 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;
- personal statement of interest in language teaching
- an interview by the appropriate program faculty;
- demonstrated basic skills

Graduate school applications must be returned to the Graduate School Office.

## **Degree Requirements**

All candidates are required to meet the following set of learning outcomes. Candidates must:

### **I. Language & Learning**

1. demonstrate professional level knowledge of the English language, including English as a linguistic system and as a tool for social and cognitive functioning;
2. demonstrate knowledge of research in second language acquisition processes;
3. demonstrate knowledge of learning differences among students, including learning disabilities;
4. demonstrate the ability to inform teaching practices through the study of social learning and cognitive research and theories and the use of inquiry into specific teaching contexts.

### **II. Culture**

1. demonstrate knowledge of the major research and theories related to the nature and role of culture in instruction and learning;
2. demonstrate knowledge of a specific cultural context for ESL/EFL teaching;
3. demonstrate skill in inquiring into cultural groups, processes, and identities to support language development.

### **III. Planning, Implementing and Managing Instruction**

1. demonstrate the ability to create lesson plans and effectively implement them according to current educational research, concepts and “best practices;”
2. demonstrate an understanding that teaching involves relationship building with learners;
3. demonstrate knowledge of curriculum design, standards-based curricula and materials and strategies and techniques for classroom implementation;
4. demonstrate the ability to use technology as an effective resource in the classroom;
5. demonstrate the ability to differentiate instruction for the diverse learning needs of ESL/EFL students;

### **IV. Assessment**

1. demonstrate knowledge of various assessment instruments and issues as they affect ELLs;
2. demonstrate the ability to use standards-based assessment instruments to show language growth and inform instruction;
3. demonstrate the ability to inquire into students’ personal histories and linguistic, cultural and educational backgrounds in order to adapt instruction to learner needs.

### **V. Professionalism**

1. demonstrate knowledge of the history, research, public policy and current practices in the field of ESL teaching and apply this knowledge to inform teaching and learning;
2. demonstrate the characteristics of a “reflective practitioner,” through questioning and inquiry into their own teaching practices and using professional development opportunities;
3. demonstrate the ability to build partnerships with colleagues and students’ families, serve as a community resource, and advocate for ELLs;
4. demonstrate the ability to adhere to ethical standards for Kentucky educators

For further information concerning the MATESL program, consult the Program Director (email: [francis.bailey@uky.edu](mailto:francis.bailey@uky.edu)).



## The Portfolio

The successful submission of the TESL Professional Portfolio is the culminating requirement of the program. The portfolio has three core functions: 1) reflective tool for professional development; 2) advance an argument that you are a competent language teacher and have met the program TESL Standards; 3) document that you have met the requirements for the TESL MA Program.

## TESL KNOWLEDGE AREAS and GRADUATE COURSES

TESL Knowledge Areas	TESL Curriculum
<b>Language (12 cr.)</b>	MCL 575: Introduction to Linguistics for Teachers (3cr.)
	TSL 560: Literacy Development in the ESL Classroom (3 cr.)
	MCL 665: Second Language Curriculum & Assessment (3 cr.)
	TSL 675: English Grammar: Analysis & Pedagogy (3 cr.)
<b>Learning (9 cr.)</b>	MCL 517/LIN 517: Second Language Acquisition (3cr.)
	MCL 690: Culture, Cognition and L2 Language Learning (3 cr.)
	500/600 level course from Education (3 cr.)
<b>Pedagogy (15 cr.)</b>	MCL 510: L2 Teaching Methods: Young & Beg. Level Learners (3cr.)
	MCL 610: Second Language Teaching Methods: 9-12, Adult And Advanced Students
	TSL 697: ESL Teaching Internship (9 cr.)

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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 reviewed by the Director of 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 an 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;
- a score of at least 150 verbal, 143 quantitative, and 4 in analytic writing in each of the GRE areas, and a rating of 4 in the writing test
- 200 hours of documented experience with children 6 to 13 years of age and/or 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 1**.

### **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 PRAXIS II tests (both PLT and Language)
- a complete Portfolio.

## The Portfolio

The Kentucky EPSB 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 LANG: NOVICE LEARNERS	(3)
MCL 610	METHODS OF TEACHING WORLD LANG: ADV LEARNERS	(3)
MCL 601	TEACHING INTERNSHIP	(12)

### COLLEGE OF ARTS AND SCIENCES (SAMPLE LANGUAGE CONTENT COURSES)

CHINESE		
CHI 511	LITERARY CHINESE	(3)
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)
JAPANESE		
JPN 400G	TOPICS IN JAPAN STUDIES	(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	(3)
MODERN AND CLASSICAL LANGUAGES		
MCL 517	SECOND LANGUAGE ACQUISITION	(3)
MCL 650	TOPICS IN INTERCULTURAL TEACHING	(3)
MCL 690	CULTURE, COGNITION, & SECOND LANGUAGE	(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 an M.F.A. or Ph.D. program. Students are allowed a large degree of latitude in selecting classes, so the program can be tailored to an individual student's needs.

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 526	PLAYWRITING II	(3)
TA 530	THEATRE DIRECTING III	(3)
TA 584	ASIAN THEATRE	(3)
TA 587	GENDER IN PERFORMANCE	(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 660	ADVANCED STUDIES IN DESIGN (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 760	THEATRE PRACTICE: EFFECTIVE ARTISTIC COMMUNICATION	(3)
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. Our education mission is to provide students with an education in Toxicology that is based on an understanding of biochemistry, physiology, molecular/cell biology and metabolomics, coupled with in-depth research experience on the mechanisms by which specific agents induce toxicity, and/or the basic cellular processes upon which environmental agents impact to cause disease. The center has eighteen core as well as approximately 44 jointly-appointed faculty from departments and colleges across the campus, including Agriculture, Biochemistry, 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 Molecular Mechanisms of Toxicology, Cardiovascular Disease, Cancer, and Neurotoxicology with a focus on the role of oxidative stress and DNA damage and repair.

The GCT has been in existence for more than thirty years and has graduated more than 170 PhDs in Toxicology who have gone on to careers in academia, government, such as the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA), and in the pharmaceutical and chemical industry. The current student body consists of 23 predoctoral students and over 10 postdoctoral students. Each year, 4-5 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 transgenic mouse, macromolecular structure, mass spectrometry, nuclear magnetic resonance, proteomics, DNA microarray, and electron microscopy facilities. Recently, an outstanding metabolomics program has been added to our research and training program.

### Admission Requirements

Applicants must meet the following requirements for admission to the University of Kentucky Graduate School and the GCT program.

1. An appropriate degree (e.g., Chemistry, Biological Sciences) from an accredited college or university.
2. A minimum grade point average of 3.0 on a 4.0 scale.
3. An average Graduate Record Examination (GRE) score on the verbal, quantitative and analytical sections that is great than the 50<sup>th</sup> percentile.

4. For international applicants, the minimum acceptable TOFEL score is 550 (paper-based), 213 (computer-based), or 79 (internet-based). The minimum IELTS score is 6.5.

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 509	ENVIROMENTAL AND REGULATORY TOXICOLOGY	(2)
TOX 600	ETHICS IN SCIENTIFIC RESEARCH	(1-2)
TOX 663	DRUG METABOLISM AND DISPOSITION	(2)
TOX 680	MOLECULAR TOXICOLOGY AND CACINOGENESIS	(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	SEMINAR IN TOXICOLOGY	(0-1)
TOX 780	SPECIAL PROBLEMS IN TOXICOLOGY	(2)
TOX 790	RESEARCH IN TOXICOLOGY	(1-12)

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## 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 two semesters of graduate-level biochemistry/cell biology/molecular biology (CHE 550 and CHE 552 or IBS 601-605) and one semester of graduate-level, general statistics (STA 570 or STA 580), 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 February 1.
- 2) Review of applications begins in February and most assistantship offers are extended in March.

- 3) 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 <http://www.ca.uky.edu/gluck/index.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 767	DISSERTATION RESIDENCY CREDIT	(2)
VS 768	RESIDENCE CREDIT FOR THE MASTER'S DEGREE	(1-6)
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 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 currently offers Graduate Certificates in the following areas:

Anatomical Sciences	Applied Statistics
Assistive/Rehabilitation Technology	Autism Spectrum Disorders
Bioactive Interfaces and Devices	Clinical Research Skills
Clinical and Translational Science	Cognitive Science
College Teaching and Learning	Computational Fluid Dynamics
Developmental Disabilities	Distance Education for EDC
Distance Education for EDS	Gender and Women's Studies
Gerontology	Global Health
Health Coaching	Health Communication
Human-Technology Interaction	Informatics
Instructional Communication	International Education
Latin Studies	Lean Systems
Maternal and Child Health	Middle and Secondary School Reading
Music Theory Pedagogy	Orff Schulwerk
Physiology Teaching	Public Health Management
Rehabilitation Counseling	Risk Sciences
School Social Work	School Technology Leadership
Social Theory	Stream and Watershed Science
Teaching English as a Second Language	

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:

Dr. April Richardson  
Anatomy and Neurobiology  
MN212 Wm R Willard Medical Education Bldg  
Lexington, KY 40506-0298  
859-323-4907  
Fax: 859-257-6700  
[arich3@uky.edu](mailto:arich3@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. Arnold Stromberg  
Department of Statistics  
875 Patterson Office Tower  
Lexington, KY 40506-0027  
859-257-3610  
Fax: 859-323-1973

## **ASSISTIVE AND REHABILITATION TECHNOLOGY**

The graduate certificate in Assistive and Rehabilitation technology is a collaborative effort between the Department of Early Childhood, Special Education, and Rehabilitation Counseling and the Department of Rehabilitation Sciences in the College of Allied Health and the Human Development Institute. Students may choose an emphasis from either Special Education or Rehabilitation Counseling. Both emphases will require three foundation courses, one related elective and one practicum course for a total of 15 graduate hours. The content of the certificate is broad. Major areas include assistive technology devices, assistive technology assessment and coordination of assistive technology services. For more information contact:

Dr. Margaret Bausch  
Department of Early Childhood, Special Education, and Rehabilitation Counseling  
229 Taylor Education Bldg  
University of Kentucky  
Lexington, KY 40506-0001  
859-257-8810  
Fax: 859-257-1325  
[meb@uky.edu](mailto:meb@uky.edu)

## **AUTISM SPECTRUM DISORDERS**

The College of Education offers a graduate certificate in Autism Spectrum Disorders (ASD). The certificate is a collaborative effort between the Department of Special Education and Rehabilitation Counseling, and the Department of Educational, School, and Counseling Psychology in the College of Education and the Department of Communication Sciences and Disorders in the College of Health Sciences.

The primary purpose of this 15 credit hour certificate is to provide special education teachers and related personnel from across the state with advanced credentials that will allow them to implement evidence-based and research-based strategies. The certificate will accomplish the following: (a) efficiently and effectively equip professionals to meet federal and state demands for quality; (b) provide professionals with the knowledge and skills to identify, use, and recommend research-based practices for students who have ASD, including students from culturally and linguistically diverse backgrounds; and (c) provide personnel with knowledge and skills to work collaboratively with district and school-level teams. The specialized five course ASD Graduate Certificate program will include competencies in the following areas: (a) implementing evidence-based and research-based instruction, (b) using data from formal and informal assessments to guide instruction, and (c) serving as specialists in district and school-wide programs to support students with autism in improving areas of communication, socialization, behavior, and access to the general education curriculum. For more information contact:

Dr. Victoria Knight  
Department of Early Childhood, Special Education, and Rehabilitation Counseling  
Lexington, KY 40506  
859-257-8810  
Fax: 859-257-6700  
[v.knight@uky.edu](mailto:v.knight@uky.edu)

## BIOACTIVE INTERFACES AND DEVICES

As the field of bioactive interfaces is an inherently multidisciplinary endeavor, the curriculum in the cross-disciplinary Graduate Certificate in Bioactive Interfaces and Devices will yield scientists and engineers with the ability to transcend traditional boundaries in their professional careers. This certificate is designed to increase marketability and show potential employers that in addition to a degree, the student has special skills and competency in the subject area. The program consists of 10-12 credit hours and the students must be currently enrolled in a masters or Ph.D. program. For more information contact:

Dr. Kim Anderson  
Chemical and Materials Engineering  
177 Anderson Tower  
University of Kentucky  
Lexington, KY 40506-0046  
859-257-1485  
Fax: 859-323-1929  
[che202@uky.edu](mailto:che202@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. Thomas Kelly  
Department of Behavioral Science  
134 College of Medicine Building  
University of Kentucky  
859-323-5206  
Fax: 859-323-5350  
[thkellyf@uky.edu](mailto:thkellyf@uky.edu)

## CLINICAL AND TRANSLATIONAL SCIENCE

The graduate certificate in Clinical and Translation Science will serve as the entry point for graduate-level training in clinical and translation science. The curriculum is designed to establish knowledge-based and skill-based competencies in communication, professionalism, critical thinking and synthesis of knowledge, planning, management and assessment and leadership in five areas; CTS methods and technologies, scientific knowledge, measurement and statistics, research integrity and collaboration and team building. The certificate will be available to a) faculty members at the University of Kentucky who are planning to

participate in clinical and translational research but lack previous training and the skills necessary for clinical and translational research, b) professionals in postgraduate training at UK, including residents and fellows in the College of Medicine, College of Pharmacy and College of Dentistry and c) graduate students in health-related Ph.D. and MS programs, d) project managers and other staff members interested in contributing to clinical and translation science and e) professionals practicing in the community. For more information contact:

Dr. Thomas Kelly  
Department of Behavioral Science  
134 College of Medicine Building  
University of Kentucky  
859-323-5206  
Fax: 859-323-5350  
[thkellyf@uky.edu](mailto:thkellyf@uky.edu)

## 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. Philipp J. Kraemer  
217 Funkhouser Bldg  
Chellgren Chair for Undergraduate Excellence  
University of Kentucky  
Lexington, KY 40506  
859-257-3027  
Fax: 859-257-2030  
[pjkrae00@uky.edu](mailto:pjkrae00@uky.edu)

## 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  
Lexington, KY 40506-0033  
859.257.9725  
Fax: 859-323-1928 [magrub2@uky.edu](mailto:magrub2@uky.edu)

## 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  
Department of Mechanical Engineering and Mathematics  
University of Kentucky  
Lexington, KY 40506-0503  
859-257-6336 x. 80657  
FAX: 859-257-3304  
[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. Kathy Sheppard-Jones  
Interdisciplinary Human Development Institute  
209 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
859.257.7225 [kjonen@uky.edu](mailto:kjonen@uky.edu)

## DISTANCE EDUCATION

In response to increasing student demand, a large number of postsecondary institutions and agencies in public health, government and private business are developing distance learning programs. However, distance education requires a unique set of skills for course program development, management, support, and delivery. To prepare current and future faculty and administrators, the University of Kentucky offers a graduate certificate in distance education through the collaborative efforts of the **Department of Early Childhood, Special Education, and Rehabilitation Counseling (EDSRC)** and the **Department of Curriculum and Instruction (EISD)** within the **Instructional Systems Design (ISD)** program and **Distance Learning Programs**. For more information contact:

Constance M. Baird	Dr. Doug Smith
Dept. of Early Childhood, Special Education, & Rehabilitation Counseling	Department of Curriculum and Instruction
229 Taylor Education Bldg.	315 Dickey Hall
University of Kentucky	University of Kentucky
Lexington, KY 40506-0001	Lexington, KY 40506-0001
859-257-8135	859-257-1824
Email: <a href="mailto:baird@uky.edu">baird@uky.edu</a>	Email: <a href="mailto:dcsmit1@uky.edu">dcsmit1@uky.edu</a>

## 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. Ellen Riggle  
112 Breckinridge Hall  
University of Kentucky  
Lexington, KY 40506-0056  
859-257-1388  
[e.riggle@uky.edu](mailto:e.riggle@uky.edu)

## 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. Graham Rowles  
J 527 Kentucky Clinic  
University of Kentucky  
Lexington, KY 40536-0200  
859-218-0145  
[growl2@uky.edu](mailto:growl2@uky.edu)

## GLOBAL HEALTH

The goal of the graduate certificate program in global health is to provide a general foundation in the understanding of global health issues and the complex multiplicity of factors that affect them, and to provide some basic tools in health assessment methods to measure their impact. Given the widespread globalized nature of our world today, there is an increasing need for understanding the impact of globalization on health, both in terms of health patterns common across regions, and in terms of how what were once considered focal, limited local issues can transcend national and continental borders. The program is designed to prepare students for the increasing demand for international, interdisciplinary skills in the areas of public health prevention, health care and other health-related disciplines.

The Global Health certificate will include a minimum of 15 credit hours - 12 of classroom coursework and 3 based on a required international internship course. The program is housed in the College of Public Health, but it is intended to be multidisciplinary and open to a variety of graduate students in any of the health sciences or other disciplines across campus. It is also available to professionals or other college graduates interested in obtaining this additional training.

For more information contact:

Dr. James W. Holsinger  
Health Services Management  
107 Washington Avenue  
University of Kentucky  
Lexington, KY 40506-0003  
859-323-6314  
[jwh@uky.edu](mailto:jwh@uky.edu)

## HEALTH COACHING

Health coaching has been defined as, "...the practice of health education and health promotion within a coaching context, to enhance the wellbeing of individuals and to facilitate the achievement of their health-related goals" (Palmer et al., 2003). Health coaches help clients identify their goals, develop an action plan, and help put the plan into action while giving support and helping to motivate clients toward success.

The Department of Kinesiology & Health Promotion at the University of Kentucky proposes a new 15-credit Graduate Certificate in Health Coaching designed to meet the supplemental education needs of current health promotion professionals and those training to become health promotion professionals. The Graduate Certificate would be open to any students who are already are or will be enrolled in a degree program, or



those who simply apply for postbaccalaureate (non-degree) status in order to complete the certificate, are eligible to apply for admission. For more information contact:

Dr. Mark Kristen  
KHP Department  
122 Seaton Center  
University of Kentucky  
Lexington, KY 40506-0042  
859-257-8935  
[kristen.mark@uky.edu](mailto:kristen.mark@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. Bobi Ivanov  
College of Journalism and Telecommunications  
Grehan Journalism Building  
University of Kentucky  
Lexington, KY 40506-0042  
859-257-9467  
[bobi.ivanov@uky.edu](mailto:bobi.ivanov@uky.edu)

## 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 and, 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  
859-258.5451  
[cmcars00@uky.edu](mailto:cmcars00@uky.edu)

## 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. Mirosław Truszczyński  
Department of Computer Science  
309 Davis Marksbury Building  
329 Rose Street  
Lexington, KY 40506-0633  
859-257-3961  
Fax: 859.257.1505  
[mirek@cs.uky.edu](mailto:mirek@cs.uky.edu)

## INSTRUCTIONAL COMMUNICATION

The 12 credit hour graduate certificate in Instructional Communication is designed to help students achieve instructional communication competency that can be applied in a wide range of contexts. Specifically this program will 1) provide students with a multi-faceted view of instructional communication theory and research methods 2) prepare to students to effectively plan, lead and assess communication effectiveness in diverse instructional contexts and 3) provide students with the knowledge and skills to be competitive in a knowledge and technology-driven society.

Dr. Brandi Frisby  
Division of Instructional Communication  
310G Lucille Little Fine Arts Bldg  
Lexington, KY 40506-0042  
[brandi.frisby@uky.edu](mailto:brandi.frisby@uky.edu)  
859-257-9470

## INTERNATIONAL EDUCATION

The Graduate Certificate in International Education will prepare graduate students for careers in international education, including but not limited to education abroad, international student services, and placement in other international organizations which support the exchange of students. The field of international education is a critical component of the internationalization of higher education in the United States and abroad. This certificate is designed for any graduate student (or admitted post-baccalaureate student) wishing to enhance their graduate degree. It is designed to help distinguish our students and make them more competitive for careers in this and related fields. The proposed curriculum includes a combination of nine hours of core courses and six hours of elective coursework. In preparing to complete their certificate, students must identify a regional concentration, and are encouraged to participate in some form of professional or experiential learning opportunity to acquire skills in management, program development, and/or assessment. Although the certificate does not require language coursework as part of the curriculum, participants are also required to describe their language proficiency relative to their professional and regional concentration so that they are aware of and prepared to be competitive in the field.

Dr. Beth Goldstein, Director  
Educational Policy Studies and Evaluation  
College of Education  
131 Taylor Education Building  
Lexington, KY 40506-0001  
[bethg@pop.uky.edu](mailto:bethg@pop.uky.edu)

## 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 ([http://www.uky.edu/AS/Classics/institute\\_eng.shtml](http://www.uky.edu/AS/Classics/institute_eng.shtml))  
Classics Department  
1015 Patterson Office Tower  
University of Kentucky, Lexington, KY 40506-0027  
859-257-3386  
[clatot@uky.edu](mailto:clatot@uky.edu)

## **LEAN SYSTEMS**

Lean systems is a proven technique for reducing waste, improving productivity, and increasing the bottom line found to be effective across many industries, businesses, and organizations. Companies spend a lot of money educating their current employees and place a high premium on new graduates who have already acquired knowledge in the field. The Graduate Certificate in Lean Systems is based on the Toyota Production System (TPS) and requires 12 credit hours of coursework. For more information contact:

Dr. Abbot Maginnis  
210 E Robotics Building  
University of Kentucky  
Lexington, KY  
859-257-4943  
[maginnis@engr.uky.edu](mailto:maginnis@engr.uky.edu)

## **MATERNAL AND CHILD HEALTH**

The Graduate Certificate in Maternal and Child Health provides a mechanism for public health workers and students admitted to the graduate school to enhance their competencies and skills in Maternal and Child Health without undertaking a graduate degree in MCH. The certificate will be accessible to students enrolled in the Graduate School and the College of Public Health and will be valuable to the public health workforce throughout the Commonwealth of Kentucky. This proposal for a 15-credit hour graduate certificate is intended to enhance the training opportunities for students and public health workers with an interest in maternal and child health. The objectives of the certificate are 1) to prepare public health workers to address the multi-factorial MCH issues in Kentucky in their workplaces by enhancing public health-related skills, 2) to provide students with theoretical, practical, and relevant educational experiences in MCH to enhance the health and welfare of children, mothers and families and 3) to provide students with the knowledge and skills to develop, implement and manage MCH programs, prepare budgets, and evaluate the effectiveness of MCH programs. For more information contact:

Dr. Wayne T. Sanderson  
Epidemiology  
111 Washington Avenue, Room 213B  
University of Kentucky  
Lexington, KY 40536  
859-218-2227  
[wsa223@uky.edu](mailto:wsa223@uky.edu)

## **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  
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  
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)

## 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  
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  
859-323-5383  
[dfspeck@uky.edu](mailto:dfspeck@uky.edu)

## **PUBLIC HEALTH MANAGEMENT**

The Graduate Certificate in Public Health Management provides a mechanism for public health workers and students admitted to the Graduate School to enhance their competencies and skills in management without undertaking a graduate degree in management or public health. The certificate is accessible to students enrolled in the Graduate School and the College of Public Health and will be valuable to the public health practitioners throughout the Commonwealth of Kentucky and beyond including locations around the globe. This 15-credit hour graduate certificate is intended to enhance training opportunities for students and public health workers with an interest in management in public health.

For more information contact:

Dr. James W. Holsinger  
College of Public Health  
111 Washington Avenue, Suite 107  
University of Kentucky  
Lexington, KY  
(859) 323-6314  
[jwh@uky.edu](mailto:jwh@uky.edu)

## **REHABILITATION COUNSELING**

The Graduate Certificate in Rehabilitation Counseling will be housed in the Department of Special Education and Rehabilitation Counseling but it is intended to be multidisciplinary and open to students with a graduate degree in any of the following majors: behavioral health, behavioral science, disability studies, human relations, human services, marriage and family therapy, occupational therapy, psychology, psychometrics, rehabilitation, social work, special education, or vocational assessment/evaluation. It will be open to post-graduate students who are interested in obtaining this additional training. The certificate will include an integrated program of study which includes six required core courses (18 semester hours). All courses have currently been developed and are being offered through the Rehabilitation Counseling Distance Learning Masters program.

Dr. Jackie Rogers  
Department of Special Education and Rehabilitation Counseling  
210 Taylor Education Bldg  
University of Kentucky  
Lexington, KY 40506-0001  
859-257-5284  
[jackie.rogers@uky.edu](mailto:jackie.rogers@uky.edu)

## RISK SCIENCES

The Graduate Certificate in Risk Sciences provides the foundational understanding of risk and crisis communication and the opportunity to develop practical application of this knowledge. Organizations and entities of various sizes are becoming keenly aware of the need for effective communication in risk and crisis contexts. This certificate will prepare students to meet this need. The certificate will require twelve credit hours, including risk communication, crisis communication, training and consulting, and knowledge management. Research implications (both theoretical and practical), lessons learned, and new theories of community risk communication will be included in the curriculum. For information contact:

Dr. Shari Veil  
Director, Division of Risk Sciences  
College of Communication and Information  
235 Grehan Building  
Lexington, KY 40506-0042  
859-218-0468  
[shari.veil@uky.edu](mailto:shari.veil@uky.edu)

## SCHOOL SOCIAL WORK

The Graduate School Social Work Certificate is designed to prepare social workers to practice school social work, a specialized field of practice. The program also meets the Kentucky Education Professional Standards Board mandated requirements for school social work certification. The certificate program 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 hold the MSW degree from a CWSE accredited social work program. The minimum credits required are 17 for the MSW program students and 9 for post-baccalaureate students who hold the MSW. 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 an application form, contact:

Flo Lankster  
College of Social Work  
619 Patterson Office Building  
University of Kentucky  
Lexington, KY 40506-0027  
859-257.8233  
[lankste@uky.edu](mailto:lankste@uky.edu)

## SCHOOL TECHNOLOGY LEADERSHIP

The Graduate Certificate in School Technology Leadership is conceptually framed around the International Society for Technology in Education's *National Educational Technology Standards for Administrators* (NETS-A). Students who engage in this Graduate Certificate will typically be educational administrators at all levels who want to learn how to support technology-suffused education and lead digital-age schools. This certification is focused on creating skills and dispositions for individuals committed to making systemic



and lasting changes in schools, districts, states, and nations. For questions regarding this program, individuals should contact:

Dr. John Nash  
111 Dickey Hall  
Lexington, KY 40506-0017  
859-257-7845  
[john.nash@uky.edu](mailto:john.nash@uky.edu)

## **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. Marion Rust - Director  
Committee on Social Theory  
1027 Patterson Office Tower  
University of Kentucky  
Lexington, KY 40506-0027  
Tel: 859-257-6991  
[Marion.Rust@uky.edu](mailto:Marion.Rust@uky.edu)  
<http://socialtheory.as.uky.edu/>

## **STREAM AND WATERSHED SCIENCE**

The Stream and Watershed Science Graduate Certificate provides students with an understanding of the complex physical, biological and social systems involved in stream and watershed related issues. The certificate has an interdisciplinary focus and is administered by faculty in Biosystems and Agricultural Engineering with an advisory committee consisting of faculty representatives from the College of Agriculture, Food and Environment, College of Arts and Sciences, and College of Engineering; the Center for Applied Energy Research; the Gatton College of Business and Economics; and the Graduate School. Students may earn the certificate while making normal progress towards attainment of an MS., MA. or Ph.D. degree or while enrolled in post-baccalaureate status.

Director: Dr. Carmen T. Agouridis, P. E.  
Biosystems and Agricultural Engineering Department  
128 C. E. Barnhart Building  
University of Kentucky  
Lexington, KY 40546-0276  
859-257-3000 EXT 207  
[carmen.agouridis@uky.edu](mailto:carmen.agouridis@uky.edu)

## TEACHING ENGLISH AS A SECOND LANGUAGE

The primary objectives of the 12 credit hour graduate certificate in teaching English as a Second Language are three-fold: 1. Prepare teachers skilled in supporting the development of English language learners; 2. Provide candidates with a rigorous introduction to the core disciplines in English language teaching: linguistics, language acquisition and pedagogy; 3. Provide candidates with field-based experiences and in-class teaching opportunities (micro-teaching) in order to develop practical knowledge and skills of second language classroom teaching practices. For more information contact:

Francis Bailey, Ed. D.  
Director of TESL MA Program  
Associate Professor  
Modern and Classical Languages  
1051 Patterson Office Tower  
University of Kentucky, Lexington, KY  
Phone: 859-257-7025  
E-mail: [francis.bailey@uky.edu](mailto:francis.bailey@uky.edu)

## OTHER GRADUATE COURSES

- GS 600 SPECIAL TOPICAL GRADUATE COURSE (1-3)  
 An interdisciplinary, topical or experimental course to be approved by the Dean of the Graduate School. A particular course can be offered no more than twice under the same number, GS 600. May be repeated to a maximum of six credits. Prereq: Consent of instructor.
- GS 610 COLLEGE TEACHING (1)  
 This one credit hour seminar addresses teaching and learning issues in the college classroom. It is intended for graduate students who want to prepare for future academic careers and enhance current teaching activities. The seminar will examine pedagogical issues in a general format with the opportunity for discipline-specific applications. This course can serve to augment any department-based programs.
- GS 650 PREPARING FUTURE FACULTY (1)  
 Preparing Future Faculty is designed to introduce graduate students to the roles and responsibilities of the college teacher and to assist them in understanding the variety of institutions in which effective teaching takes place. Students will focus on the academic expectations, institutional identities and particular policies and procedures which characterize different types of institutions of higher learning. Skills to help students apply for positions and achieve success in their appointments will also be addressed. Lecture, two hours per week.
- GS 660 MULTIDISCIPLINARY SENSING TECHNOLOGY SEMINAR (1)  
 A multidisciplinary seminar in Sensors and Sensing Architecture. May be repeated to a maximum of four credits. Prereq: graduate status.
- A&S 500 SPECIAL COURSE (SUBTITLE REQUIRED) (1-6)
- AAS 417G SURVEY OF SUB-SAHARAN POLITICS (SAME AS PS 417G) (3)
- AAS 431G CULTURES AND SOCIETIES OF SUB-SAHARAN AFRICA (3)  
 (SAME AS ANT 431G)
- AAS 585 THE AGE OF JIM CROW, 1880-1930 (SAME AS HIS 585) (3)
- AAS 586 THE IMAGES OF BLACKS IN AMERICAN SOCIETY (SAME AS HIS 586) (3)
- AAS 587 AFRICAN AMERICAN CIVIL RIGHTS MOVEMENT (SAME AS HIS 587) (3)
- AAS 600 THE INTELLECTUAL HISTORY OF AFRICAN AMERICANS (3)  
 (SAME AS HIS 600)
- AAS 616 MULTICULTURAL PSYCHOLOGY (SAME AS EDP 616) (3)
- AAS 656 BLACK AMERICAN LITERATURE (SAME AS ENG 656) (3)
- 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 (1)  
 (SAME AS CSD/PT/RAS 610)

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)