

Graduate Catalog 2014-2015

UNIVERSITY OF LOUISVILLE

School of Interdisciplinary and Graduate Studies

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General Information

Experience the excitement of discovery. Create new knowledge in your field of study. Learn the practical applications of theory from world-class faculty.

At the University of Louisville, we believe a graduate program should change your work...and your life.

UofL is a metropolitan research university with an attractive main campus in Kentucky's largest city and a Health Sciences Center in the downtown medical complex. Enrollment is more than 20,000, with 6,000 students pursuing graduate degrees.

Louisville is an exciting, vibrant city, centrally located within the United States. With lots of charm and much to see and do, from the cultural arts to sports, it is home to almost one million people from across the U.S. and around the world.

Beth Boehm, Ph.D.

Vice Provost for Graduate Affairs and Dean of the School of Interdisciplinary and Graduate Studies

The School of Interdisciplinary and Graduate Studies

The University of Louisville is an urban institution that has had close historical and legal ties with the city of Louisville and Jefferson County (now Louisville-Jefferson County Metro). Founded in 1798 as Jefferson Seminary, later known as Louisville College, in 1846 it became the University of Louisville with an academic department and a medical school. Also in 1846, a School of Law was added, and a charter was obtained from the Commonwealth of Kentucky. Under that charter the University has functioned ever since. Currently, it includes the following units: College of Arts and Sciences, College of Business, College of Education and Human Development, School of Interdisciplinary and Graduate Studies, School of Dentistry, Raymond A. Kent School of Social Work, Louis D. Brandeis School of Law, School of Medicine, School of Music, School of Nursing, School of Public Health and Information Sciences, and J.B. Speed School of Engineering.

In July of 1970, the University of Louisville officially entered the state university system of the Commonwealth of Kentucky, and thus began a new era of service to community, state, and nation. Through the School of Interdisciplinary and Graduate Studies, the University assumes its responsibility not only to teach but to contribute to the sum of knowledge. It encourages investigation, promotes research, and endeavors to organize the store of human knowledge to serve the needs of present-day life. By fostering the spirit of inquiry and research in the members of its faculties, it not only strengthens undergraduate instruction but also advances knowledge. Through its graduate courses, it furnishes advanced preparation for those who are planning to become investigators or teachers in the social sciences, humanities, and natural sciences. Because of its location in a major metropolitan area, the School of Interdisciplinary and Graduate Studies is very much aware of both the research opportunities and the obligations in teaching and public service that such a location presents.

The Graduate School (now The School of Interdisciplinary and Graduate Studies) of the University of Louisville was formally established in 1915, with advanced degrees awarded as early as 1908. Other advanced courses were offered by the Schools of Medicine and Law as early as 1856. It is a member of the Council of Graduate Schools.

The legislative functions of the School of Interdisciplinary and Graduate Studies are vested in the Graduate Council which consists of elected representatives of the Graduate Faculty. The Council is responsible for establishing policies relating to graduate education and for maintaining a standard of excellence for graduate work within the University. The Dean of the School of Interdisciplinary and Graduate Studies serves as chair of this body and of the Graduate Faculty.

The dean and the dean's staff are responsible for the administration of the rules and regulations of the School of Interdisciplinary and Graduate Studies and are expected to maintain and safeguard the standards and policies of the school as outlined by the Graduate Faculty and the Graduate Council.

Graduate students participate in the operation and decision-making process of the School of Interdisciplinary and Graduate Studies through the Graduate Student Union (to which all Graduate School students belong) and its executive committee, the Graduate Student Council, which consists of one elected representative from each duly constituted graduate student organization. A representative of the Graduate Student Council is a voting member of the Graduate Council. Students are actively sought as members of many of the standing committees of the School of Interdisciplinary and Graduate Studies, and they are urged to participate and become involved in the administration of the School of Interdisciplinary and Graduate Studies through these channels.

Council on Postsecondary Education

Policy

In 1997, KRS 164.020 was amended and provided the Council with additional guidance concerning program review. The statute allows the Council to eliminate or change existing programs at any public institution based on consistency with the institution's mission and the state's postsecondary Strategic Agenda, alignment with the state's postsecondary strategic implementation plan, unnecessary duplication, and interinstitutional cooperation. In addition, Goal 6 of HB 1 (1997) challenges postsecondary institutions to "deliver educational services to citizens in quantities and of a quality comparable to the national average." KRS 164.020 (16), HB 1 (1997), and Stronger by Degrees: A Strategic Agenda for Kentucky Postsecondary and Adult Education 2011-2015 form the basis of the Council's program review policy.

- a) Institutions will conduct periodic reviews of approved academic programs. Each institution may create the forms and internal procedures for the review, but Council staff will require some uniform types of information from all institutions. Each institution will be required to include this information in its internal review process.
- b) New associate programs will be reviewed by the institution and the results forwarded to Council staff for review after three years. Upon a successful Council review, these programs will be placed on the regular institutional program review cycle.

- c) New baccalaureate programs will be reviewed by the institution and the results forwarded to Council staff for review after five years. Upon a successful Council review, these programs will be placed on the regular institutional program review cycle.
- d) New master's degree programs will be reviewed by Council staff four years after implementation. Upon a successful Council review, these programs will be placed on the regular institutional program review cycle.
- e) New doctoral programs will undergo an abbreviated interim review by Council staff after three years and a full review three years after the interim review. Upon completion of a successful abbreviated Council review, these programs will be put on the regular institutional program review cycle.
- f) In addition to newly approved programs, Council staff will review all existing programs based on each institution's review cycle. Programs will be subject to the same program review criteria as newly approved programs. Institutions will need to obtain historical data from existing programs in order to evaluate them based on the criteria outlined in the next section. For existing programs, institutions should provide data for at least five academic years.
- g) As required by KRS 164.295 (3), comprehensive universities must submit annual reports to the Council identifying the full cost of and all funding sources for each approved applied doctorate and the performance of each approved program.

Statement for the University of Louisville

The University of Louisville shall be a premier, nationally recognized metropolitan research university with a commitment to the liberal arts and sciences and to the intellectual, cultural, and economic development of our diverse communities and citizens through the pursuit of excellence in five interrelated strategic areas: (1) Educational Experience, (2) Research, Creative, and Scholarly Activity, (3) Accessibility, Diversity, Equity, and Communication, (4) Partnerships and Collaborations, and (5) Institutional Effectiveness of Programs and Services.

Source: The University of Louisville Board of Trustees, April 18, 2006.

Structure of the University

In accordance with the statutory authority of the Commonwealth of Kentucky, the Board of Trustees of the University of Louisville shall exercise final jurisdiction over the University. It shall select the President of the University; and upon recommendation of the President, it shall make all appointments of individuals in administrative capacities who serve at the pleasure of the Board. The Board of Trustees shall adopt a budget annually for the ensuing year and grant all degrees conferred by the University.

Graduate Degree Programs

Application to the School of Interdisciplinary and Graduate Studies

Application to Graduate Studies at the University of Louisville It is the applicant's responsibility to consult the appropriate department, school or program for application deadlines and specific program requirements. The university reserves the right to change programs of study, academic requirements, tuition and fees, schedule of courses, the announced academic calendar and deadlines without prior notice.

Application Requirements for All Graduate Programs

- Application for graduate admission
- Application fee
- Official transcript(s) from all previous colleges and universities attended
- Letters of recommendation (at least 2)
- Standardized Test Scores (check program requirements)

Some programs require additional materials, such as a personal statement, writing sample, etc. (consult specific program requirements in the graduate catalog).

Application for Admission

Apply online at graduate.louisville.edu/apply

A paper application is also available from the **School of Interdisciplinary and Graduate Studies** (to request an application be mailed, call 502-852-3101).

Applications and credentials should be sent to the:

**Office of Graduate Admissions
University of Louisville
Louisville, KY 40292**

at least six weeks prior to the beginning of the semester or summer session in which the student wishes to enroll; otherwise the application may not be reviewed in time for registration. Six weeks is a general deadline; some programs may have different deadlines and may require additional credentials. Applicants should consult the pertinent program section of this catalog or check directly with the program office.

The application and supporting documents become the property of the University of Louisville and will not be returned to the applicant or forwarded to another university.

If you do not enroll, your academic credentials will be retained in the Office of Graduate Admissions for two years.

Application Fee

A **\$60.00 (US currency) non-refundable application processing fee is required.** When applying online, the fee may be paid with a credit card or electronic check to College Net (details are provided online at the time of application).

If a paper application is submitted, payment must be made via check, money order or credit card. Checks should be made payable to the University of Louisville. Be sure to include applicant's full name and birth date on the check.

Exceptions: Applicants who were accepted and enrolled previously in a graduate program at the University of Louisville, and who have not attended another college or university since enrollment at University of Louisville, will pay a \$30.00 processing fee. Students on any type of public assistance may be exempt from the application fee and may request an application fee waiver with appropriate documentation.

Applications will not be processed until the application fee is received (if one is required). Transcripts Official transcripts showing all degrees awarded and all undergraduate and graduate work completed at every college/university previously attended must be furnished by the degree-seeking applicant. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution. All transcripts that are not in English must be translated verbatim into English and must be notarized. International applicants may be required to have transcripts evaluated by a credential evaluation service such as World Education Services (www.wes.org) or Educational Credential Evaluators (www.ece.org).

Unofficial or faxed copies of transcripts will not be accepted.

Test Scores

The Graduate Record Exam (GRE) is required for admission to most programs and for consideration for most fellowship and scholarship awards. Test registration and information about the exam can be found at www.gre.org. The applicant **must** instruct the Educational Testing Service to forward the results to:

**University of Louisville
Office of Graduate Admissions
105 Houchens Bldg.
Louisville, Kentucky, 40292**

The University of Louisville institution code for score reporting is 1838. The Subject Test Section may be required by some graduate programs. The applicant should consult the specific graduate program requirements in this catalog.

Letters of Recommendation A minimum of two letters of recommendation are required; however some graduate programs require more. Letters should be written by someone who can speak to the applicant's academic and/or professional capabilities. Letters of recommendation

may be sent via College Net (online application service) to gradadm@louisville.edu or by regular mail.

International Students

All international students shall comply with regulations of the U.S. Department of Immigrations and Customs, its Student and Exchange Visitor Program and all related policies of the University of Louisville International Center.

All international students must be registered with the University of Louisville International Center and must present evidence of financial resources that are adequate to support their educational and living expenses in the United States for the duration of their studies.

Documentation showing that a University Fellowship or Graduate Assistantship has been awarded is normally considered evidence of adequate financial resources. International students for whom English is not their primary language must show English language proficiency by 1) demonstration of level of proficiency, specified by the program, on the TOEFL examination (www.toefl.org), or 2) demonstration of an accredited degree awarded by an acceptable institution which uses English as the primary language of instruction, or 3) by successful completion of the exit examination for the advanced level of the Intensive English as a Second Language (IESL) Program at the University of Louisville. Acceptance to the IESL Program does not constitute acceptance to a graduate program.

For information and application forms, write to:

University of Louisville
Intensive English as a Second Language (IESL)
Louisville, Kentucky 40292, U.S.A.
<http://louisville.edu/english/iesl/>

Applicants who have not demonstrated proficiency on the TOEFL examination may choose to apply to the Intensive English as a Second Language Program. Successful completion of the Advanced Level of this program will be considered adequate proof of the English proficiency required for course work in the chosen graduate program.

To serve as a Graduate Teaching Assistant, students whose native language is not English must present an acceptable score on the Test of Spoken English (TSE) or an IESL-administered teaching competency demonstration. Applications and information about the times and places for the TSE may be obtained from www.ets.org, TSE, Princeton, NJ, 08540. Information about the teaching competency demonstration may be obtained at <http://louisville.edu/english/iesl/GTA/international-graduate-teaching-assistants.html>.

International student services and programs are organized and administered by the International Student and Scholar Services (ISSS) staff, located in the International Center. The Office serves as an administrative, advising, and programming unit for all international students at the University of Louisville. The staff is trained to assist international students solve problems,

handle matters with immigration, and answer general questions about life in Louisville or in the United States.

Please refer to the International Center web page at: <http://louisville.edu/internationalcenter/>.

Admissions

Upon receipt of the application for graduate studies, application fee and credentials, the graduate program will evaluate the application package and specify the admission status and any conditions of admission. The official admission letter will come from the dean of the enrollment unit or the dean's designee.

Degree status – good standing: In order for a student to be recommended for admission without conditions to degree status in good standing, all admission credentials must have been received and evaluated. The applicant must have earned a minimum grade-point average as specified by the enrollment unit. Each applicant should consult the specific graduate program descriptions in this catalog to determine any additional admissions criteria or any more restrictive requirements for admission to this status.

Degree status - provisional: This status is intended for students whose application materials are incomplete (usually missing required credentials or letters), but who have submitted the application form and application fee. Students in provisional status must also meet the general academic requirements of their program. Students may not enroll for a second consecutive term in provisional status. Not all graduate programs allow admission on a provisional basis. A student admitted on a provisional basis has one semester to furnish any credentials missing at the time of admission.

Degree status - special conditions: This status is intended for students whose applications are complete, but whose academic background is below the minimum for their program. Students admitted in this status will be expected to meet certain criteria within a specific time-frame outlined by the admitting graduate program.

Degree status - provisional/special conditions: An applicant who has both an incomplete application and academic criteria below the minimum may be admitted in this status, pending program approval. Students in this status will be expected to meet certain criteria within a specific time frame outlined by the admitting graduate program, as well as one semester to furnish any credentials missing at the time of admission.

Additional Considerations for Admission to Degree Status

A student admitted with an undergraduate grade point standing of less than the minimum of the enrollment unit may be subject to program limitations on the number of hours in which he/she may enroll for each semester. Students who do not meet any other departmental requirements outlined in the admission letter may be subject to academic dismissal from their program.

No applicant with a grade-point average of less than 2.50 will be admitted by a program to graduate study. Under unusual circumstances, programs that wish to admit students who do not meet this standard must submit a variance request to the Vice Provost for Graduate Affairs.

Non-degree status

Applicants who do not desire to seek an advanced degree but wish to take graduate course work may be permitted to enroll in non-degree status. Please note that not all programs will admit students to non-degree status. Application credentials must include the application form, application fee and an official transcript showing the award of a baccalaureate degree. No more than nine hours of course work taken in a non-degree status may be applied to a graduate degree program with departmental approval, and no more than fifteen hours may be accumulated while in non-degree status.

Visiting Students

A graduate student from another university or college may enroll for graduate course work as a visiting student at the University of Louisville with the approval of the graduate program director or department chair. The visiting student is responsible for having the home institution provide a letter certifying that the student is in good standing. A graduate application is required and transcripts may also be required by some departments.

University of Louisville graduate students who attend another college or university as visiting students must have the permission of their department chair, program director or major advisor. The guidelines for the Transfer of Credit stated in the graduate catalog apply to all credits earned as a visiting student. Visiting student status may be granted only to a student who is in good standing.

New Graduate Student Information

Overview

The University of Louisville operates on a semester system that includes a Fall Semester, Spring Semester, and Summer semester with multiple terms. The University has a computerized admissions and registration system. Students are advised to include their full name and date of birth on all correspondence with the University to facilitate the identification of admission credentials and requests for information. Students who do not enroll for the semester for which they apply may be required to reapply and resubmit credentials. The University holds credentials on applicants for a limited time.

Student Responsibility

It is the responsibility of the graduate student to become familiar with and observe all policies and requirements of the School of Interdisciplinary and Graduate Studies and of his or her particular degree program and department. Policies, procedures, and requirements are subject to change, and it is the responsibility of the graduate student to keep her/himself apprised of current

regulations. All students must respond to official notices issued by administrative offices and instructors, whether these notices be posted on official bulletin boards, are sent through postal, or e-mail. A student's status is not dependent upon a written notification but is a consequence of circumstances in the admission process and the student's academic performance. Written notification is simply a verification of status.

Graduate Credit

Courses listed in this catalog are offered for graduate credit. To receive graduate credit, a student must register for the course through the School of Interdisciplinary and Graduate Studies or through another graduate-level program, such as the Master of Engineering. Students who take these courses as post-baccalaureate registrants do not receive graduate credit.

Prerequisites

Prerequisites for all courses include graduate status and the consent of the graduate advisor (for registration). Specific course prerequisites are indicated in the course listing at https://paprodic.louisville.edu/psp/paprod/EMPLOYEE/HRMS/c/ESTABLISH_COURSES.CATALOG_SEARCH.GBL.

Academic Policies, Procedures and Requirements

The general policies, procedures and requirements for advanced degrees are stated below; however, each program has specific degree requirements. These specific requirements are detailed in the program descriptions that follow this section. These requirements must be consulted so that the graduate student can be fully apprised of the conditions he/she must meet in order to receive an advanced degree.

The policies and regulations described in this catalog cannot be superseded or invalidated by either oral or written agreement with faculty, staff, or administrators unless a variance is confirmed in writing by the Vice Provost for Graduate Affairs, in consultation with the Graduate Council.

Registration

The University of Louisville uses an on-line web registration system. The schedule of courses for each term may be reviewed at <http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>. Students must first contact their graduate advisor or graduate program director to discuss course selections. Students in good standing and admitted without conditions may proceed with the registration process. If, however, a student has been admitted with conditions, or is in probationary status, the student must contact the graduate program director regarding the implications of the admission status.

Full-Time Study

Full-time study is defined as enrollment in:

1. Nine credit hours during the Fall semester, OR
2. Nine credit hours during the Spring semester, OR
3. Six credit hours during the Summer semester, OR
4. In degree candidacy status.

Full-Time Study for University Fellows and Graduate Assistants

All University Fellows and Graduate Assistants receiving financial support must be enrolled as full-time students during the period for which they are receiving support.

Continuous Enrollment

Continuous enrollment is defined as being registered in both Fall and Spring if registering for course work. If a student has been admitted to either masters or doctoral degree candidacy, continuous enrollment in candidacy status is required for the Fall, Spring and Summer terms (only one term of registration is required in summer terms). Students must be enrolled during the semester in which they wish to graduate.

Course Loads

Normally, the maximum number of hours that may be taken in a regular semester is 12. The maximum number of hours that may be taken in the Summer session (both terms) is 12, including research hours.

Overloads

A student who wishes to enroll in more than the maximum number of hours must petition the unit dean to obtain permission.

Auditing Courses

Auditing at the graduate-level is available only to students who are enrolled in a graduate program. A student who wishes to audit a course must obtain permission from the course instructor and the director of the program in which the student is enrolled using the proper form provided by the Office of the Registrar. Auditing a course will not satisfy a prerequisite for a graduate course or a degree requirement.

Transfer of Credit

Earned graduate credit may be transferred from accredited institutions that offer advanced degrees. The number of semester hours transferable, upon request, is six. Up to six additional transfer hours may be petitioned, provided that these additional hours are not credits earned by extension, thesis or practicum and provided also that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program.

Course work taken more than three years prior to the student's application to a graduate program will not normally be considered for transfer; however, such requests will be reviewed by the Vice Provost for Graduate Affairs upon recommendation by the department chair and the unit dean.

The course work being considered for transfer must have been taken while the student was enrolled in an accredited graduate or professional school and must be evaluated for transfer by the director of the graduate program in which the student is seeking additional graduate work. Six hours may be transferred from a previously earned master's degree toward a doctoral degree or a second master's degree, subject to the approval of the degree program and the unit dean. Hours earned toward a culminating experience such as a thesis, practicum, or internship shall not be transferable to the second master's degree. Only courses in which the student earned grades of "B" or better will be considered for transfer. Hours and quality points earned at other institutions are not included in the calculation of a student's grade point average.

Courses in which grades of "P" were earned must have the approval of the unit dean in order to be transferred.

Transfers of credit from constituent schools and colleges of the University of Louisville are not subject to the above limitations on transfers but require the recommendation of the department chair and the approval of the unit dean.

Satisfactory Progress

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director. Based on the request of the graduate program, the unit dean will consider the student for readmission.

Satisfactory progress also requires maintaining the standards of academic and professional integrity expected in a particular discipline or program and, in some disciplines, may include demonstration of the ability to function as a professional practitioner. Failure to maintain these standards or demonstrate such abilities may result in the student's termination from the program.

Degree Candidacy

Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in degree candidacy are considered full-time students. While in Degree Candidacy, it is the responsibility of both student and mentor to maintain contact to ensure continuous progress towards the completion of the degree. In some cases, a master's student may complete the requirements of a degree program without the need to enter Degree Candidacy.

Although a student must complete all required courses before entering Degree Candidacy, students have the option of taking additional specialized courses, e.g., courses offered by visiting

or new faculty, while in Degree Candidacy (in those cases payment of both the candidacy fee and the course tuition will be required).

When all other degree requirements are met, students may enroll in Degree Candidacy in order to meet the requirement that all students must be enrolled during the semester in which they wish to graduate.

Enrollment in Degree Candidacy requires the approval of the unit dean. Units must inform the Vice Provost of Graduate Affairs when students have met all requirements and are ready to enter Degree Candidacy. Once a student is admitted to candidacy, enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded. The only exception to this policy of continuous enrollment is if the unit dean and the Vice Provost of Graduate Affairs have granted the student a formal leave of absence.

Once a student enrolls in Degree Candidacy, the Registrar will automatically enroll the student in Degree Candidacy until the student applies to graduate. Failure to pay the candidacy fee will be cause to cancel a student's enrollment in Degree Candidacy. In order to restore enrollment in Degree Candidacy, the student must receive approval of his/her graduate program director and that of the unit dean. To reestablish enrollment in Degree Candidacy, the student will be required to pay the candidacy fee for each semester during which candidacy was voided and/or not maintained.

Time Limitations for Degree-Seekers

Master's students must complete the degree requirements within six (6) years of beginning the program of study. Doctoral students have four (4) years after passing the qualifying exams and entering Degree Candidacy to finish all other degree requirements. While granting an extension of time is rare, requests for extension of time must be submitted in writing to the graduate program director of the student's department. Once reviewed by the department, the request is forwarded to the unit dean, and then to the Vice Provost for Graduate Affairs with supporting documentation for review. Students must be considered in good standing for the request to be considered.

Academic Standing

Good Standing

A graduate student is in good standing when his/ her graduate grade point average is 3.0 on a 4-point scale or higher. A student must be in good standing in order to receive a degree.

Academic Probation

Any student with a point standing below 3.0 will be placed on academic probation until the student regains a 3.0 average or is dismissed. Students are ordinarily not permitted to continue on academic probation for more than one semester. Upon request of the student's graduate program, the unit dean may approve continuation beyond a single semester.

Academic Dishonesty

Plagiarism, cheating and other forms of academic dishonesty are serious violations of academic conduct and may result in permanent dismissal. Students are expected to be familiar with the various forms of academic dishonesty as explained in the [Code of Student Rights and Responsibilities](#). A plea of ignorance is not a defense against the charge of academic dishonesty.

Policies Governing Graduate Courses

Graduate Students Taking 500-Level Courses

Courses with numbers from 500 to 599 may be open to both advanced undergraduate and graduate students and can be taken by graduate students for graduate credit. Those numbered 600 and above are primarily for graduate students.

Graduate students who wish to receive graduate credit for 500-level courses must complete additional requirements (such as additional written work or oral presentations) that are more stringent than those required of undergraduates. These additional requirements for graduate credit must be specified in the course syllabi. The student's completion of graduate requirements must be verified in writing by the instructor if graduate credit is requested after the course is completed.

Not all 500-level courses are available for graduate credit. The student is advised to consult his/her department for information on any particular 500-level course.

Undergraduates Taking Graduate Courses

An undergraduate student with special permission of the unit dean and the instructor in the course may register in a 600-level graduate course. Such courses will satisfy requirements toward the undergraduate degree and therefore cannot be used for subsequent graduate credit. The student must be registered for at least one undergraduate course if requesting to enroll in a graduate course.

In rare cases, undergraduate students at the University of Louisville who are within six semester hours of completing the baccalaureate requirements and who are enrolled in a graduate course may obtain graduate credit. This can only occur if the course has not been used to satisfy part of the baccalaureate requirements, and if the recommendation of the chairman of the department involved and the approval of the unit dean are obtained. Exceptions are those students enrolled in an accelerated Bachelor/Master's program.

Grades and Grading Policies

University Grade Point Average (GPA)

The GPA appearing on the University transcript at the end of each semester of enrollment will be the official GPA for determining Graduate School academic standing. The GPA will be based upon all courses taken at the undergraduate and graduate level. Courses taken at the 500-level and above will be counted as graduate courses. The University transcript may only include up to a maximum of 6 credit hours in undergraduate course work. Any undergraduate courses beyond this 6 credit hour limit must be taken pass/fail. While possibly including undergraduate coursework, this transcript will determine the overall Graduate GPA. The program faculty and unit dean will monitor this Graduate GPA.

Grading System

The School of Interdisciplinary and Graduate Studies (SIGS) utilizes a plus/minus grading system. It is at the discretion of the instructor to determine the use of plus/minus grading.

The following is the grading scale:

Grades	Quality Points	Grade	Quality Points
A+	4.0	C	2.0
A	4.0	C-	1.7
A-	3.7	D+	1.3
B+	3.3	D	1.0
B	3.0	D-	0.7
B-	2.7	F	0.0
C+	2.3		

C Grades

The student's academic program may approve six hours of coursework in which a grade of "C+", C, or C-" was received to count toward the completion of degree requirements.

Approval of the Graduate Dean of SIGS must be secured in order to count additional hours with any grade of C in any course that is part of the degree program. In no case may more than nine hours of "C" be used to fulfill graduate degree requirements. Units or programs may choose not to permit any courses in which a grade of C+, C, or C- has been earned to be used in fulfillment of degree requirements. Although grades below C- will be calculated in the graduate student's grade point average, courses in which these grades have been earned will not be counted towards the fulfillment of degree requirements.

Other Grades

"W" - means Withdrew and carries no quality points. No student may withdraw from any course after the published drop date. In exceptional cases, the unit dean may grant a student's request to withdraw from courses because of illness or conditions beyond the student's control. Poor performance is not a valid reason to grant an exception.

"I" - means Work in Course Incomplete. If the work is not completed by the end of the next term, regardless of whether the student is enrolled, the "I" automatically becomes an "F".

"X" - means course work has not been finished because of the nature of the research or study involved, e.g., thesis or dissertation work. This grade is reserved for courses that by their nature extend beyond one semester. This grade may not be used for coursework that is confined to a semester but not completed by the student. During the time an "X" grade is carried on the transcript, continuous enrollment is not required.

Graduate students enroll in courses on a term basis. Graduate courses may not be extended beyond the enrollment term, except as noted for open-ended courses eligible for the "X" or deferred grade. An "I" grade does not extend the course, but rather extends the time a student has for completion of work assigned in the course. The "I" must be removed within one semester and the new grade assigned for the term in which the student was originally enrolled or the "I" is changed to an "F".

Pass/Fail Grading Option

Each program has the discretion of extending a Pass/Fail option to any or all of its graduate students and graduate courses.

When using the Pass/Fail option for graduate students enrolled in graduate courses, A+ through C- will be passing grades and D+ through F will be failing grades.

Changes of Grades

No changes of grades can be made without a request and explanation on the part of the faculty member giving the grade and the approval of the unit dean.

Missing Grades

All missing grades will be changed to failing grades one year after the completion of the semester in which the course was taken.

Repetition of Courses

A student who has received the grade of "C" (in a course that is a degree requirement), "D" or "F" may repeat that course upon the approval of the graduate program advisor and the unit dean.

When a student repeats a course, the grade point average will be calculated on the basis of the last grade earned, although all previous grades will remain on the transcript.

Student Leave of Absence

A student who has been accepted into a graduate program is expected to remain in continuous enrollment, either full-time or part-time, throughout his/her matriculation. Students who fail to enroll for a period of more than 12 months will be considered to have withdrawn from the program. Once a student enters candidacy, he/she must maintain continuous candidacy (fall, spring, summer) and pay the appropriate candidacy fee.

However, if circumstances arise that may cause an interruption in graduate study, a student may apply for a leave of absence by requesting such a leave from the unit dean. A requested leave cannot exceed one year; however, under extreme circumstances, a second, subsequent request may be granted by the Vice Provost for Graduate Affairs. Students must be considered in good standing for the request to be considered.

A student may not be enrolled in the university during a leave of absence. A student on a leave of absence is not required to pay tuition, fees, or candidacy fees, but is not entitled to any services from the university during the leave, including mentorship from faculty.

If a leave of absence is granted to a doctoral student in candidacy, the time limitation of completing all other requirements within four years after passing the qualifying examination shall be extended by the same time as the length of the leave. However, an appeal for an extension of this time limit, specifying the exact circumstances, can be included in the request for a leave or submitted in a subsequent letter at the time of re-enrolling to the Vice Provost for Graduate Affairs addressing this particular matter.

No degree will be granted to a student on an official leave of absence. The student must re-enroll in the next term following the conclusion of the leave and be enrolled in the term in which a degree is granted. A leave of absence does not relieve a student from adherence to policies regarding residency and candidacy (except that the time limit for candidacy may be extended, as indicated in the previous paragraph).

Degree Requirements

Requirements for the Doctor of Philosophy Degree

Special Considerations for Doctoral Studies

In addition to the particular rules of the various graduate programs as stated in their sections of this catalog, the following general rules apply to all Doctor of Philosophy programs.

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. Accordingly,

no specific minimum number of credit hours has been established for Ph.D. programs. However, ordinarily the equivalent of three years of full-time graduate study is a minimum.

The doctoral degree is not awarded solely upon completion of a curriculum of courses, even though the student has done superior work in them; rather, it is awarded in recognition of creative scholarship as demonstrated by a substantial contribution in the candidate's chosen field. Only students who offer promise of meeting this high standard will be accepted by a graduate program to begin work toward this degree. Doctoral degree programs typically have more restrictive criteria for admission than those for admission to a master's degree program. The prospective student should consult in person with the graduate program in which he/she wishes to major.

Program of Study

Each applicant for the doctorate is expected to take such courses as may be required for both a strong foundation in the field and the development of a specialization. The student's program will consist of a major field and such minor fields as the major professor, the student, the program faculty, and department chair may agree upon. This program may be modified at any time upon the recommendation of the major professor and approval of the department chair and the dean of the unit.

All courses offered by the University, at any level and in any school, shall be accessible to the doctoral student, subject to approval by the instructors.

Residency for Doctoral Students

To ensure that doctoral students have the opportunity to participate fully in the intellectual life and research atmosphere of the University, at least two years of study must be spent at the University of Louisville and at least one must be spent in full-time residency (except as indicated below). The two-year requirement allows students to build mentoring relationships with faculty members and accrue classroom and research experience over time, while the full-time residency requirement is designed to provide students with at least one year of immersive, intensive study.

According to the Council of Graduate Schools, residency advantages students in the following ways: ". . . fluency in the language and vocabulary of the [field of] specialization is enhanced by frequent and close association with other students in the same field; competence in the field is enhanced by close familiarity with the university's libraries; valuable experience is gained by attending and participating in both formal and informal seminars, colloquia, discussions led by specialists visiting from other campuses, laboratories, or governmental research groups; and thesis or dissertation research is facilitated by frequent consultation with the advisor."

Full-time residency requires that a student be registered for a minimum of 18 credit hours within a twelve-month period. Registration for candidacy cannot be used to meet this requirement.

Alternative Residency Track

All doctoral students must meet the two-year enrollment requirement. Students enrolled in part-time doctoral work may substitute four terms of continuous enrollment (summer terms can be used to meet this requirement) for the full-time residency requirement.

Programs that allow part-time and/or off-site participation must provide a rationale to the Dean of the School of Interdisciplinary and Graduate Studies, indicating how they ensure that such students have access to an intensive and immersive educational experience.

Foreign Language Requirement

Foreign language proficiency is no longer a general requirement for graduate degrees. However, certain graduate programs may have established such requirements, which will be specified in their sections of this catalog.

Qualifying Examination and Candidacy

The applicant for a Doctor of Philosophy degree must pass a qualifying examination, oral or written, or both. Its purpose is to verify that the student has sufficient understanding of and competence in his/her field to become a candidate for the degree. This examination may be referred to by some programs as the preliminary, comprehensive, or candidacy examination. To be eligible for this examination; the student must have satisfactorily completed the major portion of the prescribed course work and must have met the foreign language requirement of the program. It is the student's responsibility to be aware of the program's policy on the consequences in the case of failure of all or part of the examination. A student who fails the examination may not be allowed to retake it more than once.

A doctoral degree student must have been admitted to candidacy not later than the end of the ninth month prior to the awarding of the degree, that is:

- August graduation - November 30 of preceding year
- December graduation - March 31 of same year
- May graduation - August 31 of preceding year

Although the prescribed course work may have been completed, the candidate must maintain an active registration status until the degree is awarded (see previous section on General Academics Policies and Requirements, subsection Maintaining Candidacy).

Time Limitation

The candidate must complete all other requirements for the degree of Doctor of Philosophy within four calendar years after passing the qualifying examination. In exceptional cases, the Vice Provost for Graduate Affairs is empowered to grant limited extensions of this four-year period.

Dissertation

A dissertation is required of all candidates for the degree of Doctor of Philosophy. It is to be a scholarly achievement in research, and should demonstrate a thorough understanding of research techniques in the field of inquiry and the ability to conduct independent research.

The dissertation shall be read by a reading committee, chaired by the major professor, and appointed by the unit dean upon the recommendation of the chair of the major department. This committee shall consist of not fewer than four members, and must include one representative from outside the program. All members must be qualified to serve on the committee as specified by their Unit's Guidelines for Graduate Faculty. The dissertation must be approved by the committee and the chair of the major professor's department.

If a student is enrolled in a doctoral program in Interdisciplinary Studies, the dissertation shall be approved by the chair of the major professor's department, and reading committees shall be appointed by the Dean of the School of Interdisciplinary and Graduate Studies upon recommendation of the major professor.

The dissertation is to be submitted in completed form to the chair of the major department, or to the chair of the major professor's department in the case of a student enrolled in a doctoral program in Interdisciplinary Studies, at least thirty days before the end of the term in which the candidate expects to be graduated, and the candidate is not eligible for final examination until the dissertation has been approved.

One unbound copy of the dissertation, signed by dissertation committee, must be deposited with the School of Interdisciplinary and Graduate Studies before graduation. Graduate students completing a dissertation in a Ph.D. program offered through the J. B. Speed School of Engineering in Computer Science and Engineering are requested to submit an extra copy.

Students in Chemical Engineering, Industrial Engineering and Mechanical Engineering are not required to submit an extra copy; however students in Industrial Engineering must submit an extra copy of the signature page. Students in Civil Engineering and Electrical Engineering should check with their departments regarding extra copies. Students in Chemical Engineering, Industrial Engineering and Mechanical Engineering are not required to submit an extra copy; however students in Industrial Engineering must submit an extra copy of the signature page. Students in Civil Engineering and Electrical Engineering should check with their departments regarding extra copies.

Standards for the Preparation of Thesis and Dissertations are available on the website of the School of Interdisciplinary and Graduate Studies. Alternate standards must be approved by the Vice Provost for Graduate Affairs if in conflict with this standard.

Final Oral Examination

The final oral examination is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field. The examination will be given by a committee of Graduate

Faculty members appointed by the unit dean upon recommendation of the chair of the major department. The Committee will consist of four or more members representing the major department and at least one allied program. The major professor and the remaining Committee members must be qualified to serve on those capacities as specified by the unit's guidelines for graduate faculty. The examination committee for doctoral students in Interdisciplinary Studies will be approved by the Dean of the School of Interdisciplinary and Graduate Studies upon recommendation of the major professor.

The Dean of the School of Interdisciplinary and Graduate Studies shall notify all members of the Graduate Faculty at least one week in advance that they are invited to participate in the examination, but only members of the committee may vote. At the discretion of the major department, a portion of the examination may be written.

The examination must be taken at least fourteen days before the end of the semester in which the degree is to be granted. To be passed in this examination, the student may not receive more than one abstention or dissenting vote.

Requirements for the Master's Degree

The departmental announcements in this catalog should be consulted in all instances; however, the following rules apply to all master's degree programs.

Course Credit

A minimum total of 30 semester hours of graduate credit is required for the master's degree. At least 15 semester hours must be in courses of the major subject area, and the remaining hours in the program distributed as recommended and approved by the major department. At least one-half of the credits counted toward the degree (exclusive of thesis, practicum and internships) must be in courses open to graduate students only (600 level or above). A grade average of 3.0 or better must be maintained.

Residency for Masters Students

Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the masters degree.

Time Limitation

There is a time limit imposed, stipulating that credit earned more than six years prior to the completion of the degree may not be counted toward meeting its requirements. This time period may be extended upon recommendation of the student's department chair and the approval of the Vice Provost for Graduate Affairs.

Maintaining Candidacy

Refer to previous section entitled, General Academic Policies and Requirements, see subsection entitled Maintaining Candidacy.

Thesis

Students completing degree programs that include a thesis must submit the thesis to their major professor at least thirty days in advance of graduation (guidelines may be found on the web site of the School of Interdisciplinary and Graduate Studies).

Acceptance of the thesis shall be at the discretion of a special reading committee composed of the major professor and two other committee members. One member shall be from outside the program, and all three members must be qualified to serve on those capacities as specified by their Unit's Guidelines for Graduate Faculty. The committee shall be approved by the unit dean upon recommendation of the chair of the major department. The committee shall complete its review of the thesis at least one week prior to the final oral examination.

One unbound copy of the accepted thesis, signed by the committee members, must be deposited with the School of Interdisciplinary and Graduate Studies (see Schedule of Courses for due date). Graduate students completing a thesis in an M. S. program offered through the J. B. Speed School of Engineering in Computer Science and Engineering are requested to submit an extra copy.

Students in Chemical Engineering, Industrial Engineering and Mechanical Engineering are not required to submit an extra copy; however students in Industrial Engineering must submit an extra copy of the signature page. Students in Civil Engineering and Electrical Engineering should check with their departments regarding extra copies.

The thesis normally carries 6 semester hours of graduate credit, which is in addition to the 15 hour minimum taken within the major department. In certain departments, a professional paper may be required in lieu of a thesis. For procedures in these instances, consult the chair of the department.

Final Oral Examination

The final oral examination shall be conducted by a committee of Graduate Faculty members recommended by the chair of the major department and appointed by the unit dean.

The examination must cover the materials presented in the thesis or professional paper and may include the content of courses taken or other matters pertinent to the candidate's admissibility to the master's degree. At the discretion of the graduate program, a portion of this examination may be written. The recommendation for the degree shall be determined by a simple majority of the committee members.

Recommendation shall be made to the graduate dean at least one week prior to graduation.

In the event of an unfavorable vote, the committee may refuse the candidate's admissibility to the master's degree, or it may recommend another examination with or without additional work.

For master's students enrolled in Interdisciplinary Studies, a member of the graduate faculty must agree to serve as the major professor to guide students in curriculum selection and thesis work. The chair of the major professor's department will recommend to the Dean of the School of Interdisciplinary and Graduate Studies appointment of reading and examination committees.

Application for Degree

Degrees are awarded in August, December, and May. Candidates who expect to receive degrees on a particular award date must complete the application for degree on [ULink](#) before the deadline specified in the University calendar (see Schedule of Courses).

The University holds two commencement ceremonies each year. For specific information regarding the ceremonies, apparel, dates, etc. please visit the Commencement web-site: <http://www.louisville.edu/commencement/>

Each student who is required to submit a dissertation or thesis to fulfill degree requirements must follow the guidelines for The Preparation of a Dissertation and The Preparation of a Thesis, which are located on the website of the School of Interdisciplinary and Graduate Studies. Prior to submission of the final copy of a dissertation/thesis, students must contact the School of Interdisciplinary and Graduate Studies to schedule a review of the document.

Microfilming and Copyrighting

The University of Louisville, by action of its graduate faculty, requires that all theses and dissertations be microfilmed. Copyrighting the paper is an optional choice for its author. Candidates for advanced degrees that require theses or dissertations must submit agreements for microfilming and copyright applications on the appropriate forms supplied by the School of Interdisciplinary and Graduate Studies. A completed application, one extra copy of the abstract, and one extra copy of the title page must accompany the unbound copies of each dissertation or thesis. The extra copies of the abstract and title page are used by UMI/Pro-quest in its abstracting journals. A limitation of 350 words is set on the abstracts for doctoral dissertations and 150 words for theses for master's degrees.

Graduate Student Awards and Honors

Student Awards: Programs may nominate graduate students for the following awards given at December and May commencement ceremonies. Those individuals who received their degrees in August must be nominated for consideration during the December commencement program.

Graduate Dean's Citation: Graduate Dean's Citations are awarded at each commencement to both masters and doctoral students recommended by their departments in recognition of superior accomplishment (e.g., publications, teaching excellence, and professional service) in their graduate studies beyond the achievement of a high grade point average. Each school or college

may recommend up to 10 percent of its graduate students completing their degrees in August, December, and May of the academic year. Recommendations are to be based on the student's achievements both in their area of scholarship and outside the classroom.

Alice Eaves Barns Award: This award is named in honor of Mrs. Alice Eaves Barns for her many years of outstanding service as a staff member of the Graduate School at the University of Louisville. This award recognizes a student who has displayed tenacity in the face of adversity, while attaining excellence in both the classroom and outside endeavors. The Award is given in recognition of outstanding achievement in a Master's Program. Nominations may be submitted to the Vice Provost for Graduate Affairs for the May and December commencements.

Guy Stevenson Award: The Guy Stevenson Award for Excellence in Graduate Studies honors a former dean of the Graduate School. The Stevenson Award is presented to a doctoral degree recipient who excels in scholarship, leadership, and other areas within their discipline. The recipient of this award will carry the graduate school banner at commencement ceremonies, and will also be a candidate for student commencement speaker. Thus, to be considered for the Stevenson Award, the student must be available for the ceremony.

John Richard Binford Memorial Award: The John Richard Binford Memorial Award honors a former chairman of the Department of Psychology. Doctoral nominees for this award will be assessed in the same manner as those students considered for the Stevenson award. The recipient of this award is not required to attend commencement.

John M. Houchens Prize: The John M. Houchens Prize honors a former Registrar of the University. In the spring and fall of each year doctoral dissertations are submitted to the School of Interdisciplinary and Graduate Studies for consideration. If one is deemed to be of special merit, a committee may recommend that its author be awarded the Houchens Prize. Only those students expected to complete their doctoral degree by the end of the current term (or August in the case of December consideration) are eligible for consideration of this award.

Faculty Awards: Department chairs and directors of graduate programs and former graduate students and those graduating at the May ceremony may nominate a faculty mentor for the following awards given at the May ceremony:

Outstanding Mentor of a Doctoral Student

Outstanding Mentor of a Masters Student

Both awards honor faculty members who are deemed to excel in one-on-one mentoring of master or doctoral students to the completion of their degrees; in other words, these awards are given to faculty who successfully direct theses or dissertations, supervise students in labs, oversee students' internships or final professional papers.

Graduate Student Academic Grievance Procedure

Section 1: Introduction. This procedure is designed to provide fair means of dealing with student complaints regarding a specific action or decision made by the faculty or a faculty member. "Students who believe they have been treated unfairly, discriminated against, or have had their rights abridged may initiate a grievance" ([The Redbook](#), Section 6.8.1).

Section 2: Preliminary Steps. To pursue a grievance concerning academic matters within the academic unit, the following steps of the grievance procedure should be observed:

1. The student should first discuss the matter with the person involved and attempt to resolve the grievance through informal discussion.
2. If there is no resolution, the student should discuss the matter with that person's supervisor or the person to whom such person reports, who should attempt to mediate a resolution.
3. If the student has not been able to obtain a resolution, he or she may request the Student Grievance Officer (S. G. O.) to attempt informal mediation of the problem.
4. If the matter has not been satisfactorily resolved through the informal process, the student shall submit a written statement of the grievance to the Unit Academic Grievance Committee through the Office of the Dean. The statement shall contain:
 - a. A brief narrative of the condition giving rise to the grievance;
 - b. designation of the parties involved; and
 - c. statement of the remedy requested.

Section 3: Committee Action. Upon receipt of the written statement, the Unit Academic Grievance Committee, or its representatives, shall:

1. Contact the student and the Student Grievance Officer to obtain assurance that all steps of the above informal process were completed and that those issues in the statement were discussed at all levels.
2. Notify the parties named in the statement of the grievance naming them; and send a copy of the statement to the named parties and to all committee members.
3. Notify the grievant and the respondent of the right to challenge committee members for cause, and request early notification of challenge(s) to expedite the grievance procedure. Included in this notification will be a list of the names of all current, regular committee members.
4. Meet within twenty working days after receiving the written statement of any grievance and recommend to the dean of the unit whether sufficient grounds exist to accept a case for hearing.

The committee shall hear the case when the dean concurs. The committee shall notify, in writing, all persons directly involved as to the reasons for its recommendation.

5. The action of the grievance committee as to whether to grant a hearing when accepted by the dean of the unit shall be final and binding on all parties except when subject to the condition of appeal.
6. If a hearing will be held, notify in writing all the parties involved, including any witnesses, of the date, time and place of the hearing at least ten days prior to the hearing date (which shall be within 30 working days of receipt of the written grievance).
7. Request in writing from all parties involved any pertinent material deemed necessary for review by the committee prior to the hearing. These materials, and any additional materials either party chooses to submit, must be submitted to the committee not later than four days prior to the hearing. Any person named in a grievance may submit a written statement to the committee outlining issues from that person's perspective.
8. Maintain confidentiality throughout the entire grievance process. All communications among the committee, the grievant(s), and the person(s) named in the statement of grievance will be confidential.

Section 4: Hearing Process. All hearings conducted by the Unit Academic Grievance Committee shall be conducted confidentially in the following manner:

1. The grievant(s) and the respondent(s) must be present during the information-gathering portion of the hearing. Witnesses will be available and will be called when needed. The committee reserves the right to allow the presence of a secretary or a technical assistant.
2. All statements during the information-exchange phase of the hearing will be tape-recorded. This record will be preserved in the University Archives for a minimum of five years and shall be confidential.
3. Any committee member may question any of the participants at the hearing.
4. The grievant will present his or her statements and/or witnesses to the committee.
5. The respondent will have the opportunity to question the grievant(s) and the witnesses about their statements.
6. The respondent will present his or her statements and/or witnesses to the committee.
7. The grievant will have the opportunity to question the respondent(s) about their statements.
8. After all information is exchanged, all persons except the committee members and the recording secretary will leave the committee room. The grievant(s), the respondent(s), and the witnesses will continue to be available to the committee should further information be needed.

9. The committee will meet in closed session to decide upon its recommendation(s) to the dean.
10. The committee shall submit its report with recommendation(s) and reasons for the recommendation(s), to the grievant(s), the respondent(s), and the dean. If the grievance directly involves the dean, the report and recommendation(s) of the Unit Academic Grievance Committee shall be referred for decision to the appropriate academic vice president (now referred to as the University Provost).
11. The student's grievance will not be included as part of the student's record, unless it results in a change in student status or the student voluntarily inserts the information.
12. Until the grievance is resolved, the student may continue the natural academic progression through the academic unit, subject to the requirements of Article 6.6, "Academic Review, Advancement, Probation, and Dismissal of Students," and Article 6.7, "Nonacademic Disciplinary Procedures," of [The Redbook](#).

Section 5: Decision. The dean shall approve or reject the committee's recommendation(s) within 28 days after receiving it (them). If the decision of the dean is not in accord with the committee's recommendation(s), the dean shall state the reasons for that decision, in writing, to all persons directly involved in the grievance and to the committee. The dean shall then take appropriate action to implement his or her decision after the time for appeal has elapsed.

Section 6: Rehearing. A grievance committee, within 21 days after delivery of its report, may be petitioned to reconsider its decision upon the basis of evidence of misrepresentation of materials, facts, or upon the basis of newly discovered evidence clearly not available at the original hearing.

Section 7: Appeal. Any party to the grievance may appeal to the University Student Grievance Committee within 21 days from the date of the final decision of the dean if the dean's decision does not concur with the recommendation of the grievance committee.

University Policies and Procedures

Student Grievance Officer

The University of Louisville Student Grievance Officer is a tenured faculty member who is responsible for informing students of their rights and obligations under the University Student Grievance procedure and especially the deadlines that have been established.

The Grievance Officer will assist the student in efforts to achieve informal resolution in as many academic or non-academic complaints possible.

One of the main goals of the Student Grievance Officer is to establish an understanding among students, faculty, staff and administration when there is conflict.

Problems pertaining to grades, financial aid, University parking, housing, food services, registration, etc., may all be discussed with the Student Grievance Officer as a means of seeking direction for the pursuit of a resolution. Any aspect of the University that creates a problem for students is a matter of concern for the Student Grievance Officer.

This service is available to all students. Voice mail is available (852-0440) but e-mail (bghart01@louisville.edu) is the preferred method of contact.

Privacy of Student Records

The University of Louisville hereby notifies students concerning the Family Educational Rights and Privacy Act of 1974 (FERPA). This Act, with which the institution intends to comply fully, was designed to protect the privacy of educational records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading information. Students also have the right to file complaints with the Family Educational Rights and Privacy Act Office, Department of Education, concerning alleged failures by the institution to comply with the Act.

The University has adopted a policy which explains in detail the procedures to be used by the University for Compliance with the provisions of the Act and the regulations adopted pursuant thereto. Copies of the policy can be obtained from the University Archives and Records Center, Ekstrom Library. Questions concerning the Family Educational Rights and Privacy Act may be referred to the Director, University Archives and Records Center or visit the Website at: <http://louisville.edu/library/archives/>.

Drug-Free Schools and Communities Act Amendments of 1989

On December 12, 1989, President Bush signed into law the Drug-Free Schools and Communities Act Amendments of 1989. These Amendments require that higher education institutions receiving any federal funding must notify each student and employee annually of its program to prevent the illicit use of drugs and the abuse of alcohol by students and employees.

We at the University of Louisville have begun programs in the past few years to combat the misuse and abuse of alcohol and other chemical substances. We realize; however, that only through a concerted effort by all, can we make any major strides in preventing substance abuse. The following is the University of Louisville's Drug-Free Schools Notice:

Drug-Free Schools Notice

As required by the Federal Drug- Free Schools and Communities Act Amendments of 1989, you are hereby notified by the University of Louisville that on University premises or at University-sponsored activities the following acts are prohibited:

1. distribution, possession, or use of any illegal drug or controlled substance without legal authorization;

2. providing alcoholic beverages to individuals under 21 years of age, or possession of alcoholic beverages by individuals under 21 years of age; or
3. illegal possession of an open container of an alcoholic beverage, public intoxication, driving while intoxicated, and drinking alcoholic beverages in an unlicensed public place.

In addition to imposition of disciplinary sanctions under University procedures including suspension or separation from the University for such acts, students or employees may face prosecution and imprisonment under Federal and Kentucky laws which make such acts felony and misdemeanor crimes.

The Code of Student Conduct lists details of offenses and disciplines for students. Staff may be disciplined under Section 11.1 of the Staff Handbook. Faculty may be disciplined by Deans per Redbook Sections 4.5.3 or 3.2.2 with review per 4.4 for sanctions less than dismissal or suspension for one year.

The health risks associated with the misuse and abuse of mind-altering drugs, including controlled substances and alcohol, include but are not limited to: physical and psychological dependence; damage to the brain, pancreas, kidneys and lungs; high blood pressure, heart attacks, and strokes; ulcers; birth defects; a diminished immune system; and, death.

The Counseling Center and Student Health Services provide assessment and referral services to University students, as well as serving as an alcohol and other drug information/education resource. For further information, call 852-6585. Service for faculty and staff are available through the Faculty/Staff Assistance Program. For further information call 852- 6543.

Americans with Disabilities Act

ADA Policy Statement University of Louisville

The University of Louisville is committed to providing equal opportunity for persons with disabilities in full compliance with the Americans with Disabilities Act of 1990 (ADA), and Section 504 of the Rehabilitation Act of 1973 (504). The University's 504/ADA Coordinator is responsible for all campus activities relevant to Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. The University Affirmative Action Officer will monitor compliance and assist all unit heads in meeting their equal opportunity obligations. The University Disability Resource Center staff will assist the university community in fulfilling its responsibility by serving as an information resource center and coordinating support services for students with disabilities.

ADA and 504 Grievance Procedures University of Louisville

The following grievance procedure is being recommended to provide prompt and equitable resolution of complaints concerning ADA and Section 504 of the Rehabilitation Act of 1973.

The University of Louisville ADA Grievance Procedure is an internal grievance procedure providing for prompt and equitable resolution of complaints alleging any action prohibited by the

U.S. Department of Justice regulations implementing Title II of the Americans with Disabilities Act. Title II states, in part, that "no otherwise qualified individual with a disability shall, solely by reason of such disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination" in programs or activities sponsored by an agency.

General information regarding ADA or 504 can be addressed to:

Director
Disability Resource Center
Robbins Hall Room 101
Phone: 502-852-6938

Complaints should be addressed to the person who has been designated to coordinate ADA compliance efforts:

Director
Affirmative Action Office
Personnel Services Building
Phone: 502-852-6538

1. A complaint should be filed in writing, contain the name and address of the person filing it, and briefly describe the alleged violation. Upon receipt of the written notice of complaint, the Director of Affirmative Action/Employee Relations or his/her designee shall acknowledge receipt within five workdays.
2. A complaint should be filed within 180 days after the complainant becomes aware of the alleged violation.
3. An investigation, as may be appropriate, shall follow a filing of complaint. The investigation shall be conducted by the Affirmative Action Office. This internal Complaint procedure contemplates an informal but thorough investigation, affording all interested persons and their representatives, if any, an opportunity to submit evidence relevant to a complaint.
4. A written determination regarding the investigation of the complaint and a description of the resolution, if any, shall be issued by the Affirmative Action Office and a copy forwarded to the complainant no later than 60 days after its filing.
5. The Affirmative Action Office shall maintain the files and records relating to the complaints filed.
6. The complainants may request a reconsideration of the case in instances where he or she is dissatisfied with the resolution. The request for reconsideration should be made within 15 work days after receipt of the determination to the Affirmative Action Office.
7. The right of a person to a prompt and equitable resolution of the complaint filed hereunder shall not be impaired by the person's pursuit of other remedies such as the filing of an ADA complaint with the responsible federal department or agency. Use of this grievance procedure is not a prerequisite to the pursuit of other remedies.
8. These rules shall be construed to protect the substantive rights of interested persons, to meet appropriate due process standards, and to assure that the University complies with the ADA and implementing regulations.

Code of Student Conduct

The Code of Student Conduct is the University's policy regarding non-academic misconduct and discipline of students. The primary purpose for the imposition of non-academic discipline in the University campus setting is to preserve and protect a quality educational environment. The Code of Student Conduct is published on the worldwide web <http://louisville.edu/dos/students/code-of-student-conduct.html> and through the Dean of Students Office, Student Activities Center, Room W301. If you have any questions or would like information pertaining to reporting an alleged incident of non-academic misconduct, please contact the Dean of Students Office at 852-5787.

Code of Student Rights and Responsibilities

Section 1. Purpose

The Code of Student Rights and Responsibilities is set forth in writing in order to give students general notice of their rights and responsibilities at the University of Louisville. Further rights and responsibilities are set forth in other University rules and policies, including the Code of Student Conduct, Residence Hall contracts, and academic unit bulletins. It is the students' responsibility to be aware of all University rules and policies; students should check with the office of the Assistant Vice President for Student Life and with their academic units if they have any questions about the purposes or intent of these policies.

The University is a public educational institution for adults rather than a custodial institution. Consistent with the role of the University to educate its students and to stimulate student autonomy and independence, University regulation and supervision of student life on and off campus is limited. The University does not assume responsibility or liability for the conduct of its students; responsibility and liability for student conduct rests with the student as inherent attributes of his or her adult status, concurrently with the student's freedom of choice regarding his or her presence at the University and his or her own conduct and associations.

Section 2. Definitions

When used in this Code:

1. The term "academic dishonesty" means obtaining or seeking to obtain an unfair academic advantage for oneself or for any other student; it includes lying, cheating, stealing, or engaging in otherwise dishonest conduct in the course of or related to any academic exercise.
2. The term "academic exercise" means a test, quiz, examination, speech, presentation, paper, field or laboratory work, or any other academic activity on which a student is evaluated.
3. The term "group" means a number of persons who are associated with each other and who have not complied with the University requirements for recognition as an organization.

4. The term "organization" means a number of persons who are associated with each other and who have complied with the University requirements for recognition.
5. The term "student" means any person taking courses at the University, either full time or part time, pursuing undergraduate, graduate or extension studies on a regular quarter, semester, or summer-term basis.
6. The term "student broadcast" means oral material published on a student operated radio or television station.
7. The term "student press" means either a student publication or a student broadcast.
8. The term "student publication" means written material published by a student organization.
9. The term "teacher" means any person hired by the University to conduct classroom activities. In certain situations, a person may be both "student" and "teacher." Determination of the person's status in a particular situation shall be determined by the surrounding circumstances.
10. The term "University" means the University of Louisville and, collectively, those responsible for its control and operation.

Section 3. Admission and Financial Aid

All applicants for admission and financial aid to the University shall be considered without regard for race, color, national origin, religion, sex, handicap not affecting qualification, or political beliefs.

Section 4. Classroom Rights and Responsibilities.

1. A student shall be evaluated on demonstrated knowledge and academic performance, and not on the basis of personal or political beliefs or on the basis of race, color, national origin, religion, sex, age, or handicap not affecting academic performance.
2. A student has freedom of inquiry, of legitimate classroom discussion, and of free expression of his or her opinion, subject to the teacher's responsibilities to maintain order and to complete the course requirements.
3. A student is responsible for fulfilling the stated requirements of all courses in which he or she is enrolled.
4. A student has the right:
 - a. To be informed in reasonable detail at the first or second class meeting about the nature of the course and to expect the course to correspond generally to its description in the appropriate University catalog or bulletin;
 - b. to be informed in writing and in reasonable detail at the first or second class meeting of course requirements and assignments;
 - c. to be informed in writing and in reasonable detail at the first or second class meeting of standards and methods used in evaluating the student's academic performance;
 - d. to be informed in writing of any necessary changes in assignments, requirements, or methods of grading during the semester with the reasons for such changes.
5. A student has the right to confidentiality in the student/teacher relationship regarding the student's personal or political beliefs. Disclosures of a student's personal or political

beliefs, expressed in writing or in private conversation, shall not be made public without explicit permission of the student.

Charges of violations of these classroom rights and responsibilities shall be handled through the appropriate academic unit level procedures.

Section 5. Academic Dishonesty

Academic dishonesty is prohibited at the University of Louisville and all of its programs. It is a serious offense because it diminishes the quality of scholarship, makes accurate evaluation of student progress impossible, and defrauds those in society who must ultimately depend upon the knowledge and integrity of the institution and its students and faculty.

Academic dishonesty includes, but is not limited to, the following:

1. ***Cheating:***
 - a. Using or attempting to use books, notes, study aids, calculators, or any other documents, devices, or information in any academic exercise without prior authorization by the teacher.
 - b. Copying or attempting to copy from another person's paper, report, laboratory work, computer program, or other work material in any academic exercise.
 - c. Procuring or using tests or examinations, or any other information regarding the content of a test or examination, before the scheduled exercise without prior authorization by the teacher.
 - d. Unauthorized communication during any academic exercise.
 - e. Discussing the contents of tests or examinations with students who have not yet taken the tests or examinations if the instructor has forbidden such discussion.
 - f. Sending a substitute to take one's examination, test, or quiz, or to perform one's field or laboratory work; acting as a substitute for another student at any examination, test, or quiz, or at a field or laboratory work assignment.
 - g. Conducting research or preparing work for another student, or allowing others to conduct one's research or prepare one's work, without prior authorization by the teacher.

Except when otherwise explicitly stated by the teacher, examination questions shall become public after they have been given.

2. ***Fabrication:*** Inventing or making up data, research results, information, or procedures, such as:
 - a. Inventing or making up data, research results, information, or procedures.
 - b. Inventing a record of any portion thereof regarding internship, clinical, or practicum experience.
3. ***Falsification:*** Altering or falsifying information, such as:
 - a. Changing grade reports or other academic records.
 - b. Altering the record of experimental procedures, data, or results.

- c. Altering the record of or reporting false information about internship, clinical, or practicum experiences.
 - d. Forging someone's signature or identification on an academic record.
 - e. Altering a returned examination paper in order to claim that the examination was graded erroneously.
 - f. Falsely citing a source of information.
4. **Multiple Submission:** The submission of substantial portions of the same academic work, including oral reports, for credit more than once without prior authorization by the teacher involved.
5. **Plagiarism:** Representing the words or ideas of someone else as one's own in any academic exercise, such as:
 - a. Submitting as one's own a paper written by another person or by a commercial "ghost writing" service.
 - b. Exactly reproducing someone else's words without identifying the words with quotation marks or by appropriate indentation, or without properly citing the quotation in a footnote or reference.
 - c. Paraphrasing or summarizing someone else's work without acknowledging the source with a footnote or reference.
 - d. Using facts, data, graphs, charts, or other information without acknowledging the source with a footnote or reference. Borrowed facts or information obtained in one's research or reading must be acknowledged unless they are "common knowledge". Clear examples of "common knowledge" include the names of leaders of prominent nations, basic scientific laws, and the meaning of fundamental concepts and principles in a discipline. The specific audience for which a paper is written may determine what can be viewed as "common knowledge": for example, the facts commonly known by a group of chemists will differ radically from those known by a more general audience. Students should check with their teachers regarding what can be viewed as "common knowledge" within a specific field or assignment, but often the student will have to make the final judgment. When in doubt, footnotes or references should be used.
6. **Complicity in Academic Dishonesty:** Helping or attempting to commit an academically dishonest act. The academic units may have additional guidelines regarding academic dishonesty. It is the student's responsibility to check with their teachers and academic units to obtain those guidelines.

Section 6. Discipline Procedures for Academic Dishonesty

Charges of academic dishonesty shall be handled through the appropriate academic unit level procedures.

An academic unit that determines that a student is guilty of academic dishonesty may impose any academic punishment on the student that it sees fit, including suspension or expulsion from the academic unit. A student has no right to appeal the final decision of an academic unit. However, a student who believes that he or she has been treated unfairly, has been discriminated against, or has had his or her rights abridged by the academic unit may file a grievance with the Unit Academic Grievance Committee, pursuant to the provisions of the Student Academic Grievance

Procedure; the Unit Academic Grievance Committee may not substitute its judgment on the merits for the judgment of the academic unit.

An academic unit that suspends or expels a student from the academic unit because the student has been found guilty of academic dishonesty may recommend to the University Provost in writing that the student also be suspended or expelled from all other programs and academic units of the University. Within four weeks of receiving such a recommendation, the Provost shall issue a written decision. Neither the student nor the academic unit shall have the right to appeal the Provost's decision. However, a student who believes that he or she has been treated unfairly, has been discriminated against, or has had his or her rights abridged by the issuance of a decision by the Provost may file a grievance with the University Student Grievance Committee, pursuant to the provisions of the Student Academic Grievance Procedure; the University Student Academic Grievance Committee may not substitute its judgment on the merits for the judgment of the Provost.

Section 7. Campus Expression

1. Students have the right of freedom of expression to the extent allowed by law.
2. Students may picket or demonstrate for a cause, subject to the following conditions:
 - a. The students must act in an orderly and peaceful manner.
 - b. The students must not in any way interfere with the proper functioning of the University.
 - c. Where students demonstrate in an area not traditionally used as an open public forum, the University reserves the right to make reasonable restrictions as to time, place, and manner of the student demonstrations.
3. Students may distribute written material on campus without prior approval, providing such distribution does not disrupt the operations of the University or violate University rules.
4. Students may invite to campus and hear on campus speakers of their choice on subjects of their choice; approval will not be withheld by any University official for the purpose of censorship.

Section 8. The Student Press

1. The student press is free to deal openly, fearlessly, and responsibly with issues of interest and importance to the academic community. There shall be no prior approval of student press content by the University.
2. The student press is responsible for adhering to the canons of responsible journalism and for complying with the law. Student publications and broadcasts shall not publish libelous or slanderous matter, or any other content that violates the law.
3. All student publications and broadcasts shall explicitly state that the opinions expressed are not necessarily those of the University or its student body.
4. Students may not be disciplined by the University for their participation with the student press except for violations of University rules that are not inconsistent with the guarantees contained herein.

Section 9. University Facilities

1. Appropriate University facilities shall be available to organizations within the University community for regular business meetings, for social programs, and for programs open to the public.
2. Reasonable conditions may be imposed to regulate the timeliness of requests, to determine the appropriateness of the space assigned, to regulate time and use, and to insure proper maintenance.
3. Preference may be given to programs designed for audiences consisting primarily of members of the University community.
4. Allocation of space shall be made based on priority of requests and the demonstrated needs of the organization.
5. Charges may be imposed for any unusual costs for use of facilities.
6. Physical abuse of assigned facilities may result in reasonable limitations on future allocation of space to offending parties and will require restitution of damages.
7. The organization requesting space must inform the University of the general purpose of any meeting open to persons other than members and the names of outside speakers.

Section 10. Use of University Name and Insignia

No individual, group, or organization may use the University name or insignia without the express authorization of the University except to identify the University affiliation. University approval or disapproval of any policy or issue may not be stated or implied by any individual, group, or organization.

Section 11. Campus Residence Facilities

Students have the right of privacy in campus residence facilities.

1. Nothing in the University relationship or residence hall contract may expressly or impliedly give the institution or residence hall officials authority to consent to search of a student's room or residence by police or other law enforcement officials unless they have obtained a search warrant.
2. The University reserves the right to enter a student's room in a residence hall or a student's apartment in a campus residence:
 - a. in emergencies where imminent danger to life, safety, health, or property is reasonably feared;
 - b. to make necessary repairs, improvements, or alterations in the facility;
 - c. to provide necessary pest control services;
 - d. to inspect the facility as deemed necessary by the University.

Section 12. Student Records

The privacy and confidentiality of all student records shall be preserved in accordance with applicable laws. The University shall establish and adhere to a clear and definitive records policy.

Section 13. Campus Organizations

1. Organizations and groups may be established within the University for any legal purpose. Affiliation with an extramural organization shall not, in itself, disqualify the University branch or chapter from University privileges. A group shall become a formally recognized organization through procedures established by the Student Government Association, upon approval of the Vice President for Student Affairs.
2. Groups of a continuing nature must institute proceedings for formal recognition if they are to receive benefits from the University.
3. Recognition of an organization by the University infers neither approval nor disapproval of the aims, objectives, and policies of the organization, nor liability for the actions of the organization.
4. Membership in all University-related organizations shall be open to any member of the University community who is willing to subscribe to the stated aims and meet the stated obligations of the organization, provided such aims and obligations are lawful.
5. Membership lists are confidential and solely for the use of the organization, except that names and addresses of current organization officers shall be reported to the University as a condition of continuing University recognition.
6. Any organization that engages in activities either on or off campus that are illegal or contrary to any University policy may have sanctions imposed against it, including withdrawal of University recognition.

Section 14. Promulgation of University Rules Affecting Students

Rules and Policies affecting students shall be published in the Student Handbook, in the appropriate University catalogs, or in any other appropriate publication prior to their enforcement. Included in the Student Handbook are the following: Academic Grievance Procedure, Code of Student Conduct, Code of Student Rights and Responsibilities, Policy on Consumption of Alcoholic Beverages for Recognized Student Organizations, Hazing and Initiation Activities Policy, Non-academic Grievance Policy and the Sexual Harassment Policy. Copies of the Student Handbook are available from the Office of Student Life.

Special Facilities and Services

University Libraries

The University offers an extensive library system designed to support undergraduate and graduate teaching, learning and research. The Library system consists of the Main Library, the Fine Arts Library, the Law Library, the Music Library, the Health Sciences Library, the Engineering, Physical Science, and Technology Library and the University Archives and Records Center. Total library holdings number approximately two million volumes.

The libraries subscribe to 24,872 journals and to over 30 electronic databases, with electronic access to more than 30,000 journals. In addition, the libraries hold over 2 million items in microform.

The University Libraries provide access to electronic resources and databases covering a wide spectrum of subjects for faculty, staff and students. The Interlibrary Loan units of the Ekstrom and Health Sciences libraries provide access to the collections of the Kentuckiana Metroversity member schools, the Kentucky Commonwealth Virtual Library (KCVL), and other libraries throughout the state, nation and the world for materials not owned by the University of Louisville Libraries. The libraries' collections are accessed through the Minerva online catalog at: louisville.edu/library

For more extensive information regarding The University of Louisville Libraries visit their website: louisville.edu/library

University Archives and Records Center

The University Archives is a research repository of national significance. It contains primary sources relating to the university, Louisville, and the nation. It attracts students, faculty, and scholars from Louisville, from elsewhere in the U.S., and from other countries. It collects, preserves, and makes available for research historical manuscripts, oral history interviews, and other primary research materials, and thus serves as a research laboratory for humanists, social scientists, and others. Its collections include nineteenth and twentieth century records of area businesses, cultural organizations, social service agencies, and churches; personal papers of politicians, scholars, members of the Jewish and African-American communities, women, and other prominent and representative Louisvillians; and publications, papers, and photographs documenting the history of the university. Students with class projects, theses, or dissertations requiring primary sources are invited to consult this office.

Information Technology Services

UofL's Information Technology unit (IT) is responsible for planning, implementation, deployment, and management of information technology services in support of the instructional, research, administrative, and service programs of the University.

For more information regarding the many services offered by Information Technology, please visit their web-site: louisville.edu/it

International Center

The International Center is the university-wide clearing house of information and resources for UofL faculty, students, and researchers involved in academic exchanges, overseas "live and learn" opportunities, and academic research. The International Center promotes energetically the internationalization efforts of the University. It provides advice and counsel to UofL faculty, students, and researchers traveling abroad and assistance to international students, faculty, and researchers coming to UofL for study or work.

E-mail: intcent@louisville.edu or visit <http://louisville.edu/internationalcenter>

Residence Facilities

For complete information regarding accommodations and for application forms inquiries should be addressed to:

University of Louisville
Residence Administration
University of Louisville
Louisville, KY 40292
louisville.edu/student/housing

Student Health and Insurance

The University of Louisville offers a Comprehensive Medical Plan to meet student health care needs. This Comprehensive plan is a major medical and hospitalization plan which has coverage for both inpatient and outpatient services. Similar to an HMO, the Health Services Office serves as the primary care provider and a referral is necessary for most services rendered outside of the Student Health Services. Purchase of the Comprehensive Plan provides coverage for physician visits at the Health Services Office (HSO) which has two clinical locations.

To be eligible for coverage under the Comprehensive Plan, students must be one of the following:

1. an undergraduate student taking 6 or more credit hours
2. a graduate student taking 3 or more hours or degree candidate,
3. GTA, GTS and GRA students receiving a stipend check from the University receive the Comprehensive Plan coverage as a benefit of their employment. If you believe you are eligible for this benefit please check with your department to verify coverage.

Dependents of insured students are eligible for the Comprehensive Medical benefits for an additional premium. Insured spouses are eligible for coverage at the Health Service Office facilities. Children under the age of 18 are not eligible for the Health Services benefit and cannot be seen in the Health Services Office.

The Health Service Offices operate 12 months of the year. The Belknap Office is located on the main Campus, 2207 South Brook Street, in the Student Health & Counseling Building, between the Student Activities Center and the Post Office.

The Health Sciences Center (HSC) Office is located at 550 South Jackson Street, Ambulatory Care Building (ACB) 1st Floor.

For more information and appointments, please call the Belknap Office at (502) 852-6479 or the HSC Office at (502) 852-6446. The Insurance Advocate can be reached at (502) 852-6519.

Student Services

Student Services Administration, Undergraduate Admissions, Orientation, Testing Services, Financial Aid, Registrar, Enrollment Systems, Commencement, Residency, and Student-Athlete Certification.

Student Life

Housing and Residence Life, Intramural and Recreational Sports, Student Activities, Greek Life, Recognized Student Organizations, Student Government Association, ACCESS (Adult Services), Service Learning, Swain Student Activities Center Administration, Student Disciplinary Services, Counseling Center, Career Development Center, and International Service Learning Program.

Disability Resource Center

The Disability Resource Center coordinates services and programs for students and prospective students with disabilities. Accommodations and support services are individualized, depending on the needs of each student. Services and programs are designed to assure access for qualified students with disabilities to all programs and activities of the university. Students are strongly encouraged to make early contact with the Disability Resource Center to assure adequate time to implement support services.

Financial Aid and Financial Settlement**Continuing Registration**

Tuition and fees are due on, or before, the designated due date for the semester. Payment may be made by cash, check, money order, charge card (MasterCard, Visa), or financial aid credit. Payments may be made by mail, by use of the deposit box located in the front entrance of the Houchens Building, or at the Office of the Bursar.

Failure to receive a Statement of Account will not relieve the student of the responsibility for making financial settlement by the designated due date. Continuing registrations which are not financially settled by the designated due date may have their course registration cancelled and/or be assessed financial penalties. The Continuing Registration designated due dates are listed in the current Schedule of Courses and on the Bursar's web site at: ulink.louisville.edu (Tuition-Fees-Payment Options, Payment Options). Students may view their account via ULink. Financial statements are no longer sent to students via mail. All account information may be found on the students ULink

Regular Registration

Students who register after Continuing Registration should be prepared to fully settle financial obligations by the last day to drop/add for the semester. Failure to fully settle financial obligations may result in course cancellation and/or financial penalties.

Senior Citizen Tuition Remission

The University offers tuition remission to individuals who are classified by Admissions as residents of Kentucky and are at least 65 years of age on, or before, the first day of classes for the semester. Special costs, such as course fees and parking, are not covered by this program and are the financial responsibility of the student. Proof of age may be shown by presenting a driver's license or other age verification document at the Office of the Bursar.

These individuals must secure permission of the Graduate School in order to enroll in graduate-level courses. Normal admission processes must be followed in order to gain admission to a degree program.

Financial Penalties

Students whose accounts are not paid by established semester deadlines may be subject to course cancellation. Students with unpaid account balances will be placed on Financial Hold by the Bursar's Office. Students placed on Financial Hold become ineligible for further registration and transcripts will not be released until the student account is paid in full. A late payment fee of \$50.00 may be assessed when student accounts are not paid by the last day to drop/ add. A student whose payment is not honored by the bank on which it was drawn may be assessed a return payment fee. If restitution is not made within 10 days of notification, the student may be subject to course cancellation and/ or legal action.

Debtors who do not make satisfactory payment arrangements on their past due accounts may have their accounts placed with a collection agency. It is the policy of the University that unpaid accounts will be assessed the costs and expenses of collection, including attorney fees.

Withdrawal Policy

The effective withdrawal date is the date on which the withdrawal is processed in the Student Records System. This date is used in calculating any applicable tuition reduction.

Financial Aid Recipients

Determinations regarding refunds of resulting credit balances will be based on regulations governing the financial aid awarded to the student.

Federal regulations mandate that students have the right to cancel all or a portion of an EFT loan disbursement and have the loan proceeds returned to the lender. To request cancellation of all or a portion of your loan, contact the Financial Aid Office in writing. (Financial Aid Office, University of Louisville, Louisville KY 40292)

For additional information contact Student Financial Aid Office or review our Consumer Information online at: louisville.edu/financialaid

Financial Settlement Options

Due dates, payment information, payment plan options, and payment plan forms for specific semesters is updated regularly on the Bursar's web site at: ulink.louisville.edu

Tuition-Fees-Payment Options, Payment Options. Any questions may be directed to the Bursar's Office (502-852-6503). You may also address your questions to the Bursar's Office by email and receive an email response (bursar@louisville.edu).

Financial Aid

If federal financial assistance is needed, the Free Application for Federal Student Aid (FAFSA) may be obtained on the web at www.fafsa.ed.gov, by calling the Federal Student Aid Information Center at 1-800-433-3243, or in U of L's Financial Aid Office. The formal application period for financial assistance for the following academic year is January 1 to March 15. Applications submitted after March 15 will be evaluated subject to the availability of funds. Applications and information are available from the [Student Financial Aid Office](#).

University of Louisville
Student Financial Aid Office
Louisville, KY 40292

Website: louisville.edu/financialaid

Email: finaid@louisville.edu

Call Center: 502-852-5511

Fax: 502-852-0182

Satisfactory Academic Progress for Financial Aid Assessment

All students who apply for aid from the federal financial aid programs must meet the standards of the University's Satisfactory Academic Progress Policy. This policy consists of three components: GPA, FEH, and FAYE. Graduate students are not considered to be meeting the GPA requirement as long as they are allowed to continue to enroll. Financial Aid Earned Hours (FEH) is a quantitative measure to evaluate minimum financial aid earned hours during each term for which federal aid was disbursed. Graduate students who receive federal aid based on at least half time enrollment are expected to earn 4.5 hours each semester or 9 hours fall/spring and 12 if you attended the prior summer term. Financial Aid Years of Eligibility (FAYE) is an index which establishes limitations on the cumulative length of time that a student may be enrolled in a degree program and receive consideration for federal financial aid awards. FAYE is a calculation based on the number of cumulative earned hours toward a degree in a student's career. For graduate students the limit has been set at 54 cumulative earned hours. Graduate School hours are included toward the 90 hour cumulative limit on a Specialist Degree and 108 hours on a Doctorate Degree. Once students have reached the maximum FAYE, they are no longer eligible for federal financial aid at their current degree level.

Aid Recipients Receiving All `F' Grades

A student receiving all `F' grades is required to comply with the federal Title IV Refund Policy as well as the University of Louisville Satisfactory Academic Progress Policy. When federal financial aid either partially or fully pays educational expenses and the student receives all `F' grades, the Financial Aid Office is required by federal regulation to treat the student's financial aid file as an "Unofficial Withdrawal." The student can avoid this status by providing acceptable proof of attendance or participation in a class related activity beyond the midpoint of the semester. If not, then an unofficial withdrawal status is considered and the Financial Aid Office must cancel and return fifty percent of the University charges back to the Title IV programs.

Scholarships

All students are encouraged to contact their particular College or University Department for information on scholarships and/or fellowship opportunities. Please visit our Outside Scholarship webpage at louisville.edu/financialaid for free search websites, guides to avoid scholarship scams, and postings on outside scholarships.

Federal Perkins Loan

The Federal Perkins Loan program provides low interest loans to students who demonstrate exceptional financial need. Eligibility requirements are established by the Student Financial Aid Office, and the University becomes the student's lender. Repayment begins 9 months after a student graduates, leaves school, or drops below half-time status. Award amounts for full-time students at U of L are determined annually. The aggregate total that a graduate may borrow cannot exceed \$40,000 including any Perkins borrowed as an undergraduate.

Federal Stafford Loan Program (*subsidized and unsubsidized*)

Federal Stafford Loans are low-interest loans made to students by lenders such as banks, credit unions, and savings and loan companies to help students pay for the cost of postsecondary education. Any degree-seeking student attending U of L at least half-time may borrow through this program. Students may qualify for a need-based, subsidized Stafford Loan, a non-need-based, unsubsidized Stafford Loan, or a combination of both. Need-based loans are called subsidized because the federal government pays the interest during in-school and deferment periods. Loan amounts are determined by a student's grade level, financial need, and cost of attendance. Graduate students may borrow up to \$8,500 per year in the subsidized Stafford Loan program, and up to an additional \$10,000 per year in the unsubsidized Stafford Loan program. Graduate students may not borrow more than \$138,500 (\$65,500 in the subsidized program, and \$73,000 in unsubsidized loans). The graduate debt limit includes loans received as an undergraduate. The interest rate for Stafford Loans is variable with a cap of 8.25%. The rate changes every July 1. Repayment of Stafford Loans begins six months after a student graduates, leaves school, or drops below half-time. Subsidized Stafford Loan borrowers will not have to pay any principal or interest during the six month "grace" period; unsubsidized Stafford Loan borrowers will be responsible for the interest during the deferment and grace periods. All

Stafford Loans at U of L are processed electronically through Kentucky Higher Education Assistance Authority (KHEAA).

Graduate Training Assistantships

Graduate teaching, research, and service assistantships are available to qualified students in most graduate programs. These assistantships provide tuition remission, health insurance, and a stipend that is adequate to cover basic living expenses.

Applicants who are interested in being considered for assistantships, should write to the chair or graduate advisor of the department to which they are applying for admission, stating their desire to be appointed as a graduate assistant. The award of an assistantship is competitive; students who hope to be considered should present credentials that are well above the minimum required for admission.

The purpose of a graduate assistantship is to provide experience and training that augment a student's academic program. The department chair or graduate advisor will attempt to place a student in an assistantship believed to best serve the career training objective of the student. Although a student is free to make known a preference for a particular placement, the final decision is the prerogative of the department in which the student is enrolled.

The distribution of assistantships across departments may differ from year to year. Moreover, some departmental policies require that a student complete 9-18 graduate credit hours in the program before being eligible for an assistantship.

Minority Student Assistantships/ Scholarships

The Graduate School is committed to providing financial support for the recruitment and retention of qualified, under represented ethnic minority students. An award candidate must be currently enrolled or have been admitted to the degree program (M.S. or Ph.D.) and be nominated by the Department Chair and Dean. These assistantships include a monthly stipend, tuition remission and health insurance.

Resigning Appointments

As a member of the Council of Graduate Schools in the United States, the University of Louisville subscribes to the Resolution Regarding Scholars, Fellows, Trainees, and Graduate Assistants:

Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.

Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another appointment without first obtaining a written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of the Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer.

University Fellowships

A limited number of University fellowships may be awarded to outstanding students in the doctoral programs. These carry a generous stipend, health insurance, and full tuition remission. Nominations are made each spring to the Dean of the Graduate School by the chairs of departments granting the doctorates. Students do not directly apply to the Graduate School for these awards. Students who wish to be considered for fellowships should submit all credentials by January 15.

Residency Policy and Fees

13 KAR 2:045. Determination of residency status for admission and tuition assessment purposes.

RELATES TO: KRS Chapter 13B, 164.020, 164.030, 164A.330(6)

STATUTORY AUTHORITY: KRS 164.020(8)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.020(8) requires the Council on Postsecondary Education to determine tuition and approve the minimum qualifications for admission to a state postsecondary education institution and authorizes the Council to set different tuition amounts for residents of Kentucky and for nonresidents. This administrative regulation establishes the procedure and guidelines for determining the residency status of a student who is seeking admission to, or who is enrolled at, a state-supported postsecondary education institution.

Section 1. Definitions.

(1) "Academic term" means a division of the school year during which a course of studies is offered, and includes a semester, quarter, or single consolidated summer term as defined by the institution.

(2) "Continuous enrollment" means enrollment in a state-supported postsecondary education institution at the same degree level for consecutive terms, excluding summer term, since the beginning of the period for which continuous enrollment is claimed unless a sequence of continuous enrollment is broken due to extenuating circumstances beyond the student's control, including serious personal illness or injury, or illness or death of a parent.

- (3) "Degree level" means enrollment in a course or program that could result in the award of a:
- (a) Certificate, diploma, or other program award at an institution;
 - (b) Baccalaureate degree or lower, including enrollment in a course by a non-degree seeking post-baccalaureate student;
 - (c) Graduate degree or graduate certification other than a first-professional degree in law, medicine, dentistry, or "Pharm. D"; or
 - (d) Professional degree in law, medicine, dentistry, or "Pharm. D".
- (4) "Dependent person" means a person who cannot demonstrate financial independence from parents or persons other than a spouse and who does not meet the criteria for independence established in Section 5 of this administrative regulation.
- (5) "Determination of residency status" means the decision of a postsecondary education institution that may include a formal hearing that results in the classification of a person as a Kentucky resident or as a nonresident for admission and tuition assessment purposes.
- (6) "Domicile" means a person's true, fixed, and permanent home and is the place where the person intends to remain indefinitely, and to which the person expects to return if absent without intending to establish a new domicile elsewhere.
- (7) "Full-time employment" means continuous employment for at least forty-eight (48) weeks at an average of at least thirty (30) hours per week.
- (8) "Independent person" means a person who demonstrates financial independence from parents or persons other than a spouse and who meets the criteria for independence established in Section 5 of this administrative regulation.
- (9) "Institution" means an entity defined by KRS 164.001(12) if the type of institution is not expressly stated and includes the Kentucky Virtual University, the Council on Postsecondary Education, and the Kentucky Higher Education Assistance Authority.
- (10) "Kentucky resident" means a person determined by an institution for tuition purpose to be domiciled in and a resident of Kentucky as determined by this administrative regulation.
- (11) "Nonresident" means a person who:
- (a) Is domiciled outside by Kentucky;
 - (b) Currently maintains legal residence outside Kentucky; or
 - (c) Is not a Kentucky resident as determined by this administrative regulation.

(12) "Parent" means one (1) of the following:

(a) A person's father or mother; or

(b) A court-appointed legal guardian if:

1. The guardianship is recognized by an appropriate court within the United States;
2. There was a relinquishment of the rights of the parents; and
3. The guardianship was not established primarily to confer Kentucky residency on the person.

(13) "Preponderance of the evidence" means the greater weight of evidence or evidence that is more credible and convincing to the mind.

(14) "Residence" means the place of abode of a person and the place where the person is physically present most of the time for a non-educational purpose in accordance with Section 3 of this administrative regulation.

(15) "Student financial aid" means all forms of payments to a student if one (1) condition of receiving the payment is the enrollment of the student at an institution, and includes student employment by the institution or a graduate assistantship.

(16) "Sustenance" means living expenses including room, board, maintenance, transportation, and educational expenses including tuition, fees, books, and supplies.

Section 2. Scope.

(1) State-supported postsecondary education institutions were established and are maintained by the Commonwealth of Kentucky primarily for the benefit of qualified residents of Kentucky. The substantial commitment of public resources to postsecondary education is predicated on the proposition that the state benefits significantly from the existence of an educated citizenry. As a matter of policy, access to postsecondary education shall be provided so far as feasible at reasonable cost to a qualified individual who is domiciled in Kentucky and who is a resident of Kentucky.

(2) The Council on Postsecondary Education may require a student who is neither domiciled in nor a resident of Kentucky to meet higher admission standards and to pay a higher level of tuition than resident students.

(3) This administrative regulation shall apply to all student residency determinations regardless of circumstances, including residency determinations made by the state-supported institutions for prospective and currently-enrolled students; the Southern Regional Education Board for contract spaces; reciprocity agreements, if appropriate; the Kentucky Virtual University; academic

common market programs; the Kentucky Educational Excellence Scholarship Program; and other state student financial aid programs, as appropriate.

Section 3. Determination of Residency Status; General Rules.

(1) A determination of residency shall include:

- (a) An initial determination of residency status by an institution during the admission process or upon enrollment in an institution for a specific academic term or for admission into a specific academic program;
- (b) A reconsideration of a determination of residency status by an institution based upon a changed circumstance; or
- (c) A formal hearing conducted by an institution upon request of a student after other administrative procedures have been completed.

(2) An initial determination of residency status shall be based upon:

- (a) The facts in existence when the credentials established by an institution for admission for a specific academic term have been received and during the period of review by the institution;
- (b) Information derived from admissions materials;
- (c) If applicable, other materials required by an institution and consistent with this administrative regulation; and
- (d) Other information available to the institution from any source.

(3) An individual seeking a determination of Kentucky residency status shall demonstrate that status by a preponderance of the evidence.

(4) A determination of residency status shall be based upon verifiable circumstances or actions.

(5) Evidence and information cited as the basis for Kentucky domicile and residency shall accompany the application for a determination of residency status.

(6) A student classified as a nonresident shall retain that status until the student is officially reclassified by an institution.

(7) A student may apply for a review of a determination of residency status once for each academic term.

(8) If an institution has information that a student's residency status may be incorrect, the institution shall review and determine the student's correct residency status.

(9) If the Council on Postsecondary Education has information that an institution's determination of residency status for a student may be incorrect, it may require the institution to review the circumstances and report the results of that review.

(10) An institution shall impose a penalty or sanction against a student who gives incorrect or misleading information to an institutional official, including payment of nonresident tuition for each academic term for which resident tuition was assessed based on an improper determination of residency status. The penalty or sanction may also include:

- (a) Student discipline by the institution through a policy written and disseminated to students; or
- (b) Criminal prosecution.

Section 4. Presumptions Regarding Residency Status.

(1) In making a determination of residency status, it shall be presumed that a person is a nonresident if:

- (a) A person is, or seeks to be, an undergraduate student and admissions records show the student to be a graduate of an out-of-state high school within five (5) years prior to a request for a determination of residency status;
- (b) A person's admissions records indicate the student's residence to be outside of Kentucky at the time of application for admission;
- (c) A person moves to Kentucky primarily for the purpose of enrollment in an institution;
- (d) A person moves to Kentucky and within twelve (12) months enrolls at an institution more than half time;
- (e) A person has a continuous absence of one (1) year from Kentucky; or
- (f) A person attended an out-of-state higher education institution during the past academic year and paid in-state tuition at that institution.

(2) A presumption arising from subsection (1) of this section shall only be overcome by preponderance of evidence sufficient to demonstrate that a person is domiciled in and is a resident of Kentucky.

Section 5. Determination of Whether a Student is Dependent or Independent.

(1) In a determination of residency status, an institution shall first determine whether a student is dependent or independent. This provision is predicated on the assumption that a dependent person lacks the financial ability to live independently of the person upon whom the student is dependent and therefore lacks the ability to form the requisite intent to establish domicile. A

determination that a student is independent shall be one (1) step in the overall determination of whether a student is or is not a resident of Kentucky.

(2) In determining the dependent or independent status of a person, the following information shall be considered as well as other relevant information available at the time the determination is made:

(a) 1. Whether the person has been claimed as a dependent on the federal or state tax returns of a parent or other person for the year preceding the date of application for a determination of residency status; or

2. Whether the person is no longer claimed by a parent or other person as a dependent or as an exemption for federal and state tax purposes; and

(b) Whether the person has financial earnings and resources independent of a person other than an independent spouse necessary to provide for the person's own sustenance.

(3) An individual who enrolls at an institution immediately following graduation from high school and remains enrolled shall be presumed to be a dependent person unless the contrary is evident from the information submitted.

(4) Domicile may be inferred from the student's permanent address, parent's mailing address, or location of high school of graduation.

(5) Marriage to an independent person domiciled in and who is a resident of Kentucky shall be a factor considered by an institution in determining whether a student is dependent or independent.

(6) Financial assistance from or a loan made by a parent or family member other than an independent spouse, if used for sustenance of the student:

(a) Shall not be considered in establishing a student as independent; and

(b) Shall be a factor in establishing that a student is dependent.

Section 6. Effect of a Determination of Dependent Status on a Determination of Residency Status.

(1) The effect of a determination that a person is dependent shall be:

(a) The domicile and residency of a dependent person shall be the same as either parent. The domicile and residency of the parent shall be determined in the same manner as the domicile and residency of an independent person; and

(b) The domicile and residency of a dependent person whose parents are divorced, separated, or otherwise living apart shall be Kentucky if either parent is domiciled in and

is a resident of Kentucky regardless of which parent has legal custody or is entitled to claim that person as a dependent pursuant to federal or Kentucky income tax provisions.

(2) If the parent or parents of a dependent person are Kentucky residents and are domiciled in Kentucky but subsequently move from the state:

(a) The dependent person shall be considered a resident of Kentucky while in continuous enrollment at the degree level in which currently enrolled; and

(b) The dependent person's residency status shall be reassumed if continuous enrollment is broken or the current degree level is completed.

Section 7. Member of Armed Forces of the United States, Spouse and Dependents; Effect on a Determination of Residency Status.

(1) A member, spouse, or dependent of a member whose domicile and residency was Kentucky at the time of induction into the Armed Forces of the United States, and who maintains Kentucky as home of record and permanent address, shall be entitled to Kentucky residency status:

(a) During the member's time of active service; or

(b) If the member returns to this state within six (6) months of the date of the member's discharge from active duty.

(2) (a) A member of the armed services on active duty for more than thirty (30) days and who has a permanent duty station in Kentucky shall be classified as a Kentucky resident and shall be entitled to in-state tuition as shall the spouse or a dependent child of the member. (b) A member, spouse, or dependent of a member shall not lose Kentucky residency status if the member is transferred on military orders while the member, spouse, or dependent requesting the status is in continuous enrollment at the degree level in which currently enrolled.

(3) (a) Membership in the National Guard or civilian employment at a military base alone shall not qualify a person for Kentucky residency status under the provisions of subsections (1) and (2) of this section. If a member of the Kentucky National Guard is on active duty status for a period of not less than thirty (30) days, the member shall be considered a Kentucky resident, as shall the spouse of a dependent child of the member.

(4) A person's residency status established pursuant to this section shall be reassessed if the qualifying condition is terminated.

Section 8. Status of Nonresident Aliens; Visas and Immigration.

(1) (a) A person holding a permanent residency visa or classified as a political refugee shall establish domicile and residency in the same manner as another person.

(b) Time spent in Kentucky and progress made in fulfilling the conditions of domicile and residency prior to obtaining permanent residency status shall be considered in establishing Kentucky domicile and residency.

(2) A person holding a nonimmigrant visa with designation A, E, G, H-1, H-4 if accompanying a person with an H-1 visa, I, K, L, N, R, shall establish domicile and residency the same as another person.

(3) (a) An independent person holding a nonimmigrant visa with designation B, C, D, F, H-2, H-3, H-4 if accompanying a person with an H-2 or H-3 visa, J, M, O, P, Q, S, TD, or TN shall not be classified as a Kentucky resident, because that person does not have the capacity to remain in Kentucky indefinitely and therefore cannot form the requisite intent necessary to establish domicile as defined in Section 1(6) of this administrative regulation.

(b) A dependent person holding a visa as described in paragraph (a) of this subsection, but who is a dependent of a parent holding a visa as described in subsection (2) of this section, shall be considered as holding the visa of the parent.

(c) A dependent person holding a visa described in subsection (2) of this section or paragraph (a) of this subsection, if a parent is a citizen of the United States and is a resident of and domiciled in Kentucky, shall be a resident of Kentucky for the purposes of this administrative regulation.

(4) A person shall be a Kentucky resident for the purpose of this administrative regulation if the person graduated from a Kentucky high school and:

(a) Is an undocumented alien;

(b) Holds a visa listed in subsections (2) or (3)(a) of this section; or

(c) Is a dependent of a person who holds a visa listed in subsections (2) or (3)(a) of this section.

(5) (a) Except as provided in paragraph (b) of this subsection, a person who has petitioned the federal government to reclassify visa status shall continue to be ineligible until the petition has been decided by the federal government.

(b) A person who has petitioned the federal government to reclassify his or her visa status based on marriage to a Kentucky resident and who can demonstrate that the petition has been filed and acknowledged by the federal government, may establish Kentucky domicile and residency at that time.

Section 9. Beneficiaries of a Kentucky Educational Savings Plan Trust. A beneficiary of a Kentucky Educational Savings Plan Trust shall be granted residency status if the beneficiary meets the requirements of KRS 164A.330(6).

Section 10. Criteria Used in a Determination of Residency Status.

(1) (a) A determination of Kentucky domicile and residency shall be based upon verifiable circumstances or actions.

(b) A single fact shall not be paramount, and each situation shall be evaluated to identify those facts essential to the determination of domicile and residency.

(c) A person shall not be determined to be a Kentucky resident by the performance of an act that is incidental to fulfilling an educational purpose or by an act performed as a matter of convenience.

(d) Mere physical presence in Kentucky, including living with a relative or friend, shall not be sufficient evidence of domicile and residency.

(e) A student or prospective student shall respond to all requests for information regarding domicile or residency requested by an institution.

(2) The following facts, although not conclusive, shall have probative value in their entirety and shall be individually weighted, appropriate to the facts and circumstances in each determination of residency:

(a) Acceptance of an offer of full-time employment or transfer to an employer in Kentucky or contiguous area while maintaining residence and domicile in Kentucky;

(b) Continuous physical presence in Kentucky while in a nonstudent status for the twelve (12) months immediately preceding the start of the academic term for which a classification of Kentucky residency is sought;

(c) 1. Filing a Kentucky resident income tax return for the calendar year preceding the date of application for a change in residency status; or

2. Payment of Kentucky withholding taxes while employed during the calendar year for which a change in classification is sought;

(d) Full-time employment of at least one (1) year while living in Kentucky;

(e) Attendance as a full-time, nonresident student at an out-of-state institution based on a determination by that school that the person is a resident of Kentucky;

(f) Abandonment of a former domicile or residence and establishing domicile and residency in Kentucky with application to or attendance at an institution following and incidental to the change in domicile and residency;

(g) Obtaining licensing or certification for a professional and occupational purpose in Kentucky;

- (h) Payment of real property taxes in Kentucky;
- (i) Ownership of real property in Kentucky, if the property was used by the student as a residence preceding the date of application for a determination of residency status;
- (j) Marriage of an independent student to a person who was domiciled in and a resident of Kentucky prior to the marriage; and
- (k) The extent to which a student is dependent on student financial aid in order to provide basic sustenance.

(3) Except as provided in subsection (4) of this section, the following facts, because of the ease and convenience in completing them, shall have limited probative value in a determination that a person is domiciled in and is a resident of Kentucky:

- (a) Kentucky automobile registration;
- (b) Kentucky driver's license;
- (c) Registration as a Kentucky voter;
- (d) Long-term lease of at least twelve (12) consecutive months of non-collegiate housing; and
- (e) Continued presence in Kentucky during academic breaks.

(4) The absence of a fact contained in subsection (3) of this section shall have significant probative value in determining that a student is not domiciled in or is not a resident of Kentucky.

Section 11. Effect of a Change in Circumstances on Residency Status.

- (1) If a person becomes independent or if the residency status of a parent or parents of a dependent person changes, an institution shall reassess residency either upon a request by the student or a review initiated by the institution.
- (2) Upon transfer to a Kentucky institution, a student's residency status shall be assessed by the receiving institution.
- 3) A reconsideration of a determination of residency status for a dependent person shall be subject to the provisions for continuous enrollment, if applicable.

Section 12. Student Responsibilities.

- (1) A student shall report under the proper residency classification, which includes the following actions:

- (a) Raising a question concerning residency classification;
 - (b) Making application for change of residency classification with the designated office or person at the institution; and
 - (c) Notifying the designated office or person at the institution immediately upon a change in residency.
- (2) If a student fails to notify an institutional official of a change in residency, an institutional official may investigate and evaluate the student's residency status.
- (3) (a) If a student fails to provide, by the date specified by the institution, information required by an institution in a determination of residency status, the student shall be notified by the institution that the review has been canceled and that a determination has been made.
- (b) Notification shall be made by registered mail, return receipt requested.
 - (c) Notification shall be made within ten (10) calendar days after the deadline for receipt of materials has passed.
- (4) (a) The formal hearing conducted by an institution and the final recommended order shall be a final administrative action with no appeal to the Council on Postsecondary Education.
- (b) A formal administrative hearing conducted by the Council on Postsecondary Education for residency determinations related to eligibility for the Academic Common Market and Regional Contract Programs shall be conducted pursuant to the provisions of KRS Chapter 13B and 13 KAR 2:070. The recommended order issued by the President of the Council shall be a final administrative action.
- (5) A student shall not be entitled to appeal a determination of residency status if the determination made by an institution is because a student has failed to meet published deadlines for the submission of information as set forth in subsection (3) of this section. A student may request a review of a determination of residency status in a subsequent academic term.

Section 13. Institutional Responsibilities. Each institution shall:

- (1) Provide for an administrative appeals process that includes a residency appeals officer to consider student appeals of an initial residency determination and which shall include a provision of fourteen (14) days for the student to appeal the residency appeals officer's determination;
- (2) Establish a residency review committee to consider appeals of residency determinations by the residency appeals officer. The residency review committee shall make a determination of student residency status and notify the student in writing within forty-five (45) days after receipt of the student appeal;

- (3) Establish a formal hearing process as described in Section 14 of this administrative regulation; and
- (4) Establish written policies and procedures for administering the responsibilities established in subsections (1), (2), and (3) of this section and that are:
- (a) Approved by the institution's governing board;
 - (b) Made available to all students; and
 - (c) Filed with the council.

Section 14. Formal Institutional Hearing.

- (1) A student who appeals a determination of residency by a residency review committee shall be granted a formal hearing by an institution if the request is made by a student in writing within fourteen (14) calendar days after notification of a determination by a residency review committee.
- (2) If a request for a formal hearing is received, an institution shall appoint a hearing officer to conduct a formal hearing. The hearing officer shall:
- (a) Be a person not involved in determinations of residency at an institution except for formal hearings; and
 - (b) Not be an employee in the same organizational unit as the residency appeals officer.
- (3) An institution shall have written procedures for the conduct of a formal hearing that have been adopted by the board of trustees or regents, as appropriate, and that provide for:
- (a) A hearing officer to make a recommendation on a residency appeal;
 - (b) Guarantees of due process to a student that include:
 - 1. The right of a student to be represented by legal counsel; and
 - 2. The right of a student to present information and to present testimony and information in support of a claim of Kentucky residency; and
 - (c) A recommendation to be issued by the hearing officer.
- (4) An institution's formal hearing procedures shall be filed with the Council on Postsecondary Education and shall be available to a student requesting a formal hearing.

Section 15. Cost of Formal Hearings.

(1) An institution shall pay the cost for all residency determinations including the cost of a formal hearing.

(2) A student shall pay for the cost of all legal representation in support of the student's claim of residency. (17 Ky.R. 2557; eff. 4-5-1991; Am. 22 Ky.R. 1656; 1988; eff. 5-16-1996; 23 Ky.R. 3380; 3797; 4099; eff. 6-16-1997; 24 Ky.R. 2136; 2705; 25 Ky.R. 51; eff. 7-13-1998; 25 Ky.R. 2177; 2577; 2827; eff. 6-7-1999; 749; 1238; eff. 11-12-2002; 36 Ky.R. 1083; 1951; 2033-M; eff. 4-2-2010.)

Deadline for Filing Residency Appeals

An application for a review of a determination of residency status shall be filed in the Office of Student Services no later than 30 days after the first day of classes of the term for which a determination of residency status is requested. Academic calendars are available in the Schedule of Courses, the University web site, and Offices of Admission. Pursuant to 13 KAR 2:045, Determination of Residency Status for Admission and Tuition Assessment Purposes, an institution may set other deadlines for submission of other information required by the Institution in a determination of residency status.

For specific information regarding the filing of an application, please refer to the Council on Post-secondary Education document 13 KAR 2:045, Determination of Residency Status for Admission and Tuition Assessment Purposes. Copies of the policy document are available in the Office of Student Services and Offices of Admission.

Submit the completed, signed, and notarized affidavit/application and ALL accompanying documentation to:

Office of Enrollment Management
Houchens Building, Room 160
University of Louisville
Louisville, KY 40292
Phone (502) 852-5813/6528
Fax (502) 852-3146

Institutional Accreditation and Membership

The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate, bachelor, master, specialist, doctoral, and first-professional degrees (D.M.D., J.D., M.D.). Individuals who wish to contact the Commission on Colleges regarding the accreditation status of the university may write the Commission at 1866 Southern Lane, Decatur, Georgia 30033-4097, or call (404) 679-4500.

Professional Accreditation

Accountancy - The Association to Advance Collegiate Schools of Business (AACSB International)

Art Therapy - (Expressive Therapies) American Art Therapy Association

Audiology and Speech Pathology - Council on Academic Accreditation in Audiology and Speech-Language Pathology

Business (Graduate and Undergraduate) - The Association to Advance Collegiate Schools of Business (AACSB International)

Chemistry - American Chemical Society (B.S. degree only)

Clinical Psychology - American Psychological Association

Computer Engineering and Computer Science - Computing Accreditation Commission of ABET, <http://www.abet.org>. (B.S. degree only)

Counseling Psychology - American Psychological Association.

Dental Hygiene - Commission on Dental Accreditation of the American Dental Association

Dentistry - Commission on Dental Accreditation of the American Dental Association

Education - Education Professional Standards Board, Commonwealth of Kentucky and National Council for Accreditation of Teacher Education (NCATE)

Engineering - (Chemical Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering, Mechanical Engineering, Computer Engineering and Computer Science programs) Engineering Accreditation Commission of ABET, <http://www.abet.org>. (B.S. and M.Eng. degrees)

Family Therapy - Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE)

Graduate Medicine - (House Staff) Accreditation Council for Graduate Medical Education (ACGME)

Interior Design - Foundation for Interior Design Education Research

Law - Section of Legal Education and Admissions to the Bar of the American Bar Association and Association of American Law Schools

Medicine - Liaison Committee on Medical Education, a Joint Committee of the American Medical Association and the Association of American Medical Colleges

Music and Music Therapy - National Association of Schools of Music (NASM)

Nursing - Commission on Collegiate Nursing Education

Paralegal Studies Program - Section on Paralegal Education of the American Bar Association

Pathology and Laboratory Medicine - (Post-Doctoral) Commission on Accreditation in Clinical Chemistry (COMACC)

Public Administration - National Association of Schools of Public Affairs and Administration

Public Health - Council on Education for Public Health (CEPH)

Social Work - Commission on Accreditation of the Council on Social Work Education

Theatre Arts - National Association of Schools and Theatre (NAST)

Urban Planning - American Planning Association (Master's degree)

Other Accreditation

European MBA (Germany) - Foundation for International Business Administration Accreditation (FIBAA)

Fort Knox Education Center - Military Installation Education Review (2009)

Research Resource Center - Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC)

Human Subjects Protection Program - Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP)

Administration and Faculty

Administrative Officers of the University

James R. Ramsey, Ph.D.

President

Shirley C. Willihnganz, Ph.D.

Executive Vice President and
University Provost

David L. Dunn, M.D., Ph.D.

Executive Vice President for Health Affairs

William Pierce, Ph.D.

Executive Vice President for Research

Thomas R. Jackson, Ed.D.

Vice President for Student Affairs

Priscilla Hancock, Ph.D.

Vice President for Information Technology

Keith Inman, B.A.

Vice President for University Advancement

Daniel Hall, J.D.

Vice President for Community Engagement

Thomas M. Jurich

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Suresh C. Tyagi
Neetu Tyagi
Bruce M. Tyler
Larry Tyler
Harald Unkelbach
John Usher
John Vahaly
Roland Valdes
Jeffrey C. Valentine

Riaan van Zyl
Russell Vandenbrouke
Alexis Varney
Vaclav Vetvicka
Carla Vidoni
John Virag
Gennaro F. Vito
Daniel Vivian
Michael J. Voor
Waldon B. Wacker
Kim L. Wadlington
Craig Wagner
Lisa Wagner
Barry Wainscott
Leonard C. Waite
Sarah Wald
Kandi L. Walker
Margath Walker
Monica Walker
Sherri Wallace
Krista B. Wallace-Boaz
Kevin M. Walsh
Kevin Walsh
Richard Walter
Peter Walton
Peter Walton
Eugenia Wang
Jon Warawa
Deborah Warnock
Keith Warren
Dawn Warrick
Brian Wattenberg
Brian Wattenberg
James C. Watters
Lynetta Weathers
Timothy Weaver
Jonetta Weber
P. Daniel Weeks
Lee S. Weissbach
Karla Conn Welch
Samuel Wellhausen
Monica Wendel
Shannon Hensley Wendt
Jennifer Westerfield
Juanita Westerfield

Tyrone Wheeler
Christopher White
John D. Whitesell
Jerry Whitley
Kathy Whitmore
Scott R. Whittemore
David L. Wiegman
Vernon Wiehe
Johan Wiklund
Richard Wilcke
David J. Wildstrom
Mickey R. Wilhelm
Charles Willard
Ann Elizabeth Willey
Bronwyn T. Williams
Michael Williams
Stuart J. Williams
Monnica Williams
Walter M. Williams
Craig Williamson
Gerard Williger
Shirley C. Willihnganz
Gerold Willing
Gerald Willing
Mark A. Wilson
Richard W. Wilson
Ian M. Windmill
Welby Winstead
Stephen Winters
Elaine O. Wise
Elaine Wise

Dieter Witt
Richard Wittebort
James Wittliff
James Wittliff
Krzysztof Wolek
Jean (Hicks) Wolph
John L. Wong
Hongryun Woo
Janet Woodruff-Borden
Stefanie Wooten-
Burnette
Michah Worley
Andrew L. Wright
Carol Wright
Elaine Wright
Nathaniel Wright
Dongfeng Wu
Reinhold Wurth
Bo Xu
Xiao-Ming Xu
Yongzhi (Steve) Xu
Kavitha Yaddanapudi
Lung T. Yam
Roman V. Yampolskiy
Jun Yan
Li Yang
Dongyan Yang
Pamela A. Yankeeelov
Stephen Yanoviak
M. Cecilia Yappert
Hong Ye

Mark Yeary
Wendy Yoder
Deborah Yoder-Himes
Tamara Yohannes
Esma Yolcu
Paul York
William W. Young
Stephen Young
Wolfgang Zacharias
Wolfgang Zacharias
Francis Zamborini
Gerald Zavorsky
Li Zeng
Wei-bin Zeng
Li Zeng
Haifeng (Charlie) Zhang
Qunwei Zhang
Sumei Zhang
Xiang Zhang
Jianhua (Andrew) Zhao
Qian Zhao
Heshan (Sam) Zhou
Charles Ziegler
Kristina Zierold
Wayne Zipperer
Wayne Zundel
Jacek M. Zurada
Josef M. Zurada
Jacek Zurada

Master of Arts in Anthropology

Major: ANTH

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/anthropology/>

Program Information

The **MA in anthropology at the University of Louisville** is designed to enhance student knowledge of and skills in dealing with contemporary social issues facing a globalizing community and world from an anthropological perspective and to be able to locate these in the long progression of human history and within the body of social science theory. We expect our graduates to enter professions as skilled administrators, researchers, and leaders. Although students may focus heavily on evolutionary anthropology, archaeology, or cultural anthropology, this is a general, comprehensive masters program.

Anthropology is the queen of multidisciplinary work, and we see our students taking courses from and pursuing collaborations with colleagues in Humanities, Sociology, History, Women and Gender Studies, Pan-African Studies, Political Science, Art History, Biology, and the Kent School of Social Work. Students with little or no academic background in anthropology will be required to take some preparatory courses determined in consultation with the Anthropology Graduate Coordinator.

Admission criteria include an undergraduate GPA of minimally 3.0 from an accredited college or university, a combined score of at least 1000 on the GRE verbal and quantitative sections.

Applicants must complete/submit:

- Online graduate application for admission.
- A statement of interests covering relevant experience and aspirations. This letter is absolutely critical to your successful application, as it helps us assess where you might find common interests among Department faculty.
- GRE scores.
- Official transcripts.
- Three letters of reference addressing the candidate's readiness for graduate studies, academic abilities, and potential for success. One letter may be from an employer.
- Applicants may choose to submit a writing sample.

Curriculum

The **Master of Arts in Anthropology** is a 30-hour program. It comprises 24 hours of course work at the graduate level plus 6 hours of thesis or an internship. At least 18 of the 24 hours must be in courses at the 600 level.

Students may enroll in 6 credit hours in another department; students may enroll in 500-level courses in another department with the permission of the Anthropology Graduate Coordinator.

Courses taken at the 500 or 600 level as an undergraduate may be applied toward the M.A. in Anthropology on the condition that the student earned a grade of B or higher in the course. Graduate Coordinator approval is required. Coursework earned as undergraduate and used to meet the requirements for the undergraduate degree may not be used for graduate credit.

Degree Options

The Master of Arts in Anthropology requires 30 hours of academic work at the graduate level. All students enrolled in the M.A. program are required to complete one of the following options:

Thesis (24 seminar hours plus 6 credit hours of thesis)

Core Seminars	9 hours
Topical Electives	15 hours
Thesis	6 hours
	30 hours

Non-Thesis (24 seminar hours plus 6 credit hours of internship)

Core Seminars	9 hours
Topical Electives	15 hours
Thesis	6 hours
	30 hours

Course Offerings

Core Seminars:

608 Social and Cultural Theory
612 Contemporary Issues in Anthropology

Students must select one of the following courses:

609 Research Design: Archaeology
610 Research Design: Biological Anthropology
611 Research Design: Socio-Cultural Anthropology

Topical Electives:

ANTH 501 American Crossings
ANTH 502 Anthropology and Europe
ANTH 503 Central Africa and the Politics of Development
ANTH 507 Space, Place and Culture
ANTH 530 Human Impacts on Past Environments
ANTH 531 Anthropology of Water

- ANTH 540 Human Adaptation
 ANTH 546 Problems in Urban Anthropology
 ANTH 548 Special Topics in Cultural Anthropology
 ANTH 549 Special Topics in Archaeology
 ANTH 601 Special Topics in Biological Anthropology
 ANTH 604 Problems in Social Anthropology
 ANTH 606 Regional Analysis
 ANTH 607 Emergence of Human Culture
 ANTH 621 Anthropology of Identity and Subjectivity
 ANTH 622 Anthropology of Violence
 ANTH 623 The Study of Folklore
 ANTH 624 Black Cultural Traditions
 ANTH 625 Globalization, Transnationalism, and Anthropology
 ANTH 626 Community Food Security
 ANTH 627 Political Economy and Culture
 ANTH 650 Human Evolution in Health and Disease
 ANTH 651 Seminar in Biological Anthropology
 ANTH 652 Topics in Nutritional Anthropology
 ANTH 653 Human Molecular Evolutionary Genetics
 ANTH 654 Evolutionary Medical Genetics
 ANTH 655 Analysis of Molecular Data
 ANTH 670 Independent Study (reading)
 ANTH 671 Independent Study (research)
 ANTH 672 Thesis
 ANTH 673 Internship

Departmental Faculty

Jennie Burnet, Ph.D.

Assistant Professor

Amanda Coleman

Lecturer

Fabian Crespo, Ph.D.

Assistant Professor

Phil DiBlasi, M.S.

Staff Archaeologist

John Hale, Ph.D.

Professor (Adjunct)

Anita Harris, Ph.D.

Assistant Professor

Jonathan Haws, Ph.D.

*Associate Professor and
Advising Coordinator*

Frederic Hicks, Ph.D.

Professor Emeritus

Yvonne Jones, Ph.D.

Associate Professor

Lisa Markowitz, Ph.D.

*Associate Professor and
Chair*

Kelly O'Connor, Ph.D.

Senior Lecturer

Shawn Parkhurst, Ph.D.

Associate Professor

Frances Purifoy, Ph.D.

Senior Lecturer

Julie Peteet, Ph.D.

Professor

Russell Reid, Ph.D.

Professor Emeritus

Edwin Segal, Ph.D.

Professor Emeritus

Jay Stottman, M.A.

Lecturer

Christopher Tillquist, Ph.D.

*Associate Professor and
Director of Graduate Studies*

Jeneen Wiche, M.A.

Lecturer

Jianhua Zhao, Ph.D.

Assistant Professor

Master of Science in Applied Geography

Major: AGEO

Degree Awarded: MS

Unit: GA

Program Webpage: <http://louisville.edu/geography/>

Program Information

M.S. in Applied Geography is designed to provide students with the analytical skills and background knowledge needed to solve real-world problems with geographic dimensions.

Our course offerings and faculty research areas include geographic information systems (GIS), remote sensing, climatology and meteorology, urban and regional studies, quantitative and qualitative methods, medical geography, globalization, glaciology, hydrology and water resources, geomorphology, glaciology, transportation and location analysis, border security, and land use/land cover change.

The department has state-of-the-art computer facilities with GIS and remote sensing software.

A thesis is required of all M.S. students in the program.

Program Admission

Students from geography and related fields are encouraged to apply. All applicants must have completed a B.A. or B.S. with a cumulative grade point average of 3.0 and a combined score of at least 1000 on the GRE. Applicants must submit two (2) letters of recommendation addressing candidate skills and readiness for graduate study, as well as a letter of intent outlining educational goals.

All materials must be submitted to the School of Interdisciplinary and Graduate Studies: <http://louisville.edu/graduate/apply>

Curriculum

The **M.S. in Applied Geography** is a 36-hour program with a required thesis.

It includes 15 hours of foundation courses, 15 hours of electives, and a six-hour thesis. Eighteen hours of coursework must be at the 600 level. Up to six hours of 500- or 600-level coursework can be taken from other departments. Students may attend either full- or part-time.

Geographic information systems (GIS) proficiency is required for all students. If not attained at the undergraduate level or in a job-related environment, students will be required to take GEOG

558, in addition to the above requirements. After the second semester, each student will choose a thesis advisor and two other faculty members for a thesis committee.

Required Foundation Courses – 15 hours

GEOG 600: History and Philosophy of Geography
GEOG 640: Approaches and Methods in Applied Geography
GEOG 641: Research Design and Proposal Development
GEOG 656: Advanced Quantitative Methods
GEOG 660: Qualitative Methods

Electives at 500 or 600 level – 15 hours

Thesis – 6 hours

Departmental Faculty

Keith Mountain
Associate Professor
Chair
C. Andrew Day
Assistant Professor
Andrea Gaughan
Assistant Professor
Jafar Hadizadeh
Professor
Carol Hanchette
Associate Professor

David Howarth
Professor
Wei Song
Associate Professor
Margath Walker
Assistant Professor
Haifeng (Charlie) Zhang
Assistant Professor
John Anderson
Emeritus
Don Bierman

Emeritus
Terra Clark
Emeritus
James Conkin
Emeritus
Lal Gauri
Emeritus
George Lager
Emeritus
Clara Leuthart
Emerita

Doctor of Philosophy in Sociology

Major: SOCI

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/sociology/academic-programs/doctoral>

Program Information

The Department of Sociology offers a **PhD in sociology**, which is focused on training professional researchers at the highest level to follow the discipline's focus on bringing scientific understandings to the study of social issues and problems. The unique combined requirements of an internship and a theoretically-driven dissertation provides students for both applied and academic careers. Training in both qualitative and quantitative methods and theory with substantive areas, along with internship placements in governmental, private, and non-governmental organizations, will prepare students to meet the growing demand for applied sociologists who are qualified to address directly the problems facing not only Kentucky, but our nation and the world.

Admissions Requirements

For regular admission, a student should have the following:

- graduate GPA of at least 3.0
- combined verbal/quantitative **GRE** score of 1000
- previous graduate course work in statistics, methods, and theory*
- completed thesis (or original independent work of research from another accredited graduate program)
- international students should also have a quantitative GRE sub-score of at least 500 and either (a) a TOEFL score of at least 550 (on the paper-based test), 213 (on computer-based test) or 79-80 (on the internet-based test), or (b) an IELTS score of at least 6.5.

*Students may be allowed to make up deficiencies or use equivalent graduate courses regarding these prerequisites. Students who have completed similar courses in these areas may be asked to provide both the course syllabus and completed course work to determine equivalency. Students should contact Dr. Jonetta Weber at jonettaweber@louisville.edu to discuss any questions regarding these prerequisites.

In exceptional cases, students not qualified for regular admission may be conditionally admitted by action of the Doctoral Admissions Committee.

Application Deadline

The deadline for applications for admission to the fall semester is June 1 and November 1 for the spring semester. (Late applications may be considered on an individual basis.) The Department of Sociology does not admit students during the summer session.

Students interested in being considered for a [doctoral assistantship](#) must submit their application materials (along with a letter of interest (a) indicating that they wish to be considered for an assistantship, and (b) elaborating why they feel they would be a good candidate for an assistantship) by January 5 for the fall semester and October 1 for the spring.

Application Materials

Applicants must submit *to the Graduate Admissions Office*:

- a formal graduate [application](#) (may be submitted online)
- official copies of transcripts from all colleges attended
- three letters of [recommendation](#) (preferably from former instructors, and in sociology, if possible)
- a *curriculum vitae*
- and GRE scores (and, for international students, TOEFL scores)

Applicants must also submit *to Dr. Jonetta Weber* (jonettaweber@louisville.edu):

- a personal statement addressing the questions below and of sufficient length (500-750 words) to give the Doctoral Admissions Committee a basis for evaluating the student's interest in and ability to complete the program.
- Please explain your reasons for applying to the doctoral program in sociology at UofL.
- What are your professional or occupational objectives, and how do you envision the department's program fitting into those objectives?
- What areas of sociology do you find especially interesting for study and/or research, and with which sociology faculty might you be interested in working?
- What areas (including specific sites) might be of interest to you for internship placement, and why?
- writing sample (either the student's thesis or another work of original independent research).
- and a writing sample (either the student's thesis or another work of original independent research).

Curriculum

Following is the curriculum (64 total credit hours) and four-year timeline for students pursuing the PhD in sociology:

	Fall	Spring	Summer
<u>Year 1</u>	Proseminar (SOC 704, 1 credit hour) and Sociology core/elective courses (9 credit hours total)	Sociology core/elective courses (9 credit hours total)	Independent Study (SOC 702, 6 - for doctoral teaching assistants only)

<u>Year 2</u> Sociology core/elective courses (9 hours total)	Sociology core/elective courses (3 hours total) SOC 702 Independent Study (3 hours) SOC 706 Doctoral Exam Preparation (3 hours)	Independent Study (SOC 702, 6 - for doctoral teaching assistants only)
	<i>*Begin preparing for doctoral exams</i>	
<u>Year 3</u> SOC 706 Doctoral Exam Preparation (6 hours) SOC 707 Internship Preparation (3 hours) <i>*Select internship site, negotiate internship contract; take doctoral exams</i>	SOC 708 Internship (9 hours) <i>*Conduct internship, write/defend internship report</i>	Independent Study (SOC 702, 6 - for doctoral teaching assistants only)
<u>Year 4</u> SOC 710 Dissertation Research (9 credit hours) <i>*Defend dissertation proposal</i>	Dissertation Research/Candidacy <i>*Defend dissertation</i>	

Internship

The internship will require students to secure a one-semester placement at a governmental, non-governmental, non-profit, charitable, or private organization, agreed upon by the student and her or his major advisor. Students who have earned 6 or more credit hours of C+ or lower may not begin or complete an internship placement. Further, the internship may not be started until students have passed all of the required methods courses with a grade of B- or higher. Under supervision of the chair of the internship committee, the student will conduct research for the organization in areas such as policy analysis, population need, or social problems on an issue agreed upon, in writing, by an authorized representative of the organization, the internship committee chair, and the student. The specific duties and responsibilities, a plan of research, and an outline of what the research report will encompass shall be written into the contract. The internship may consist of secondary analysis of data or the collection and analysis of original data.

The internship report will consist of the following sections: I. Summary of the Topic Being Researched, Purpose of the Research, Research Questions and/or Hypotheses, Summary of Assumptions and Concepts; II. Research Methods; III. Findings; IV. Summary and Conclusions or Recommendations. Before the report is submitted to the organization, it will be subject to a defense internal to the department, in which the student will present his or her research and respond to questions and criticisms by members of an internship committee. The committee will consist of three members of the graduate faculty from the Department of Sociology at UofL. The internship will be required of all Ph.D. students, including those who have completed

a Practicum Report as part of the requirements of an M.A. in Sociology at the University of Louisville. (Note: For repeated courses, only the new grade counts.) The Graduate Advisor, who serves as the director of graduate studies, will oversee the internship component of the program. Each student's mentor will supervise the internship. Students who receive stipends from the host agency will not be eligible for university funding.

Comprehensive Exams

Upon completion of all course work and after successful defense of the internship report, all students will prepare for comprehensive exams. The purpose of the comprehensive exam is to demonstrate expertise in three specific areas of expertise. No student may take the comprehensive exam until he or she has completed all Incompletes or grades of X, except for dissertation or research hours. No student who has more than 6 hours of a grade of C+ or below may take the comprehensive exam. Students will be tested in a methodological, theoretical, and a substantive applied area of their choosing. A reading list for each of these areas will be prepared by the student with assistance from members of the comprehensive exam committee.

The exam will consist of three questions (one question per area) developed by members of the exam committee. Students will not be permitted to see the questions until they begin taking the exam. Students will complete their exams during three four-hour sessions held in a secure setting over three consecutive days. Students will not be permitted to use books, notes, or any other materials while writing their essays. After a period of one week and not longer than two weeks, the chair of the exam committee will schedule an oral exam of a duration of not less than two and not longer than three hours, during which the student will respond to questions presented by members of the committee about the written essays. To render a passing grade, all committee members must agree to pass. Students who fail the exams may re-take the work judged unsatisfactory within the following semester. Students failing the second attempt will be expelled from the program.

Dissertation

Upon successful completion of the oral comprehensive exam, students will be admitted to candidacy. Students are required to write and present a dissertation research proposal to a dissertation committee for approval. The committee will consist of five members: three or four must be graduate faculty in the Department of Sociology; no more than two will be graduate faculty from other departments; and one may be from another university. The proposal will include a summary of research literature on the topic to be researched, the ways in which the proposed research is expected to expand upon the literature in meaningful ways, an explanation of the theoretical framework and relevant concepts that will, or is likely to, inform the data analysis, the data collection methods to be used, and the source of the data to be analyzed. Students may propose to use the data collected during their internships, but they must present in their research proposals a sound methodological and/or theoretical argument explaining how the proposed research will address gaps in the literature and why a case study method is an appropriate approach. After the proposal is completed, the dissertation committee chair will schedule a defense of the proposal, at which the student will address questions and

concerns presented by committee members. Such concerns will be included in a final draft of the research proposal, which the student will distribute to all committee members.

After approval of the research proposal, the student will conduct research for the dissertation, which will include the elements required in the research proposal, as well as a section of findings, analysis and discussion of the findings, and summary and conclusion. Upon completion of a defensible draft of the dissertation, the student will submit the draft to all members of the dissertation committee. The student will also place a copy of the dissertation at the front desk in the Sociology Department, which may be read by interested faculty or students. The committee chair will schedule a defense to be held not less than one week after distribution of the final defense draft and its placement at the front desk of the Sociology Department, and not more than two weeks after its distribution. In the defense, the student will present his or her work and then respond to questions and criticisms from members of the committee. The student will be responsible for making any final changes required by committee members. Upon completion of the final document, it will be distributed to committee members and submitted to the University, following its applicable guidelines.

By combining rigorous courses in quantitative and qualitative research methods and theory with substantive areas (e.g., the sociologies of crime and delinquency; the environment; work, labor markets, and welfare; the family; medicine and mental health; education; and inequalities based on race, ethnicity, gender, and social class) with internship placements in governmental, non-profit, charitable, private, and non-governmental organizations, the proposed program will provide students with the data gathering and analytic tools needed to investigate and discover new knowledge about social problems, issues, and trends and to offer specific policy recommendations toward the mitigation of such issues in applied settings. In addition, by requiring the completion of a comprehensive exam, dissertation proposal, and dissertation, the proposed program will provide students with the training and educational guidance needed to advance beyond concrete understandings of specific social issues in localized settings and toward more generalized and theoretically driven explanations of sociological trends.

The strength of this program is that it provides extensive training for students in two career directions, the applied and the theoretical. Students will prepare for the “real world” of Applied Sociology by completing the 9 credit hours of internship. They will undergo the rigors of the theoretical aspect of the discipline by completing a dissertation. When students complete the program they will be prepared to enter the professional work force as applied sociologists or they may choose a more traditional career in academia.

Grades

Doctoral students are expected to produce high quality work. Students who receive a grade lower than a C+, however, may re-take no more than 2 courses for which a grade lower than C+ has been earned. These courses may be retaken only once each. If the student cannot achieve grades higher than that on the second try, the student will be dismissed from the program.

Departmental Faculty

Cynthia Negrey
*Associate Professor and
Chair*

James K. Beggan
Professor

Melissa Evans-Andris
Professor

Jon H. Rieger
Professor

D. Mark Austin
Associate Professor

John A. Busch
Associate Professor

Robert M. Carini

Associate Professor

Karen M. Christopher
Associate Professor

Patricia Gagne'
Associate Professor

Gul Aldikacti Marshall
Associate Professor

Ryan Schroeder
Associate Professor

Hiromi Taniguchi
Associate Professor

Latrica Best
Assistant Professor

Derrick Brooms
Assistant Professor

Lauren Heberle
Associate Professor

Robin Hognas
Assistant Professor

Deborah A. Potter
Associate Professor

David Roelfs
Assistant Professor

Wayne M. Usui
Emeritus

Master of Arts in Art (Creative) and Art History

Major: ART

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/art/>

Program Information

To be considered for admission to the M.A. program, students must submit the following credentials:

- Application to the School of Interdisciplinary and Graduate Studies
- Transcripts of all colleges attended (undergraduate or graduate)
- Two letters of recommendation specific to the program
- Graduate Record Examination scores

Students may receive a Master of Arts degree in the Department of Fine Arts by completing thirty-one (31) hours of graduate study divided between work in the Core Curriculum and work in one of the following three tracks of study: Art History, Critical and Curatorial Studies, or Studio Art.

Curriculum

Master of Arts in Art (Creative) and Art History Core Curriculum Hours

ARTH 541: Modern Perspectives in the Visual Arts	3
Art History Elective (500 or 600 level)	3
Elective - Outside the Department of Fine Arts (500 or 600 level) (<i>with approval of advisor</i>)	3
Fine Arts Elective (500 or 600 level) (<i>outside the chosen Fine Arts Track</i>)	3
Thesis Guidance	3
Graduate Seminar	1
Total	16

Concentration in Art History

Applicants for admission to the Master's Program in this track are expected to demonstrate competence in the history of art, equivalent to an undergraduate major.

Reading knowledge of one foreign language is required for the completion of the Master's degree in the art history track. This requirement should be met during the first year in the program, but

must be met before enrolling for Thesis Guidance (ARTH 645/646). Proficiency can be demonstrated in one of two ways: 1) taking an examination administered by the department, scheduled in the fall and spring semesters; 2) completing the intermediate level of the language at the University of Louisville with a grade of B or better.

Each student must complete a core curriculum (16 hours) consisting of Art History 541 ("Modern Perspective in the Visual Arts"), six (6) hours of 500 or 600-level electives in the Department of Fine Arts, three (3) hours of 500 or 600-level electives outside the Department, three (3) hours of thesis guidance, and a one (1) hour graduate seminar.

The concentration in Art History will require fifteen (15) hours of 500 or 600-level courses in art history with a minimum of one course in each of the following areas: Ancient/Medieval; Renaissance/Baroque; Modern/Contemporary; Asian/Non-Western; and Independent Study (ARTH 643/644) (students are permitted one independent study course) concluding with a written thesis. The thesis consists of a research paper demonstrating critical knowledge of relevant sources, skill in analysis and interpretation, and ability to present the results in a well-organized and intelligent manner. The thesis must be defended in an oral examination. A reading knowledge of one foreign language is required (see above). A minimum of 12 hours (exclusive of Thesis Guidance) must be at the 600-level, of which at least 9 hours must be in art history.

Concentration in Critical and Curatorial Studies

Applicants for admission to the Master's Program in this track are expected to demonstrate competence in the history of art, studio art or arts management equivalent to an undergraduate major and an interest in museum theory and work.

Each student must complete a core curriculum (16 hours) consisting of Art History 541 ("Modern Perspectives in the Visual Arts"), six (6) hours of 500 or 600-level electives in the Department of Fine Arts, three (3) hours of 500 or 600-level electives outside the Department, three (3) hours of thesis guidance, and a one (1) hour graduate seminar (ART/ARTH 600).

The concentration in Critical and Curatorial Studies will require fifteen (15) hours of coursework consisting of ARTH 542: Special Topics (or ARTH 591/691); ARTH 547/647: Museum Methods I; ARTH 648 Curatorial Methods; a 600-level Public Administration arts management course (selected from PADM 600, 603, 609, or 612); ARTH 649 Curatorial Internship; and concluding with a thesis exhibition or curatorial project. The exhibition or curatorial project may be produced in cooperation with the University's Galleries, the Speed Art Museum, or other appropriate institutions authorized by the Department, and should be a culminating experience occurring in the final year of study. To fulfill this requirement, the candidate must submit a prefatory project proposal with the approval of their graduate advisor, produce or implement the thesis practicum proposed and appropriately document the exhibit or project. This documentation will include exhibition or project materials such as press releases, announcements, wall texts, brochures and/or catalog, and digital and/or photographic documentation of the exhibition or project as well as other corollary documentary materials. The thesis project will also include a written portion, in addition to the practicum and documentation that will provide a narrative

basis in critical theory and current professional curatorial practice detailing the planning, implementation and documentation of the project. The written thesis will be submitted in conformity with the regulations governing the form and presentation of the written master's thesis. (Note: 12 hours, exclusive of Thesis Guidance, must be at the 600 level)

Concentration

ARTH 542: Special Topics	3
ARTH 547/647: Museum Methods I	3
ARTH 648: Curatorial Methods	3
600-level Public Administration Management Course (PADM 600, 603, 609, or 612)	3
ARTH 649: Curatorial Internship	3
Written Thesis with Exhibition or Curatorial Project	
Total	15

Concentration in Studio Art

Applicants for admission to the Master's Program in this track are expected to have completed training equivalent to an undergraduate major. To demonstrate his/her ability to pursue study at the graduate level, a student must submit examples of his/her work to the department by October 15 for spring semester admission and January 15 for fall semester admission. Contact the department for complete portfolio requirements.

Each student must complete a core curriculum (16 hours) consisting of Art History 541 ("Modern Perspectives in the Visual Arts"), six (6) hours of 500 or 600-level electives in the Department of Fine Arts, three (3) hours of 500 or 600-level electives outside the department, three (3) hours of thesis guidance, and a one (1) hour graduate seminar.

The concentration in Studio Arts will consist of fifteen (15) hours of 500 or 600-level courses taken in 2-D Studios, and/or 3-D Studios concluding with a thesis exhibition (12 hours, exclusive of Thesis Guidance, must be at the 600 level). The thesis exhibition, which must be authorized by the Department, should take place during the candidate's last semester of study. To accompany this exhibition, the candidate must submit a catalog containing a prefatory statement written by the candidate, a properly documented list of works in the exhibition, photographic reproductions of the work in one of the following forms: black and white photographs, color photographs, or slides placed in plastic sleeves to be bound into the thesis. The catalog will be submitted in conformity with the regulations governing the form and presentation of the written master's thesis.

Concentration Courses

15 hours of Studio courses (500 or 600 level) to be selected in consultation with advisor.
Thesis Exhibition with Thesis Statement.

Total of 15 hours. **Total Program = 31 hours**

Departmental Faculty

Ying Kit Chan, MFA

Chair and Professor, Studio Art

Lida G. Gordon, MFA

Professor, Studio Art

James Grubola, MFA

Professor, Studio Art

Mark A. Priest, MFA

Professor, Studio Art

Steven Skaggs, MSc

Professor, Studio Art

John Whitesell, MFA

Professor, Studio Art

R. Todd Burns, MFA

Associate Professor, Studio Art

Mary Carothers, MFA

Associate Professor, Studio Art

Mitch Eckert, MFA

Associate Professor, Studio Art

Christopher B. Fulton, PhD

Associate Professor, Art History

Barbara L. Hanger, MFA

Associate Professor, Studio Art

Benjamin Hufbauer, PhD

Associate Professor, Art History

Susan Jarosi, PhD

Associate Professor, Art History

Jongwoo Kim, PhD

Associate Professor, Art History

Delin Lai, PhD

Associate Professor, Art History

Scott Massey, MFA

Associate Professor, Studio Art

Gabrielle Mayer, MFA

Associate Professor, Studio Art

Che Rhodes, MFA

Associate Professor, Studio Art

John Begley, MFA

Assistant Professor, Curatorial Studies

Peter Morrin, MFA

Associate in Fine Arts, Curatorial Studies

Donald Anderson, MFA

Professor Emeritus, Studio Art

Thomas Buser, PhD

Associate

Professor Emeritus, Art History

Henry Chodkowski, Jr., MFA

Professor Emeritus, Studio Art

Dario A. Covi, PhD

Professor Emeritus, Art History

Robert L. Douglas, Sr., PhD

Professor Emeritus, Art History

Linda M. Gigante, PhD

Professor Emerita, Art History

Jay M. Kloner, PhD

Associate

Professor Emeritus, Art History

Stephanie J. Maloney, PhD

Professor Emerita, Art History

Suzanne Mitchell, MFA

Professor Emerita, Studio Art

William D. Morgan, PhD

Professor Emeritus, Art History

Doctor of Philosophy in Art History

Major: ARTH

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/art/>

Program Information

To be considered for admission to the Ph.D. program, students must submit the following credentials:

1. Application to the School of Interdisciplinary and Graduate Studies
2. Transcripts of all colleges attended (undergraduate or graduate)
3. Three current, substantive letters of recommendation, appended to the recommendation forms
4. Graduate Record Examination scores (a minimum GRE verbal score of 160 is required by the Art History Program for admission)
5. A statement of purpose (approximately one thousand words in length) that details academic interests, reasons for pursuing a doctoral degree in Art History, and intended field of study
6. A writing sample that can stand as evidence of the applicant's intellectual, investigative, and expository skills
7. International students must meet all criteria, including the TOEFL examination, set forth in the Graduate Catalog

Coursework required for the Ph.D. in Art History includes completion of the M.A. plus 15 hours ARTH 500-level electives, 15 hours ARTH 600-level electives, 6 hours of Dissertation Research, and 6 hours of graduate level electives outside the Art History Program, for a total of 72 hours. Additional 600-level courses may be substituted for 500-level.

Up to a total of 15 hours of 500 or 600 level electives outside Art History may be substituted for Art History electives of similar level provided they are appropriate and are approved in advance by the student's advisor.

Students are required to demonstrate facility in two foreign languages, one of which must be relevant to the field of dissertation research (for example, Latin or Greek for ancient art). Some areas of Art History require that students have a mastery of epigraphy and paleography. Students in any field in which extensive language study is necessary in order to conduct research must concentrate on the relevant language or languages before taking the comprehensive exam.

Language proficiency is demonstrated in one of two ways: 1) Taking a proficiency examination administered by the department, scheduled in the fall and spring semesters. The proficiency exam is a one hour translation examination with the use of a dictionary. Students are required to

demonstrate intermediate level facility in the language. 2) Completing the intermediate level of the language course at the University of Louisville with a grade of B or better.

Through course work, independent study, and directed readings, each student must prepare her/himself to pass a written comprehensive exam before admission to candidacy. Language requirements must have been met and all course work completed before a student may take the comprehensive exam.

After being admitted to candidacy, the student must write a dissertation and defend it in a final oral examination.

Curriculum

General Requirements:

- Minimum 30 credit hours of coursework at the 500 and 600 level (exclusive of course work earned for the M.A. degree)
- ARTH 743 and 744: Directed Readings for Comprehensive Exam (3 credit hours maximum for each)
- ARTH 745: Dissertation Research (12 credit hours maximum)
- Comprehensive exam (upon completion of coursework and before beginning the dissertation)
- Dissertation prospectus
- Dissertation and defense

Course Requirements:

- 500-level electives: 15 credits (maximum for application to degree requirements). In addition, if an equivalent course was not taken at the M.A. level, Ph.D. students must also take ARTH 541: Modern Perspectives of the Visual Arts
- 600-level electives: 15 credits (minimum) (note: 600-level courses may be substituted for 500-level courses, with the exception of ARTH 541)
- Independent Study (ARTH 643/644) may be used to fulfill the 600 level electives above (students are permitted two independent study courses)
- 500 or 600-level electives: 6 credits outside Art History, preferably courses related to the dissertation
- ARTH 743 and 744: Directed Readings for Comprehensive Exams (3 credit hours maximum for each)
- ARTH 745: Dissertation Research (12 credit hours maximum). To be taken only by Ph.D. candidates actively engaged in dissertation research

Notes:

1. Students are expected to take any courses necessary in preparation for scholarly research.

2. Students must continue to enroll for credit each Fall and Spring, including any semesters after coursework has been completed and before graduation. After completing minimum course requirements for the program, doctoral students must maintain continuous registration until the completion of the degree.
3. A minimum gpa of 3.5 must be maintained in the Ph.D. program.
4. The Art History faculty periodically reviews Ph.D. students who have not yet advanced to candidacy and will discourage from further work those students whose progress and performance are deemed unsatisfactory.

Departmental Faculty

Ying Kit Chan, MFA

Chair and Professor, Studio Art

Lida G. Gordon, MFA

Professor, Studio Art

James Grubola, MFA

Professor, Studio Art

Mark A. Priest, MFA

Professor, Studio Art

Steven Skaggs, MSc

Professor, Studio Art

John Whitesell, MFA

Professor, Studio Art

R. Todd Burns, MFA

Associate Professor, Studio Art

Mary Carothers, MFA

Associate Professor, Studio Art

Mitch Eckert, MFA

Associate Professor, Studio Art

Christopher B. Fulton, PhD

Associate Professor, Art History

Barbara L. Hanger, MFA

Associate Professor, Studio Art

Benjamin Hufbauer, PhD

Associate Professor, Art History

Susan Jarosi, PhD

Associate Professor, Art History

Jongwoo Kim, PhD

Associate Professor, Art History

Delin Lai, PhD

Associate Professor, Art History

Scott Massey, MFA

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Jay M. Kloner, PhD

Associate Professor Emeritus, Art History

Stephanie J. Maloney, PhD

Professor Emerita, Art History

Suzanne Mitchell, MFA

Professor Emerita, Studio Art

William D. Morgan, PhD

Professor Emeritus, Art History

Master of Science in Biology

Major: BIOL

Degree Awarded: MS

Unit: GA

Program Webpage: <http://louisville.edu/biology/>

Program Information

The degree program is available to qualified individuals possessing a bachelor's degree from an accredited college or university.

A biology undergraduate major is preferred. However, other majors containing sufficient biology, chemistry and math may be acceptable.

The Department of Biology offers master's degrees with programs of study tailored to the needs and interests of a diverse student population. Students may enroll on a full or part-time basis. The Department of Biology offers both thesis and non-thesis options.

The thesis option is generally chosen by students with career goals which include a research emphasis. Students choosing this option take course work and carry out an intensive independent research project under the supervision of a member of the Graduate Faculty, culminating in a written thesis based upon the research project.

The non-thesis option is usually chosen by those who wish to advance their knowledge of biology but are not sure of a specific career goal or do not anticipate a research emphasis in their future.

Students who wish to pursue an accelerated non-thesis Master's Degree in Biology (BA-BS/MS) will be allowed to apply up to nine (9) hours of coursework taken for graduate credit while enrolled as an undergraduate. An additional twenty-four (24) hours of graduate coursework will constitute the minimum number of credit hours for obtaining the non-thesis master's in the accelerated program.

Program admission requirements and application requirements can be viewed on the Department of Biology web site at <http://louisville.edu/biology/>. Questions can be addressed to or further information obtained from the Director of Graduate Studies, Dr. Perri K. Eason, at (502) 852-5936 or pkeaso01@louisville.edu.

Program Admission Procedure

The following requirements must be met to be admitted to the M.S. program in the Department of Biology:

1. The applicant must have a baccalaureate degree with a major in Biology or an acceptable sub-discipline;
2. The applicant must meet the following admission standards:
 - an undergraduate GPA of 3.0/4.0 or higher,
 - a composite score of at least 300 on the general test (verbal + quantitative sections) and 3.5 on the analytical writing section of the GRE. Composite MCAT or DAT exam scores which indicate the national average or higher are acceptable alternatives,
 - for foreign students, a TOEFL score of 83 on the internet-based exam or 6.5 on the IELTS.
3. Applications will be complete when the following have been received (final action on applications will not be taken until complete):

Send to the Office of Graduate Admissions, University of Louisville, Louisville, KY 40292:

- a. a completed application form and fee;
- b. one official transcript of all previous undergraduate and graduate coursework;
- c. official GRE, MCAT or DAT exam scores;
- d. two or more letters of recommendation from persons familiar with your academic performance and capabilities; and
- e. official TOEFL or IELTS scores if required.

Send to the Director of Graduate Studies, Department of Biology:

- f. a completed Department Application Form, available at <http://louisville.edu/biology/> (this form is submitted electronically when completed).

Deadline for Completed Applications: July 1 for Fall admission, December 1 for Spring admission.

Curriculum

Requirements for the M.S. degree in Biology and for the Accelerated BA-BS/MS in Biology

One course to be selected from each of two (thesis option) or three (non-thesis option) of the following four categories of General Background courses:

	Thesis	Non-Thesis
General Background Courses (500 or 600 level)		
1. Cellular/Physiology	3 - 4	3 - 4
2. Subcellular/Genetics	3 - 4	3 - 4
3. Evolution or Systematics	3 - 4	3 - 4
4. Population, Community, or Ecosystem Ecology	3 - 4	3 - 4

Total	6 - 8	9 - 12
Other Coursework		
Statistics (Biology 650)	4	4
Electives	11 - 14	13 - 17
Thesis Research (600 level)	6	0
Research Experience (Biology 516, 608, 664 or 691)	0	3 - 4
Minimum Total	30	33

NOTE: A minimum of 12 (thesis option) or 17 (non-thesis option) semester hours, exclusive of thesis credit, must be in courses at the 600 level. Students intending to seek a Ph.D. degree later are advised to take as many of their courses as possible at the 600 level or above.

Departmental Faculty

Ronald D. Fell
Chair and Professor

Ronald M. Atlas
Professor

Gary A. Cobbs
Professor

Lee A. Dugatkin
Professor

Perri K. Eason
Professor

Paul W. Ewald
Professor

William D. Pearson
Professor

Michael H. Perlin
Professor

Joseph M. Steffen

Professor

James E. Alexander
Associate Professor

Margaret M. Carreiro
Associate Professor

Cynthia Corbitt
Associate Professor

Sarah Emery
Associate Professor

Arnold J. Karpoff
Associate Professor

Susanna K. Remold
Associate Professor

David J. Schultz
Associate Professor

Jennifer Mansfield-Jones
Assistant Professor

Tommy Parker
Assistant Professor

Mark Running
Assistant Professor

Micah Worley
Assistant Professor

Stephen Yanoviak
Assistant Professor

Charles V. Covell, Jr.
Emeritus

William S. Davis
Emeritus

Roger G. Lambert
Emeritus

Varley E. Wiedeman
Emeritus

Doctor of Philosophy in Biology

Major: BIOL

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/biology/>

Program Information

A broad range of courses are taught in most biological disciplines, although the department is focused in two major directions. The Divisions of Molecular, Cellular, and Developmental Biology (MCD) and Evolution, Ecology and Behavioral Biology (EEB) incorporate current areas of special interest in environmental microbiology, population and microbial genetics, developmental biology, plant and animal physiology, metabolism, phycology, plant and animal ecology, behavioral ecology, invertebrate zoology, and community and ecosystem ecology of large rivers, small streams, and wetlands.

Students seeking the Ph.D. Degree in Biology traditionally have a master's degree or its equivalent; however, students may enter the program with only the baccalaureate degree. Generally, the first year or two is spent in course work, research is begun by the second year, and the thesis/dissertation completed in the final year.

Program Admission Procedure

The following requirements must be met in order to be admitted to the Ph.D. program in the Department of Biology:

1. The applicant must have a baccalaureate degree with a major in biology or an acceptable sub-discipline of biology.
2. The applicant must meet the following admissions standards:
 - an undergraduate GPA of 3.0 or higher;
 - a composite score of at least 300 on the general test (verbal + quantitative) and 3.5 on the analytical writing sections of the GRE. A composite MCAT or DAT indicating scores at or above the national average are also acceptable;
 - for foreign students, a TOEFL score of 83 on the internet-based exam or at least 6.5 on the IELTS exam. Students holding a baccalaureate or advanced degree from an accredited institution in the United States are exempt from this requirement.
3. All applicants must review the research specialties of the departmental faculty to ensure that an area compatible with the student's interest is available. Applicants for the Ph.D. program must communicate with a member of the biology faculty prior to admission and receive agreement that the faculty member will serve as the major professor. No formal admission to the

program can occur without the preliminary acceptance of a mentor. Faculty contact information is available at <http://louisville.edu/biology/>.

Your application will be complete when we have all of the following (final action on an application cannot be taken until all items have been received):

Send to the Office of Graduate Admissions, University of Louisville, Louisville, KY 40292:

1. a completed application form and application fee;
2. one official transcript of all previous undergraduate and graduate coursework;
3. official GRE, MCAT or DAT scores;
4. two or more letters of recommendation from persons familiar with your academic performance; and
5. for foreign students, official TOEFL or IELTS scores.

Send to the Director of Graduate Studies, Department of Biology:

1. a completed Departmental Application Form, found at <http://louisville.edu/biology/> (this is an electronic form sent when completed).

Deadline for completed applications: July 15 for Fall admission and December 1 for Spring admission.

Graduate Assistantships

Graduate Teaching Assistantships (GTA) are awarded by the Graduate Committee of the Department of Biology to meet the instructional needs of the Department and enhance and broaden the educational experience of doctoral students. All newly admitted students are automatically considered for this type of annual support, which includes a monthly stipend, tuition remission, and health insurance.

Another source of financial support may be available from individual faculty members who have intramural or extramural research funding that provides support for graduate students as a Graduate Research Assistant (GRA). The individual faculty member holding this support selects students to fill these positions.

A small number of the most highly qualified accepted applicants will be nominated by the Department for University Fellowship awards, which carry a monthly stipend, tuition remission and health insurance benefits. These students must meet qualifications set by the School of Interdisciplinary and Graduate Studies.

Curriculum

Requirements for the Ph.D. degree in Biology

Foundations in Biology	Hours Total	
One course to be selected by the student's committee from each category:		
1. Biostatistics	4	
2. Evolutionary Biology (courses that cover the evolutionary history and/or phylogenetic relationships of molecules or organisms)	4	8
Two courses to be selected from within an Area of Focus:		
<i>A. Ecology, Evolution and Behavioral (EEB) Biology Focus Area:</i>		
1. Population and Community Ecology	4	
2. Ecosystem Ecology or Behavior	4	16
<i>B. Molecular, Cellular and Developmental (MCD) Biology Focus Area:</i>		
1. Genetics/Cellular (courses that discuss the biochemistry and molecular genetics of life or describe the cell as the structural and functional unit of life)	4	
2. Physiology (courses that discuss life processes at the level of the organism)	4	16
Advanced Biology Electives	16	32
Dissertation Research	9	41

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Tommy Parker
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Mark Running
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Micah Worley
Assistant Professor

Stephen Yanoviak
Assistant Professor

Charles V. Covell, Jr.
Emeritus

William S. Davis
Emeritus

Roger G. Lambert
Emeritus

Varley E. Wiedeman
Emeritus

Master of Science in Chemistry

Major: CHEM

Degree Awarded: MS

Unit: GA

Program Webpage: <http://louisville.edu/chemistry/>

Program Information

The Department of Chemistry, in the College of Arts and Sciences, offers graduate programs leading to the M.S. and Ph.D. degrees in chemistry with options in analytical chemistry, biochemistry, biomolecular structure and engineering, inorganic chemistry, organic chemistry, physical chemistry, and chemical physics.

The general requirements for admission to the School of Interdisciplinary and Graduate Studies, for admission to candidacy, and for the master's degree are stated in the General Information section of this catalog. The following additional provisions apply to the program leading to the Master of Science in Chemistry.

Program Admission Procedure

Students seeking a graduate degree in chemistry should meet the following requirements:

1. A B.A. or B.S. degree in chemistry or in a related field such as physics, engineering, or mathematics. It is expected that students will have obtained a background in chemistry equivalent to 36 hours of undergraduate coursework. Students planning to pursue graduate study in chemical physics may substitute some of the chemistry hours with advanced courses in physics or mathematics beyond those required for a B.A. or B.S. in chemistry. Students with inadequate preparation will be required to register for specific courses in the area of deficiency. Some of these courses, subject to approval by the department, may be accepted for graduate credit. Admission to graduate study in chemical physics is made on the recommendation of the entrance committee for that option.
2. A minimum quality point standing of 3.0 on a 4.0 scale.
3. Submission of Graduate Record Examination scores (quantitative and verbal scores totaling at least 1000 with an analytical score of 2.5 or totaling at least 900 with an analytical score of 3.0).

In individual cases, the conditional admission of a student who does not satisfactorily meet the above requirements may be recommended by the department to the School of Interdisciplinary and Graduate Studies. If admission is granted, that student will be subject to those conditions specified by the department or School of Interdisciplinary and Graduate Studies as being necessary to remedy the conditional admission.

Program Requirements

The requirements for the Master of Science Degree in Chemistry are as follows:

1. The general requirements as stated in the General Information section of this catalog.
2. Completion of course curriculum as described in the section on Candidacy for the Ph.D. degree.
3. Students with a native language other than English must show a proficiency in English. This requirement may be met with a grade of "B" in Eng. 101 (or equivalent) or an acceptable score on a standardized test (such as the TOEFL or Michigan test).
4. Acceptable presentation of a one-hour literature seminar on a topic of current chemical interest. This seminar must be presented no later than the fifth semester of graduate studies.

Early Start Program

The Master of Arts in Teaching program in conjunction with the undergraduate programs in Chemistry, Biology, and Mathematics offers a comprehensive and professionally-focused program leading to the degree of MAT Middle or Secondary Education. This early start program enables superior students to receive two degrees within five years. A total of 150 credits are required for the dual degrees: 123 credits of course work devoted toward the baccalaureate degree and 36 credits toward the MAT (nine hours are double counted). This program will be available for students who are entering their junior year. They may take graduate level courses in the College of Education and Human Development (CEHD) in their 4th year.

The current qualifications for the joint degree program have been agreed upon by discipline faculty from the Colleges of Arts and Sciences and Education and Human Development. The criteria vary by discipline.

Chemistry

1. Students must have at least 23 credit hours of chemistry (through CHEM 441 and CHEM 470) with a cumulative GPA of 3.0 in those courses.
2. Applications will be reviewed by the Graduate Committee of the Chemistry Department and the Secondary MAT Screening Committee, the applicant must be approved by both committees.
3. Once approved, the student may take a maximum of nine (9) hours for graduate credit while in undergraduate status, which can also apply to the requirements for the BA in Chemistry. All graduate coursework must be approved by the student's MAT faculty advisor.
4. Students enrolling in the accelerated program will be non-thesis students and must adhere to all policies pertaining to Graduate Students.
5. All students must submit an application to the College of Education and Human Development (CEHD) MAT program and meet the admission criteria.

Curriculum

General Requirements

A minimum of 30 semester hours of graduate credit is required. At least 15 semester hours must be in chemistry courses. An overall GPA of 3.0 must be maintained. Details are given in the current "Graduate Bulletin".

Chemistry Requirements

1. Students must pass at least four graduate courses from at least three of six divisions (or research areas) with a minimum grade of 'C' in any one course. A 'C-' grade is considered unacceptable. The areas are: Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, and Physics. An overall GPA of 3.0 or greater is required by the School of Interdisciplinary and Graduate Studies.
2. Students with a native language other than English must show a proficiency in English. This requirement may be met with a grade of 'B' in Eng. 101 (or equivalent) or an acceptable score on a standardized test (such as the "Michigan test"). A 'B-' in Eng. 101 is considered unacceptable
3. A one-hour literature seminar on a topic in chemistry of current interest (Chem 695). **The student must present this seminar in the second or third semester of his/her program** (excluding summer).
4. Research: Chem 691-692. A research advisor should be selected by the end of the first semester in the graduate program.
5. Scientific publication is an important element of graduate education and research. Therefore, it is normally expected that a manuscript based on the student's research would have been submitted to a peer-reviewed journal by the time of his/her thesis defense. The student's contribution must be significant to both the scientific content and the manuscript drafting.
6. A written thesis describing the research program is submitted a minimum of seven days before the defense. The defense consists of a one-hour seminar on the thesis project followed by an oral examination with the Faculty Reading Committee.

Note: Students in the Ph.D. program will be awarded an MS degree after successful completion of the Research Seminar and other previous requirements

Requirements for Master of Science (non-thesis) in Chemistry

A minimum total 30 semester hours of graduate credit is required. At least 15 semester hours must be in chemistry courses. An overall GPA of 3.0 must be maintained.

Courses: Students must pass at least 6 graduate lecture courses from at least 3 of 6 divisions with a minimum grade of 'C' in any one course. Additional credit hour requirements can be met by research and/or additional graduate level coursework.

Mentor: The research mentor should be selected during the first semester. Students are required to interview a minimum of 5 chemistry faculty, including members of at least 2 divisions, and have them sign the Mentor Selection Form. The student may choose a mentor after obtaining 5 signatures. If the mentor agrees to accept the student, the mentor will again sign the Mentor Selection Form and the student should submit it for approval by the departmental Director of Graduate Studies. Students wishing to change research directors should first consult with the departmental Director of Graduate Studies. Failure to actively participate in a research group is grounds for loss of funding and/or dismissal from the program.

Literature Seminar: Students must enroll in seminar (Chem 695) during their first 3 semesters (excluding summers). Students enrolled in CHEM 695 must attend seminars and make a presentation during their second or third semester. The seminar attendance requirement may be waived after all other candidacy requirements have been achieved.

The literature seminar should be based on a topic under active discussion in the recent literature. The student is responsible for selecting the seminar topic, although consultation with the student's research advisor is recommended to verify that the independently chosen topic is appropriate. The topic must not be chosen from the student's immediate area of research and must not be chosen from an area over which a comprehensive review has been published during the previous two years. The topic must be approved by the Seminar coordinator and/or the Seminar Committee. The student must fully develop the topic, integrating material from at least three primary references and a total of at least eight references into a flowing, well-organized presentation of appropriate length. A passing grade for seminar is B- or above. A student who does not attain this grade will be allowed one attempt to repeat the seminar. The second attempt must be completed prior to the end of the student's 4th semester. Failure to receive a B- or higher on the second attempt will result in dismissal from the program. Additional information will be provided on the Chem 695 syllabus.

Proposal: The research proposal serves as the capstone project for the non-thesis M.S. degree. Students must develop, explain, and defend a research proposal. The proposal can be based on recent literature or the student's research project (if applicable). The student should select a mentor from the chemistry graduate faculty to oversee the proposal committee. The committee consists of the mentor plus two additional chemistry faculty selected by the student in consultation with the mentor.

Departmental Faculty

Richard P. Baldwin
Professor

John W. Brown
Emeritus

Robert M. Buchanan
Professor

Christopher T Burns
Assistant Professor

Thomas H. Crawford
Emeritus

Teresa W. M. Fan
Associate Professor

Craig A. Grapperhaus

Associate Professor

Gerald B. Hammond

Professor

Richard M. Higashi

Associate Professor

Pawel M. Kozlowski

Associate Professor

N. Thornton Lipscomb

Emeritus

Jinjun Liu

Assistant Professor

Frederick Luzzio

Associate Professor

Muriel C. Maurer

Associate Professor

Sergio B. Mendes

Associate Professor

Hunter N. Moseley

Assistant Professor

Eugene Mueller

Professor

Michael H. Nantz

Professor

Mark E. Noble

Professor

George R. Pack

Professor

Aleeta M. Powe

Assistant Professor

Christine V. Rich

Assistant Professor

John F. Richardson

Associate Professor

Gradus L. Shoemaker

Emeritus

K. Grant Taylor

Emeritus

Charles A. Trapp

Emeritus

Richard J. Wittebort

Professor

Chair

M. Cecilia Yappert

Professor

Francis P. Zamborini

Assistant Professor

Doctor of Philosophy in Chemistry

Major: CHEM

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/chemistry/>

Program Information

The Department of Chemistry, in the College of Arts and Sciences, offers graduate programs leading to the M.S. and Ph.D. degrees in chemistry with options in analytical chemistry, biochemistry, biomolecular structure and engineering, inorganic chemistry, organic chemistry, physical chemistry, and chemical physics.

The general requirements for admission to the School of Interdisciplinary and Graduate Studies, for admission to candidacy, and for the doctoral degree are stated in the General Information section of this catalog. The following additional provisions apply to the programs leading to the Doctor of Philosophy in Chemistry.

Program Admission Procedure

Students seeking a graduate degree in chemistry should meet the following requirements:

1. A B.A. or B.S. degree in chemistry or in a related field such as physics, engineering, or mathematics. It is expected that students will have obtained a background in chemistry equivalent to 36 hours of undergraduate coursework. Students planning to pursue graduate study in chemical physics may substitute some of the chemistry hours with advanced courses in physics or mathematics beyond those required for a B.A. or B.S. in chemistry. Students with inadequate preparation will be required to register for specific courses in the area of deficiency. Some of these courses, subject to approval by the department, may be accepted for graduate credit. Admission to graduate study in chemical physics is made on the recommendation of the entrance committee for that option.
2. A minimum quality point standing of 3.0/4.0.
3. Submission of Graduate Record Examination scores (quantitative and verbal scores totaling at least 1000 with an analytical score of 2.5 or totaling at least 900 with an analytical score of 3.0).

In individual cases, the conditional admission of a student who does not satisfactorily meet the above requirements may be recommended by the department to the School of Interdisciplinary and Graduate Studies. If admission is granted, that student will be subject to those conditions specified by the department or School of Interdisciplinary and Graduate Studies as being necessary to remedy the conditional admission.

Curriculum

General Requirements

A minimum of 30 semester hours of graduate credit is required. At least 15 semester hours must be in chemistry courses. An overall GPA of 3.0 must be maintained. Details are given in the current "Graduate Bulletin".

Chemistry Requirements

1. Students must pass at least six graduate courses from at least three of six divisions (or research areas) with a minimum grade of 'C' in any one course. A 'C-' grade is considered unacceptable. The areas are: Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, and Physics. An overall GPA of 3.0 or greater is required by the School of Interdisciplinary and Graduate Studies.

2. Students with a native language other than English must show a proficiency in English. This requirement may be met with a grade of 'B' in Eng. 101 (or equivalent) or an acceptable score on a standardized test (such as the "Michigan test"). A grade of 'B-' in Eng. 101 is considered unacceptable.

3. A series of written examinations designed to show a student's in-depth knowledge of the chosen area of concentration. Masters students considering transfer to the Ph.D. program may also take the exams. Students must begin with the first exam of their second semester. Exams will be given the second week of January, March, May, September, and November. Each division with students actively taking cumulative exams, will write its own exam. Student's may take any available exam, but may only take one exam in a given month. Exams are scored as 0, 1, 2, or 3 points. Students must accumulate 12 points by the end of the 10th consecutive exam to qualify for the Ph.D. program. Students who fail to accumulate 12 points by the end of the 10th exam will be placed in the masters program.

4. The research proposal (RP) is intended to demonstrate the student's ability to develop, explain, and defend research ideas. The proposal may present preliminary results from the student's research and it describes possible future directions. This is not necessarily the work the student intends to complete for their dissertation. Students are encouraged to show their originality and innovation. The research proposal must be completed prior to **the beginning of the 4th year**. Evaluation of the RP is made by the student's graduate advisory committee, which is chaired by the research director.

The RP consists of a written proposal, an oral presentation, and oral examination. The written portion is to be submitted to the committee at least one week prior to the oral portion. The committee may return unsatisfactory written proposals to the student and delay the oral portion until at least one week after an acceptable rewrite is received. A student failing the oral portion may repeat it only one time, at the discretion of the student's graduate advisory committee.

5. A one-hour literature seminar on a topic in chemistry of current interest (Chem 695). **The student must present this seminar in the second or third semester of his/her program** (excluding summer).
6. Scientific publication is an important element of graduate education and research. Therefore, it is normally expected that prior to the Research Seminar, a manuscript based on the student's research would have been submitted to a peer-reviewed journal. The student's contribution must be substantial to both the scientific content and the drafting of the manuscript. Before completion of the Ph.D. program, a published article and a manuscript submitted to peer-reviewed journals are expected. It is highly recommended that the student distribute the submitted manuscript (s) to the members of her/his Research Committee.
7. A one-hour seminar on the student's dissertation research project is to be **given before the end of the fourth year in the program**. This seminar is intended to help the student organize his/her research efforts, provide the opportunity to present preliminary results on work completed, and to allow the student's research committee a formal setting to evaluate progress and make recommendations. The MS degree will be awarded upon successful completion of the research seminar.
8. Research: Chem 691-692. A research advisor must be selected in the first semester in the graduate program.

Departmental Faculty

Richard P. Baldwin
Professor

John W. Brown
Emeritus

Robert M. Buchanan
Professor

Christopher T Burns
Assistant Professor

Thomas H. Crawford
Emeritus

Teresa W. M. Fan
Associate Professor

Craig A. Grapperhaus
Associate Professor

Gerald B. Hammond
Professor

Richard M. Higashi
Associate Professor

Pawel M. Kozlowski
Associate Professor

N. Thornton Lipscomb
Emeritus

Jinjun Liu
Assistant Professor

Frederick Luzzio
Associate Professor

Muriel C. Maurer
Associate Professor

Sergio B. Mendes
Associate Professor

Hunter N. Moseley
Assistant Professor

Eugene Mueller
Professor

Michael H. Nantz
Professor

Mark E. Noble
Professor

George R. Pack
Professor

Aleeta M. Powe
Assistant Professor

Christine V. Rich
Assistant Professor

John F. Richardson
Associate Professor

Gradus L. Shoemaker
Emeritus

K. Grant Taylor
Emeritus

Charles A. Trapp
Emeritus

Richard J. Wittebort
Professor

Chair

M. Cecilia Yappert
Professor

Francis P. Zamborini
Assistant Professor

Master of Arts in Communication

Major: COMM

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/communication>

Program Information

The Master of Arts in Communication is a 37-hour program. It includes 22 hours of foundation and core courses, nine hours of electives, and a six-hour thesis or non-thesis option. The non-thesis option includes a three-hour practicum, with a limit of six hours of practicum credit. At least 19 of the 37 hours must be in courses at the 600 level.

Upon admission to the program, the student will work with the Director of Graduate Studies to establish a plan of study. After the second semester, students choosing the thesis option will select a mentor who will provide guidance for the thesis and selecting two additional faculty to serve on the thesis committee, one of whom must be outside the Department of Communication. Students choosing the non-thesis option will select a mentor who will provide guidance concerning the practicum and course selection. Students choosing the non-thesis option will take a written exam administered by the Communication Department faculty.

Applicants need an undergraduate degree in Communication or a related discipline, a 3.0 GPA on a four-point scale, and a 900 combined GRE score (old scoring system), 282-297 combined (new scoring system). These scores equate to a rank of approximately 50 percent or better on the verbal reasoning section and 30 percent or better on the quantitative reasoning section of the GRE. Provisional admission is possible for students with lower scores. Other application materials include a copy of university transcripts, a writing sample, a personal statement, three letters of recommendation, an application, and the application fee.

Curriculum

Foundations: (Required of all students)

506 Ethical Problems in Communication	
601 Communication Pro-Seminar (1 hour)	13
605 Communication Theory & Practice	hours
616 Qualitative Communication Research	
617 Quantitative Methods in Communication	

Area 1: Interactional Communication (One course)

580 Interpersonal Communication	
590 Health Communication	3
603 Communication Pedagogy	hours
620 Organizational Communication	

625 Personality and Communication	
650 Corporate Communication	
675 Risk Communication	
Area 2: Integrated Communication (One course)	
520 Computer-Mediated Communication	
530 Science Communication	
652 Computer-Mediated Communication in Organizations	3
653 Integrated Marketing Communication Campaigns	hours
654 Public Relations and Crisis Management	
660 Selected Topics in mass Media	
Area 3: Social Advocacy (One course)	
540 Public Communication Campaigns	
555 Persuasive Movements	3
610 Problems of Public Discourse	hours
630 Communication and Multiculturalism	
640 Communication in Social Service	
651 Conflict Management	
Electives: Students may concentrate in an area by taking additional area courses as electives. Electives include 510: Special Topics in Speech; 660: Selected Topics in Mass Media; 690: Special Topics. Three hours of Practicum or Directed Reading may be taken beyond the courses taken for a non-thesis option. Three hours may be taken outside of the Communication Department with the consent of the Faculty Mentor. Additional electives may be outside of Communication with consent of the Graduate Director.	
	9
	hours
Thesis (includes oral defense)	
698 Thesis	6
	hours
Non-Thesis Option	
600 Practicum	
5xx or 6xx elective	
	37
Total	hours

Pending approval of the department program coordinator, and approval by the School of Interdisciplinary and Graduate Studies, a student may transfer up to six hours graduate credit from another institution.

Non-thesis option: Students electing a non-thesis option will complete the 37 hours specified above, with two differences. Students who select the non-thesis option will substitute one 600-level practicum and one elective for the six thesis hours. The non-thesis option also will include a Comprehensive Examination administered by Department Faculty.

Experiential Component

The Master of Arts does not require an experiential component. However, students may choose

to do a practicum in a private business, community organization, or government agency that deals with communication. Students may complete the practicum in two ways. A student may turn current work or volunteer experience into a research project, or a student not previously affiliated with the practicum site may develop a project useful to the organization. In both cases, the student will work with a Communication Department faculty member to shape the project and will write a formal paper dealing with the project. Students who choose the practicum will be applying knowledge acquired in Communication coursework directly to area needs, thus serving the community and helping to build stronger university/community ties.

Departmental Faculty

Mary Ashlock

Assistant Professor

Michael Cunningham

Professor

Lindsay Della

Assistant Professor

Margaret D'Silva

Professor

Stuart Esrock

Associate Professor

John Ferré

Professor

Interim Dean, College of Arts
& Sciences

Karen Freberg

Assistant Professor

Allan Futrell

Associate Professor

Department Chair

Jennifer Gregg

Associate Professor

Joy Hart

Professor

Greg Leichty

Professor

Selene Phillips

Assistant Professor

Scott Sanders

Assistant Professor

Siobhan Smith

Assistant Professor

Steve Sohn

Assistant Professor

Director of Graduate Studies

Robert St. Clair

Professor

Kandi Walker

Professor

Charles Willard

Professor Emeritus

Shirley Willihnganz

Professor

University Provost

Master of Arts in English

Major: ENGL

Degree Awarded: MA

Unit: GE

Program Webpage: <http://louisville.edu/english/graduate/master-of-arts-in-english.html>

Program Information

Mission Statement

The M.A. in English provides graduate training in literatures written in English, creative writing, and rhetoric and composition. Goals for the M.A. are that students will 1) gain advanced knowledge of British and American literary traditions, and 2) write a thesis or culminating project in which they initiate and complete specialized research addressing a significant question in literature or rhetoric and composition, or produce a significant body of creative work.

Admission to the M.A. Program

DEADLINES:

M.A. admission with application for graduate teaching assistantship: **Jan. 5**

M.A. without funding: **1 month prior to the first day of classes** for the semester in which they wish to enroll.

All M.A. degree applicants should present the following documents:

1. Complete transcripts of previous undergraduate and graduate work;
2. Two academic letters of recommendation (that is, actual letters attached to the evaluation form from faculty members who can address the applicant's academic performance and potential);
3. Score reports on the Graduate Record Examination General Test (from within the last five years);
4. A sample of critical writing (at least ten pages);
5. Applicants who plan to focus on creative writing may submit a sample of their creative work in addition to the required critical essay;
6. International students must also submit reports of the TOEFL examination or IELTS examination;

Above documents should be submitted to:

Graduate Admissions
Houchens Building Suite 105
Louisville, KY 40292

or submitted via the online application: <http://louisville.edu/graduate/apply>

7. Any applicant who wishes to be considered for a Graduate Teaching Assistantship must also submit a GTA application (available at http://louisville.edu/english/graduate/gta_applicationII.pdf).

This GTA application should be submitted to:

Annelise Gray
Department of English
University of Louisville
Bingham Humanities RM 315
Louisville KY 40292

Successful applicants for M.A. admission typically present the following credentials, though meeting these minimal requirements is no guarantee of admission:

1. A "B+" or better average in the major from an accredited college or university;
2. A "B" or better average overall from an accredited college or university;
3. A score in the 50th percentile or better on the GRE Verbal section;
4. Letters of recommendation that give promise of success in the program;
5. A writing sample that promises success in the program;
6. International students must also present scores of at least 600 on the TOEFL Examination (paper test) or at least 210 on the TOEFL Exam (computer test); IELTS scores are also accepted for consideration in lieu of the TOEFL.

The Director of Graduate Studies in English reviews all applications and, in consultation with the English Graduate Committee, makes all admission decisions. Complete applications to the Master's program are considered throughout the academic year, though applicants who wish to be considered for graduate teaching assistantships must present all credentials, including the GTA application, by January 5. Applicants with a B.A. in a field other than English, or with fewer than 24 credit hours for an English major, may be eligible for admission to the M.A., but the Graduate Committee may require that such students make up deficiencies on an individual basis.

In extraordinary circumstances, an applicant with incomplete credentials may petition the English Graduate Committee for admission in provisional status. Admission in non-degree status is at the discretion of the English Department Director of Graduate Studies as governed by School of Interdisciplinary and Graduate Studies policies.

All applicants must fulfill the general requirements of the School of Interdisciplinary and Graduate Studies.

Curriculum

The Master of Arts in English requires 30 hours of academic work at the graduate level. In addition to fulfilling the core requirements, students may take additional work in literary studies, creative writing, or rhetoric and composition.

Required Courses– 15 hours:

1. English 601: Introduction to English Studies
2. English 691: Contemporary Theories of Interpretation OR English 692: Topics in Interpretive Theory
3. One course in literature before 1700
4. One course in literature from 1700-1900
5. One course in literature after 1900

Electives – 9-15 hours:

Students may take no more than three 500-level courses. Creative writing courses (including up to six hours of thesis guidance) may total no more than 15 hours.

Students may count one elective outside the Department of English toward their degree.

Language Requirement

The student must demonstrate proficiency in a language other than English. The language requirement must be satisfied before the thesis can be defended. (See the Graduate Program Guidelines for more information.)

Admission to Candidacy

Students are admitted to candidacy for the M.A. after they have completed coursework and met the language requirement; they remain master's degree candidates until they complete a thesis or culminating project.

Thesis Option: 24 hours of coursework + 6 hours of Thesis Guidance.

Students who choose this option will be expected to write a critical or creative thesis that is a genuine contribution to the field, shows an awareness of current academic practice, and employs methods appropriate to an extended academic project. Students must submit a prospectus and have it approved at least three months before the thesis oral examination is held. Guidelines for writing a prospectus are in the English Department's Graduate Program Guidelines.

Non-Thesis Option: 30 hours of coursework + a culminating project

Students who choose this option may, as a culminating project, select one of their strongest seminar papers or creative writing projects to revise; the purpose of the project is to give students the opportunity to revise a seminar paper with publication in mind. To this end, students will

write a brief prospectus (2-3 pages plus bibliography) detailing the types of revisions they will make to the paper. A screening committee will evaluate the prospectus and, upon its approval, the student will make the necessary revisions under the guidance of a faculty advisor.

Time Limit and Residency for Masters

All work for the M.A. must be completed within six years of admission to the program. The student must complete a minimum of 24 hours at the University of Louisville.

Departmental Faculty

Department Chair

Glynis Ridley

Faculty

Anderson, David R.

Biberman, S. Matthew

Billingsley, Dale B., *Vice
Provost for Undergraduate
Affairs*

Boehm, Beth

*Dean of the School of
Interdisciplinary and
Graduate Studies*

Brueggemann, Brenda

Chandler, Karen M.

Clukey, Amy

Dietrich, Julia C.

*Associate Dean for
Undergraduate Education*

Golding, Alan C.

Griffin, Susan M.

*Justus Bier Professor of
Humanities*

Griner, Paul F.

Hadley, Karen C.
*Director, Undergraduate
Honors Program*

Horner, Bruce M.

*Endowed Chair in Rhetoric
and Composition*

Jaffe, Aaron

Johnson, Timothy

Kopelson, Karen L.

Olinger, Andrea

Petrosino, Kiki

Director of Creative Writing

Rabin, Andrew

Rosner, Mary I.

Ryan, Susan M.

Vice Chair

Schneider, Stephen

Director of Graduate Studies

Sheridan, Mary P.

*Director, Thomas R Watson
International Conference on
Rhetoric and Composition*

Skinner, Jeffrey T.

Stanev, Hristomir

Williams, Bronwyn T.

*Director, University Writing
Center*

Willey, A. Elizabeth

*Director of Undergraduate
Studies*

Wise, Elaine O.

*Chair of the Division of
Humanities*

Visiting & Term Faculty

D'Antoni, Joan

Instructor Term

Hachten, Dale

Instructor Term

Rogers, Linda

Instructor Term

Smith, Steve

Instructor Term

Stewart, Thomas

Assistant Professor Term

Tanner, Denise

Instructor Term

Emeritus/Emerita

Byers, Thomas

Cross, Geoffrey A.

Freibert, Lucy M.

Hall, Dennis R.

Henke, Suzette A.

Journet, Debra S.

Lu, Min-Zhan

Mattingly, Carol J.

Miller, Robert

Mullen, Karen

Richardson, Harold E.

Rickey, Mary Ellen

Van, Thomas A.

Doctor of Philosophy in English Rhetoric and Composition

Major: ERC

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/english/graduate/doctorate-in-rhetoric-and-composition.html>

Program Information

Mission Statement

The Ph.D. in Rhetoric and Composition provides graduate training in the history and theory of rhetoric; theory and empirical research in composition; an area of British or American literature; linguistics; and the relation of rhetoric and composition to allied fields (e.g., critical theory, cultural studies, cognitive psychology, and educational research). Goals for the Ph.D. are that students will 1) gain specialized and current disciplinary knowledge; 2) write a dissertation in which they initiate and complete specialized research that addresses an original and significant question in rhetoric and composition; 3) acquire experience and expertise as writing teachers.

Deadlines:

***Note:** Applications must be complete, with all supporting materials, official transcripts, and GRE scores by the deadline to be considered for admission.

Jan. 5: Fall admission only.

Admission to the Ph.D.

Openings in the doctoral program are limited; therefore, admission is competitive. All doctoral degree applicants should present the following documents:

1. Complete transcripts of previous undergraduate and graduate work;
2. Three academic letters of recommendation (that is, actual letters attached to the evaluation form from faculty members who can address the applicant's academic performance and potential);
3. A written statement of no more than a thousand words detailing the applicant's professional goals in the field of rhetoric and composition;
4. Scores on the Graduate Record Examination General Test (from within the last five years);
5. A sample of scholarly, critical writing (15-20 pages);
6. International students must also present scores of at least 600 on the TOEFL Examination (paper test) or at least 210 on the TOEFL Exam (computer test); IELTS scores are also accepted for consideration in lieu of the TOEFL;
7. Above documents should be submitted to:

Graduate Admissions
Houchens Building Suite 105
Louisville, KY 40292

Or submitted via the online application: <http://louisville.edu/graduate/apply>

8. Application for Graduate Teaching Assistantship, available at <http://louisville.edu/english/graduate/forms/gta-applicationII/>.

GTA application should be submitted to:
Annelise Gray
Department of English
University of Louisville
Bingham Humanities Building RM 315
Louisville, KY 40292

The English Graduate Committee reviews applications for the doctoral program in rhetoric and composition and makes all admission decisions. Applicants must have a Master's degree at the time of matriculation. Completed applications are due **no later than January 5th for fall admission only**.

All applicants must fulfill the general requirements of the Graduate Admissions Office.

Curriculum

All doctoral students are expected to complete a minimum of 51 graduate hours, distributed as follows:

Required (12 hours):

ENGL 602, Teaching College Composition	3
ENGL 620, Research in the Composing Process	3
ENGL 689, Directed Reading for Comprehensive Preliminary Exams	3
ENGL 691, Contemporary Theories of Interpretation or ENGL 692, Topics in Interpretive Theory	3 12

Additional Requirements (15 hours from the following categories):

Pedagogy and Program Administration	3
Rhetoric	3
Literature (one creative writing course may be used to fulfill the literature requirement; students may also take a second theory course--in addition to the required course listed above--in partial fulfillment of the literature requirement)	9 15

Electives (12 hours):

Choose from offerings in Rhetoric and Composition . One elective may be taken outside these offerings, including a course outside the department	12
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Dissertation (690)	12
Minimum Total	51

Ph.D. Language Requirement

Each doctoral student must demonstrate proficiency in one language other than English. (See the Graduate Program Guidelines for more information).

Time Limit and Residency for Ph.D.

All work for the Ph.D. must be completed within six years of admission to the program.

A year of full-time residency in the English doctoral program consists of the completion of two consecutive semesters of nine hours each.

For students holding Graduate Teaching Assistantships, a year of full-time residency in the English doctoral program is eighteen semester hours within a single academic year. Students ordinarily take nine hours of course work and teach six hours in the fall and spring terms, though some choose to take two seminars plus three dissertation hours during some semesters.

Professional Requirements

Sometime during their tenure in the doctoral program, students must participate in a year-long supervised teaching-intern program. Graduate Teaching Assistants automatically fulfill the professional requirement once they have completed one successful year as a Graduate Teaching Assistant. Other students must make arrangements in consultation with the Director of Graduate Studies to fulfill the year-long supervised teaching requirement.

Comprehensive Preliminary Examination

When students have completed coursework, satisfied the language requirement, and received the approval of the Graduate Committee, they may sit for the Comprehensive Preliminary Examinations. (See the Graduate Program Guidelines for a detailed explanation of these examinations.)

Admission to Candidacy

Students will be admitted to candidacy for the Ph.D. after they have completed coursework, met the language and professional requirements, and passed the comprehensive preliminary examinations; they remain doctoral degree candidates until they complete the dissertation.

Dissertation

The doctoral dissertation requires the equivalent of a full year of graduate work and involves registration in at least 12 credit hours in English 690.

Proof that the prospectus has been approved must be submitted to the School of Interdisciplinary and Graduate Studies at least nine months before the final dissertation oral examination.

Guidelines for writing the dissertation prospectus are included in the English Department's Graduate Program Guidelines. The dissertation will be submitted, in the form and by the date

prescribed by the School of Interdisciplinary and Graduate Studies (see <http://louisville.edu/graduate/current-students/thesis-dissertation-information> for the current guidelines).

Final Oral Examination

The defense of the dissertation will be scheduled by the date listed on the Graduate Program Calendar. The dissertation will then be revised according to the dissertation committee's recommendations. One copy shall be submitted to the School of Interdisciplinary and Graduate Studies. Along with the dissertation, the candidate shall submit an abstract for publication in Dissertation Abstracts. Candidates may wish to produce a bound copy for the dissertation director, but the department does not require a bound copy.

Departmental Faculty

Department Chair

Glynis Ridley

Faculty

Anderson, David R.

Biberman, S. Matthew

Billingsley, Dale B., *Vice Provost for Undergraduate Affairs*

Boehm, Beth

Dean of the School of Interdisciplinary and Graduate Studies

Brueggemann, Brenda

Chandler, Karen M.

Clukey, Amy

Dietrich, Julia C.

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Golding, Alan C.

Griffin, Susan M.

Justus Bier Professor of Humanities

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Director of Creative Writing

Rabin, Andrew

Rosner, Mary I.

Ryan, Susan M.

Vice Chair

Schneider, Stephen

Director of Graduate Studies

Sheridan, Mary P.

Director, Thomas R Watson International Conference on Rhetoric and Composition

Skinner, Jeffrey T.

Stanev, Hristomir

Williams, Bronwyn T.

Director, University Writing Center

Willey, A. Elizabeth

Director of Undergraduate Studies

Wise, Elaine O.

Chair of the Division of Humanities

Visiting & Term Faculty

D'Antoni, Joan

Instructor Term

Hachten, Dale

Instructor Term

Rogers, Linda

Instructor Term

Smith, Steve

Instructor Term

Stewart, Thomas

Assistant Professor Term

Tanner, Denise

Instructor Term

Emeritus/Emerita

Byers, Thomas

Cross, Geoffrey A.

Freibert, Lucy M.

Hall, Dennis R.

Henke, Suzette A.

Journet, Debra S.

Lu, Min-Zhan

Mattingly, Carol J.

Miller, Robert

Mullen, Karen

Richardson, Harold E.

Rickey, Mary Ellen

Van, Thomas A.

Master of Arts in French, Language and Literature

Major: FREN

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/french/master-of-arts-in-french.html>

Program Information

Mission Statement

The mission of the Master of Arts in French, Language and Literature is to provide students who would like to explore professional opportunities in teaching, translation, international affairs, etc. or pursue their studies at the doctoral level, with an in-depth knowledge of the French language as well as French and francophone cultures as part of a multidisciplinary approach to French Studies grounded in literature, linguistics, cultural studies and media studies.

Program Information

The Master of Arts in French, Language and Literature requires 30 hours of academic work at the graduate level.

- It is possible to complete this program as part of a joint B.A/M.A. program in French.
- Students may consult with the Director of Graduate Studies in French to take courses in place of the required courses listed below.
- Students must complete a minimum of 24 hours at the University of Louisville.
- It is recommended that students take French 611 during their first semester in the program and French 699 during their last semester in the program.
- As part of their graduate program, students are required to spend at least one month in a French-speaking country, which they traditionally do during the summer between their first and second years. Modern Language Fund grants are available to assist students with the cost of their trip. Students can fulfill the requirement by participating in the long-standing summer Work-Exchange Program the University of Louisville has with the city of Montpellier, France. After consultation with the Director of Graduate Studies in French, it may be possible to find an appropriate substitution for this requirement.

Admission Procedures

Admission is on a rotating basis. Students must submit the following: [application to graduate admissions](#) and application fee, transcripts from all colleges/universities where undergraduate and/or graduate credit was earned, and two letters of recommendation. GRE exam scores are NOT required for admission into the Master of Arts in French, Language and Literature.

Students may begin the program in Fall (preferably), Spring or Summer.

Curriculum

Students are required to take the following two courses:

French 611: Teaching and Research Methods in French

French 699: Final Research Project

In addition to 611 and 699, students will take a **minimum of eight (8) courses when choosing the non-thesis option** and a **minimum of six (6) courses when choosing the thesis option** with at least one course from each of the rubrics below. Students choosing the thesis option must complete between three and six (3-6) hours of thesis credit (French 690). The total number of credits required for the degree is thirty (30) minimum.

Rubrics

Language skills:

French 600: Advanced Stylistics

French 523: Advanced Communication, if appropriate

Approved elective

Linguistics:

French 522: Phonetics

French 524: Translation

French 601: Studies in Linguistics

Approved elective

Culture:

French 531: Special Topics in Literature and Cultural Studies

French 552: French Work-Exchange Research, or alternate study-abroad program as approved by the Graduate Director

French 602: Studies in Culture

Approved elective

Media:

French 603: Studies in Media

Approved elective

Literature:

French 531: Special Topics in Literature and Cultural Studies

French 604: Studies in Literature

Approved elective French

French 531, 561, 562, 670, and 680 are course numbers used for electives in the French program.

With permission of the Director of Graduate Studies, students may complete the degree with appropriate course work in other disciplines.

Accelerated BA/MA Program

Students who wish to pursue an accelerated non-thesis Master's Degree will be allowed to apply up to nine (9) hours of undergraduate coursework taken for graduate credit. An additional twenty-one (21) hours of graduate coursework taken in addition will constitute the minimum number of credit hours for obtaining the non-thesis Master's in the accelerated program. The guidelines for this combined program are as follows:

1. Prior to applying for admission into the program, students must consult with the French Undergraduate advisor and the Director of Graduate Studies in French. They will then submit their [application](#) through the School of Interdisciplinary and Graduate Studies. It is strongly recommended that at least one of the supporting letters submitted with the application be from a French faculty member.
2. Students must (A) apply for admission to this program no later than the end of the Junior year (a total of 90 degree applicable hours) and, (B) must have completed French 320, 321, 322 with grades of "B" or better.
3. Application will be reviewed by the French faculty. A 3.35 overall grade point average will be required for admission to the program.
4. Students may take a maximum of nine (9) hours for graduate credit, which will also apply to the requirements for the baccalaureate degree in French. The nine hours must be from the following list: FRE 523, 524, 531, and 552.
5. Students who enroll in the accelerated program will be non-thesis students and must adhere to all policies pertaining to Graduate Students in the Department of Classical and Modern Languages.

Departmental Faculty

Matthieu Dalle, Ph.D.
Associate Professor
Danielle Day, Ph.D.
Lecturer

Bonnie Fonseca-Greber,
Ph.D.
Assistant Professor
John Greene, Ph.D.
Professor

Wendy Pfeffer, Ph.D.
Professor
Wendy Yoder, Ph.D.
Visiting Assistant Professor

Master of Arts in History

Major: HIST

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/history/>

Program Information

General Information

The Master of Arts program in history provides advanced training in historical theory, investigation, and writing. Among other things, it prepares students for further graduate studies in history, employment in educational institutions or in public history, and careers in law and government.

The varied specialties of our faculty, combined with the structure of the program, allow our students to acquire a worldwide vision of history. All students must focus their studies on one major and one minor field listed below.

Program Admission

Normally, applicants to the MA program in history must have:

- a minimum undergraduate GPA of 3.0 on a 4.0 point scale (a GPA based on a 3.0 scale will be converted to a 4.0 scale)
- 21 undergraduate credit hours in history, with a minimum GPA of 3.0
- a combined score of at least 1000 on the Verbal and Quantitative sections of the Graduate Records Examination (GRE)

Students with an undergraduate GPA of between 2.5 and 2.99 may be accepted conditionally into the program at the discretion of the Director of Graduate Studies, provided they meet all other requirements for admission. Conditional admittance requires that the student maintain a GPA of 3.0 in the first 9 hours of graduate coursework.

Students with a combined GRE (verbal and quantitative) score of less than 300 may be accepted conditionally into the program at the discretion of the Director of Graduate Studies, provided they meet all other requirements for admission. Conditional admittance requires that the student re-takes and passes the GRE with the required minimum scores (listed above) before or during the first semester of graduate course work.

Students with fewer than 21 undergraduate hours in history will be required to take additional history courses to bring their total undergraduate hours in history up to the required number.

At the discretion of the Director of Graduate Studies, non-degree students may be admitted to pursue graduate coursework.

Program Admission Procedures

Applicants must submit the following materials to the University Of Louisville, Office of Graduate Admissions:

- a completed graduate application; \$60.00 fee (available on line at <http://louisville.edu/graduate/apply/>)
- official transcripts verifying the receipt of a BA from an accredited institution
- scores from the Graduate Records Examination
- at least two letters of recommendation from individuals familiar with the applicant's academic and/or professional capabilities and potential
- a writing sample of no more than 15 double-spaced pages
- a statement of purpose, not to exceed 500 words, in reasonably specific terms, your academic and career objectives and how they can be advanced through graduate work in our program. The statement should also indicate your intended area(s) of interest, your preparation for this field of study, and, if possible, the departmental faculty with whom you wish to study.

Deadlines:

- Applications for Fall semester: February 15 *
- Applications for Spring semester: December 01

* February 15 is the deadline for all students who want to be considered for available fellowships, assistantships, and internships. Students who do not intend to apply for these funding sources may submit their applications until May 15. For a list of the graduate assistantships, scholarships, fellowships and internships in the History Department, see <http://louisville.edu/history/scholarships-fellowships-assistantships-and-internships.html>.

Curriculum

Program Requirements

All graduate students are required to take History 605: Research Methods and Materials, offered every Fall semester. Students are strongly encouraged to take History 605 in their first Fall semester of enrollment.

Students with a **Major Field in Public History** also have to take **HIST 697: Introduction to Public History**, and **HIST 608: Practicum**.

Graduate students in this Department normally take 9 hours of coursework per semester (three courses). With the approval of the Director of Graduate Studies, a student may take up to 12 hours (four courses) in a semester. During a student's graduate program, a total of 6 hours of

coursework may be taken outside the Department of History, provided it is directly relevant to the student's academic program and has been approved by the Director of Graduate Studies. Except with the approval of the Director of Graduate Studies, no more than 6 hours of directed studies or independent studies (HIST 601, 602) may be applied to an MA in History. No pass-fail courses may be applied to an MA.

If a student's cumulative GPA falls below 3.0, he or she is subject to academic probation, and may be dismissed from the MA program. A non-degree student who fails to maintain an average of 2.0 will not be allowed to continue taking graduate courses.

For MA-level work in certain areas, knowledge of foreign languages or knowledge of other specialized research tools may be required.

Students will be allowed to transfer up to 6 hours of appropriate coursework from outside the University. Up to 9 hours of non-degree graduate coursework in History may be transferred into the MA program.

In consultation with the Director of Graduate Studies, each candidate for the MA in History will select areas of major and secondary emphasis. The program of study must be approved by the Director, normally before the student enrolls for the second semester of work. The areas of emphasis are:

Major Fields:

- United States
- Public History
- Europe
- Comparative World (regional or comparative study of a region outside of the United States or Europe, to be designed in consultation with Graduate Director and student's advisor.)

Minor Fields:

- Africa
- Ancient and Medieval World
- Asia
- Europe
- Latin America
- Middle East
- Military History
- Public History
- Religion & Culture
- United States
- Women's and Gender History

Students may choose to complete the MA by thesis or by exam.

Thesis option: Completion of 27 credit hours of course work (including HIST 605 and, if applicable, HIST 697 and HIST 608) and 3 credit hours of thesis work (HIST 603). 15-18 hours of coursework must be in the major area of emphasis, and 6-9 hours in the secondary area; 6 hours may be electives. At least

12 hours of coursework must at the 600 level, with at least nine of these hours in the major area of emphasis. The thesis must be in the major area of emphasis. Following an oral defense, it must be approved by a thesis committee, which consists of the thesis director and at least two other faculty members, one of them from another department. The committee requires approval by the Department Chair and the Academic Unit.

Examination option: Completion of 30 credit hours of course work (including HIST 605 and, if applicable, HIST 697 and HIST 608) and 3 credit hours of exam preparation (HIST 603). The exam consists of two written examinations and an oral examination. 18-21 hours of coursework must be in the major area of emphasis, and 9-12 in the secondary area; 6 hours may be electives. At least 18 hours of coursework must be at the 600 level, with at least 15 of these hours in the major area of emphasis. One examination will be in the major area of emphasis, and one in the minor area. A committee will evaluate the written and oral examinations on their content and the relevant areas of history. The committee will consist of three faculty members, normally the two faculty members who administer the examinations and a third faculty member who may be in the Department of History. The committee requires approval by the Department Chair and the Academic Unit.

Accelerated BA/MA

This program allows a history major to use a maximum of six hours of graduate course work towards both a BA and an MA. After completing the undergraduate program and receiving a BA, the student will enter the graduate program and complete the remaining requirements for an MA.

To be considered for admission to the accelerated program, students must:

- have a minimum overall grade point average (GPA) of 3.0 and a GPA of 3.35 in history
- complete an application for admission to the graduate program (including Graduate Record Examination scores (GRE) and two recommendations) no later than the end of the junior year (application details are described below)

In addition, students must retain a GPA of 3.35 in history (have a B+ in graduate history courses) during their senior year to remain in the program.

Departmental Faculty

In general, students will work with Associate of Full Professors as their academic advisors. To work with an Assistant Professor, students will have to receive approval from the faculty member and the Director of Graduate Studies.

Blake R. Beattie
Associate Professor

Mark E. Blum
Professor
Genevieve Carloton

Assistant Professor

A. Glenn Crothers

Assistant Professor

John T. Cumbler, Jr.
Professor

Randall Dills

Assistant Professor

Christine T. Ehrick

Associate Professor

Tyler Fleming

Assistant Professor
Benjamin T. Harrison
Professor
Robert B. Kebric
Professor
Lara Kelland
Assistant Professor
Tracy E. K'Meyer
Professor

Yuxin Ma
Associate Professor
Thomas C. Mackey
Professor
Justin A. McCarthy
Professor
John E. McLeod
Professor
Bruce M. Tyler

Associate Professor
Daniel Vivian
Assistant Professor
Lee Shai Weissbach
Professor
Jennifer Westerfeld
Assistant Professor

Master of Arts in Humanities

Major: HUM

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/humanities/>

Program Information

The Humanities Division of the College of Arts and Sciences offers three concentrations leading to the degree of Master of Arts. Procedures and standards of admission to the degree program are given in the General Information section of this catalogue.

For the traditional concentration, the applicant will be expected to have an undergraduate background of some depth in at least two of the following disciplines: art history, literature, classical and modern languages, linguistics, music history, philosophy, theatre arts, and religious studies, or in one of the following interdisciplinary cultural studies periods: ancient, medieval-renaissance, early modern (17th and 18th centuries) or modern. Those who do not meet this requirement will be required to take undergraduate courses before admission is granted.

For the concentration in Humanities and Civic Leadership, the applicant will be expected to have worked in a profession for five years (unless the applicant has completed another graduate or professional degree program or is enrolled in the Joint JD/MAHUM program). Scores from the GMAT, LSAT, MCAT, or other professional examinations may be substituted for the GRE General Test. A 1000-word Statement of Intent must be submitted to the Humanities Graduate Advisor before the applicant will be considered for admission.

For the concentration in Linguistics and the Humanities, which is a non-thesis option with a focus on the study of language, the applicant should have an undergraduate background which includes courses in linguistics. The second discipline or area of emphasis will be approved by the Graduate Advisor.

Curriculum

Traditional M.A. concentration (thesis or non-thesis option):

1. A total minimum of 30 semester hours as follows:

12-15 semester hours in one of the following areas:

art history, literature, classical and modern languages, music history, philosophy, theatre arts, religious studies, ancient studies, medieval-renaissance studies, early modern (17th and 18th century) studies, or modern studies;

3 semester hours in methodology (HUM 609 or 610 or appropriate substitute approved by the chair);

6 semester hours in Thesis Guidance (HUM 645 A-F) *or* three semester hours in directed study project;

9-12 semester hours in second discipline/area.

2. A minimum of 15 semester hours must be in courses at the 600 level, excluding thesis or directed study hours.
3. Students who do not have one of the Humanities 591-596 sequence in their undergraduate record will be required to take one of these as part of their electives.
4. Pass a competency exam in French, German, Spanish, or an approved alternate foreign language.
5. An oral examination covering the content of the thesis.

Traditional MA with Thesis

(minimum of 30 hours)

12-15 hours in 1 discipline/area

9-12 hours in 2nd discipline/area

3 hours in Methods

6 hours in Thesis

Foreign Language Competency**

Traditional MA: Non Thesis

(minimum of 30 hours)

12-15 hours in 1 discipline/area

9-12 hours in 2nd discipline/area

3 hours in Methods

3 hours of Directed Study Project

Foreign Language Competency**

Example:

12 hours in Philosophy

9 hours in Art History

3 hours of HUM 510/610

6 hours of thesis

Foreign Language Competency**

Example:

15 hours in Philosophy

9 hours in Literature

3 hours of HUM 609

3 hours of Directed Study Project

Foreign Language Competency**

**Concentration in Humanities and Civic Leadership: non-thesis*
(minimum of 30 hours):**

1. 12 hours in one discipline/area
2. 3 hours in Methods (609 or 610)
3. 3 hours in second discipline/area
4. 6 hours in Internship (650)
5. 3 hours Direct Study Project (655)
6. 3 hours in Interdisciplinary Seminar in Humanities and Civic Leadership (636)
7. No foreign language requirement.
8. Demonstrated writing proficiency is required for admission.

**This program is also offered for a dual degree with the Law School (JD/MAHUM). See the catalog of the Brandeis School of Law for details.*

**Concentration in Linguistics and the Humanities: non-thesis
(minimum of 30 hours)**

1. 15 credit hours of Linguistic coursework, three hours in each of the 5 areas:

Introduction to Linguistics: Required

LING 518 Foundations of Language

Language and Culture: Choose 1

ENG 523 History of the English Language

LING 621 Sociolinguistics

LING 623 Culture as the Basis of Foreign Language Teaching

LING 630 Language and Culture

Language and Structure

ENG 522 Structure of Modern American English

LING 535 Applied Linguistics for English Teachers

LING 603 Syntax

LING 606 Historical and Comparative Linguistics

LING 610 Phonetics and Phonology

Language and Cognition: Choose 1

LING 524 Psycholinguistics

LING 622 Psychology of Second Language Learning and Teaching

LING 624 Language and Cognition

LING 641 Recent Philosophy of Language

Any 500-600 level elective course in Linguistics, not already chosen: Choose 1

LING 521 Teaching Techniques in Foreign Language

LING 590 Special Topics in Linguistics

LING 600 Independent Study

LING 605 Summer Workshop for Foreign Language Teachers

LING 620 Special Topics in Foreign Language Education

LING 625 The Teaching of English as a Second Language

LING 690 Seminar in Linguistics

2. 9 credit hours in a second humanities discipline or area
3. 3 credit hours in methodology: Humanities 609 or 610
4. 3 credit hours in Directed Study Project: Humanities 655
5. Foreign Language Competency
6. An Oral Examination will cover the contents of the Directed Study Project

7. A minimum of 15 semester hours must be in courses at the 600 level, excluding HUM 655, The Directed Study Project.

For students who are pursuing an ESL (English as a Second Language) Endorsement, the above MA Concentration allows ESL endorsement coursework to count toward the degree. For more information on the ESL endorsement requirements, see <http://louisville.edu/humanities/linguistics/esl-endorsement.html>

Accelerated BA/MA in Humanities

Students who wish to pursue an accelerated Masters degree, will be allowed to apply to the Baccalaureate degree up to 9 hours of coursework taken for graduate credit. Twenty-one (21) hours of graduate coursework in addition will constitute the minimum number of credit hours for obtaining the MA. The guidelines for the Accelerated (BA/MA in Humanities) are as follows:

1. Students must apply no later than the end of the junior year for admission to the accelerated program.
2. A minimum overall grade point average and major grade point average of 3.35 will be required for admission to and for retention in the program.
3. Student must complete the GRE and fill out the Humanities Division application for the accelerated BA/MA in Humanities.
4. Student may take a maximum of 9 hours for graduate credit, which will also apply to the requirements for the baccalaureate degree in Humanities.
5. The accelerated BA/MA in Humanities will be offered for the Traditional Concentration and for the Linguistics Concentration, but not for the Concentration in Humanities and Civic Leadership.
6. Students who enroll in the accelerated BA/MA in Humanities may elect the thesis or non-thesis option, whichever is appropriate to the concentration and course of study.
7. All students in the program will take either HUM 609 or HUM 610 to fulfill the "theory requirement".
8. All requirements remain the same, including the foreign language requirement.

Departmental Faculty

All Division of Humanities faculty members who hold Graduate Faculty appointments

Elaine O. Wise
*Assistant Professor and
Chair of Humanities
Traditional MA
Concentration Advisor*
Annette Allen
Associate Professor

Director of Humanities Ph.D
and Humanities & Civic
Leadership MA
Concentration Advisor
Mary Ann Stenger
Professor
Religious Studies Graduate
Advisor

Tatjana Soldat-Jaffe
Assistant Professor
Linguistics and Humanities
MA Concentration Advisor
Arthur J. Slavin
Professor Emeritus

Doctor of Philosophy in Humanities

Major: HUM

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/humanities/ph.d-program-in-humanities>

Program Information

Admission Instructions

Admission to the Humanities Ph.D. Program is exclusively for the fall semester of each academic year.

All materials must be received by January 15th for the following fall. No late applications will be accepted.

All applicants must have completed an appropriate Master's degree (M.A., M.F.A., M. Div, or other) prior to beginning the program.

All applicants must also have fulfilled all requirements of the School of Interdisciplinary and Graduate Studies (SIGS).

Required materials are:

1. The SIGS application.
2. A statement of intent (750-1000 words) detailing educational and future professional goals.
3. A current academic curriculum vitae.
4. A scholarly or creative writing sample (scholarly, fiction, creative non-fiction: 5000 - 10,000 words; for length guidelines in other genres.
5. Official transcripts of all undergraduate- and graduate-level work.
6. Graduate Record Examination (GRE) General test scores.
7. If applicable, proof of English proficiency.
8. Three letters of recommendation from former instructors attesting to capability for doctoral-level work.
9. \$60 application fee, paid to SIGS.

Additional Information

For additional information on the Ph.D. program and/or Graduate Teaching Assistantships, see the [Humanities Ph.D. website](#).

For any further questions regarding specifics of the Humanities Ph.D. Program application, please e-mail the [PhD Program Administrator](#).

Curriculum

I. Core Coursework, All Students:

A. Foundations:

1. Hum 660: Proseminar: Introduction to Doctoral Study, 3 credits
2. Hum 661: Historical Perspectives on the Arts and Culture I, 3 credits
3. Hum 662: Historical Perspectives on the Arts and Culture II, 3 credits
4. Hum 663: Global Perspectives on the Arts and Culture, 3 credits

B. Theories and Methodologies

1. Hum 673: Topics in Cultural Theory, 3 credits
2. Hum 674: Topics in Aesthetic Theory, 3 credits

C. Institutional, Educational, or Community Internship

Hum 650: Doctoral Internship, 3 credits

D. Directed Study

1. Hum 651: Directed Study Project I, 3 credits
2. Hum 652: Directed Study Project II, 3 credits

II. Additional Coursework, by Specialization:

A. Culture, Criticism, and Contemporary Thought (C3T)

Approved C3T scholarly courses, minimum 12 credits

B. Public Arts and Letters (PAL)

Approved PAL scholarly and workshop courses, minimum 12 credits

III. Foreign Language Requirement, All Students:

Basic proficiency in two classical and/or modern languages, or advanced proficiency in one, in addition to English.

IV. Comprehensive Examination, All Students

V. Dissertation Writing and Defense, All Students

TOTAL MINIMUM NUMBER OF CREDITS REQUIRED: 48

NOTE: It is strongly recommended that students orient completion of specialization coursework toward a specific discipline, and supplement required coursework with elective courses in that discipline

Departmental Faculty

HUMANITIES PHD PROGRAM FACULTY

Director:

S.I. Salamensky
*Professor, Global
Humanities*

Steering Committee:

Annette Allen
*Director, Beijing Foreign
Studies Program*
Professor, Humanities

Pamela Beattie
*Director of Undergraduate
Studies, Humanities*
Assistant Professor,
Humanities

Simona Bertacco
*Director, Humanities Ph.D.
Student Advisement*
Assistant Professor,
Humanities

Mark E. Blum
Professor, History

Thomas B. Byers
*Director, Commonwealth
Center for the Humanities
and Social Sciences*
Professor, English

Ying Kit Chan
Director, Hite Art Institute
Professor, Art

John Gibson
*Associate Professor,
Philosophy*

Aaron Jaffe
Professor, English

Dismas Masolo

*Distinguished University
Scholar*

Professor, Pan-African
Studies, Philosophy

Patrick Pranke
*Assistant Professor,
Humanities, Religious
Studies*

Tatjana Soldat-Jaffe
*Assistant Professor,
Humanities, Linguistics*

Elaine O. Wise
Chair of Humanities Division
Assistant Professor, English,
Humanities

Associated Faculty:

Ann T. Allen
Professor, History

David Anderson
Associate Professor, English

Blake Beattie
Associate Professor, History

John Begley
Assistant Professor, Art

Latrica Best
*Assistant Professor, Pan-
African Studies*

S. Matthew Biberman
Professor, English

Dale B. Billingsley
Professor, English

Beth A. Boehm
*Dean, School of
Interdisciplinary and
Graduate Studies*

Professor, English
Delinda Buie

*Professor and Curator,
University Libraries Rare
Books and Special
Collections*

Terry Burden
*Assistant Professor, Term,
Humanities, Religious
Studies*

Nefertiti Burton
*Associate Dean for
International, Diversity, and
Outreach Programs*

Associate Professor, Theatre
Anne I. Caldwell
*Associate Professor, Political
Science*

Joy G. Carew
*Associate Professor, Pan-
African Studies, Linguistics*

Genevieve Carlton
Assistant Professor, History

Mary Carothers
Associate Professor, Art

Karen Chandler
Associate Professor, English

Jean Christensen
*Professor Emerita, Music
History*

Karen Christopher
*Associate Professor,
Sociology, Women's and
Gender Studies*

Amy Clukey
Assistant Professor, English

L. Andrew Cooper
*Director, Film Studies
Program*

Assistant Professor,
Humanities, Film

Dario Covi

Professor Emeritus, Art

Geoffrey A. Cross

Professor, English

A. Glenn Crothers

Associate Professor, History

John T. Cumbler

Professor, History

Matthieu Dalle

Associate Professor,

Classical and Modern

Languages, French

Julia Dietrich

Professor, English

Robert L. Douglas

Professor Emeritus, Pan-

African Studies

Guy Dove

Assistant Professor, Term,

Philosophy, Neuropsychology

Christine Ehrick

Associate Professor, History

Andreas Elpidorou

Assistant Professor, Term,

Philosophy

Bonnie Fonseca-Greber

Assistant Professor, Classical

and Modern Languages,

French

Catherine Fosl

Associate Professor, History,

Women's and Gender Studies

Lauren Freeman

Assistant Professor,

Philosophy

Christopher Fulton

Associate Professor, Art

Linda Marie Gigante

Professor Emerita, Art,

Archaeology

Zhanna Goldentul

Professor, Theater

Alan Golding

Professor, English

Karen Gray

Assistant Professor, Term,

Humanities

John Greene

Professor, Classical and

Modern Languages, French

Susan M. Griffin

Editor, The Henry James

Review

Distinguished University

Scholar

Professor, English

Paul Griner

Professor, Creative Writing,

English

Karen Hadley

Associate Professor, English

Mike Hagan

Assistant Professor, Term,

Humanities, Religious

Studies

Dennis Hall

Professor Emeritus, English

Stephen Hanson

Associate Professor,

Bioethics, Philosophy

Albert Harris

Professor Emeritus, Theater

Benjamin T. Harrison

Professor, History

Riffat Hassan

Professor Emerita,

Humanities, Religious

Studies

Dawn Heinecken

Associate Professor,

Women's and Gender Studies

Suzette Henke

Professor, English

Bruce Horner

Professor, English

Benjamin Hufbauer

Associate Professor, Art

Gregory Hutcheson

Associate Professor,

Classical and Modern

Languages, Spanish

Susan Jarosi

Associate Professor, Art

Michael Johann

Assistant Professor, Term,

Humanities

Pearlie Johnson

Assistant Professor, Pan-

African Studies

Ricky L. Jones

Professor, Pan-African

Studies

Yvonne Jones

Associate Professor, Pan-

African Studies

Debra Journet

Professor, English

Tracy E. K'Meyer

Professor, History

Robert B. Kebric

Professor, History

Jongwoo Jeremy Kim

Associate Professor, Art

Robert H. Kimball

Associate Professor,

Philosophy

Avery Kolers

Professor, Philosophy

Karen Kopelson

Associate Professor, English

Daniel Krebs

Assistant Professor, History

Delin Lai

Associate Professor, Art

Alan Leidner

Professor, Classical and

Modern Languages, German

Brian Leung

Director, Creative Writing

Associate Professor, English

Min-Zhan Lu

Professor, English

Thomas C. Mackey

Professor, History

Mary Makris

Associate Professor,

Classical and Modern

Languages, Spanish

Thomas Maloney

Professor, Philosophy

Justin A. McCarthy

Distinguished University

Scholar

Professor, History

M. Brandon McCormack

Assistant Professor, PAS and

Humanities

John McLeod

Professor, History

Manuel Medina

*Associate Professor,
Classical and Modern
Languages, Spanish*

Maryam Moazzen
*Assistant Professor,
Humanities*

Peter Morrin
*Director, Center for Arts and
Culture Partnerships*

Associate Professor, Art

Sena Jeter Naslund
*Writer in Residence, Creative
Writing, English*

Frank Nuessel
*Professor, Classical and
Modern Languages, Spanish*

David Owen
*Associate Professor,
Philosophy*

Elizabeth Patton
*Assistant Professor, Term,
Humanities, Linguistics*

Patricia Payette
*Executive Director, Delphi
Center for Teaching and
Learning*

Diane Pecknold
*Assistant Professor, Women's
and Gender Studies*

Kiki Petrosino
*Assistant Professor, Creative
Writing, English*

Wendy Pfeiffer
*Associate Dean, Graduate
Studies*

*Professor, Classical and
Modern Languages, French*

Natalie Polzer
*Assistant Professor,
Humanities*

Nancy N. Potter
*Professor, Bioethics,
Philosophy*

Andrew Rabin
Associate Professor, English

Theresa Rajack-Talley
*Associate Professor, Pan-
African Studies*

Glynis Ridley
Associate Professor, English

Mónica Rodriguez
*Assistant Professor, Classical
and Modern Languages,
Spanish*

Regina Roebuck
*Associate Professor,
Classical and Modern
Languages, Spanish*

Mary Rosner
Associate Professor, English

Susan M. Ryan
Associate Professor, English

Stephen Schneider
Assistant Professor, English

Mary P. Sheridan
*Professor, Digital Media,
English*

Steven Skaggs
*Director, Design Program
Professor, Art*

Jeffrey Skinner
*Professor, Creative Writing,
English*

Arthur J. Slavin
*Professor Emeritus,
Humanities*

Yujia Song
*Assistant Professor, Term,
Philosophy*

Robert St. Clair

*Research Associate, Institute
for Democracy and
Development*

Hristomir Stanev
Assistant Professor, English

Amy Steiger
Assistant Professor, Theatre

Mary Ann Stenger
*Professor Emerita,
Humanities*

Thomas Stewart
*Assistant Professor, Term,
Humanities*

Kaila Story

*Associate Professor, Pan-
African Studies, Women's
and Gender Studies*

Clare Sullivan
*Associate Professor,
Classical and Modern
Languages, Spanish*

Nancy M. Theriot
*Professor, American Studies,
Women's and Gender Studies*

W.S. Tkweme
*Assistant Professor, Pan-
African Studies*

Russell Vandenbroucke
Professor, Theatre Arts

Daniel Vivian
Assistant Professor, History

Lisa Wagner
*Associate Professor,
Classical and Modern
Languages, Spanish*

**Mónica Ann Walker
Vadillo**
*Assistant Professor, Term,
Art*

Lee Shai Weissbach
Professor, History

Osborne P. Wiggins
*Professor Emeritus,
Philosophy*

Ann Elizabeth Willey
Associate Professor, English

Bronwyn Williams
*Director, University Writing
Center*

Professor, English

Michael Williams
*Assistant Professor, Term,
Humanities, Humanities*

Wendy Yoder
*Assistant Professor, Classical
and Modern Languages,
French*

Li Zeng
*Associate Professor,
Classical and Modern
Languages, Chinese*

Master of Science in Justice Administration

Major: ADJ

Degree Awarded: MS

Unit: GA

Program Webpage: <http://louisville.edu/justice>

Program Information

The goals of the Department of Justice Administration are for students to achieve a sound liberal arts education and a specialized understanding of the criminal justice system, criminal behavior, legal processes and the relationship of these phenomena to society.

Graduate studies in the Department of Justice Administration provide students with advanced social and behavioral science skills as well as a detailed and thorough understanding of crime, criminal justice and related processes. Graduates of this program are prepared to continue advanced studies in criminal justice or other social sciences and to assume mid and upper-level leadership positions within criminal justice programs and agencies.

The interdisciplinary nature of the program maintains the dynamic posture that allowed this crime-related discipline to emerge and to mature quickly and successfully. Graduate students are given latitude in choosing elective courses in the Master of Science in the Administration of Justice. Elective courses related to the student's program of study are selected from the resources of the entire University. Courses in social work, public administration, law, business, and the various departments of the College of Arts and Sciences are possible electives that the student and his or her advisor may consider. With proper selection, the electives can complement the core criminal justice courses and produce a balanced, interdisciplinary program which is tailored to meet specific professional and career goals.

The combination of three elements, the degree programs, the Southern Police Institute and the National Crime Prevention Institute, makes the program in Justice Administration a unique blend of theory and practice.

- The Southern Police Institute, one of the oldest, most respected police management and administration educational programs in the United States.
- The National Crime Prevention Institute, the only center in the country devoted exclusively to training and educating crime prevention and loss prevention specialists and managers.

Our programs are offered in two formats:

- evening courses on campus, and
- on-line via the internet

Admissions

Anyone seeking admission to the School of Interdisciplinary and Graduate Studies, University of Louisville, for purposes of pursuing the Master of Science in the Administration of Justice degree must provide the following:

- Transcripts of all undergraduate and graduate work completed. The minimum requirement for admission is the Baccalaureate degree or its equivalent.
- Two letters of recommendation from individuals who can speak to the applicant's academic or professional capabilities.
- Scores on the General Test Section of the Graduate Record Examination (GRE).
- An original essay identifying the applicant's background, professional interests and goals. The essay should be 300-500 words and should allow the faculty to better understand the applicant's motivation and potential for graduate work.
- Completed application for admission to the School of Interdisciplinary and Graduate Studies, University of Louisville at <http://louisville.edu/graduate/apply/>.
- \$60.00 application fee, check or money order made payable to the University of Louisville.
- Applicants for whom English is a second language, must meet University language proficiency requirements.

The faculty in Justice Administration consider applications and supporting materials and recommend a disposition. The minimum requirements for admission to degree status are a cumulative grade point average of at least a 3.0 on a 4-point scale and a score of at least 900 on the combined verbal and quantitative sections of the GRE as well as a positive evaluation of the letters of recommendation and the essay; or completion of 12 hours of graduate course credit with a minimum of a 3.0 GPA on a 4-point scale and the GRE will be waived.

For individuals who cannot meet these conditions, provisional admission may be offered. Provisional status is determined on a case by case basis. Factors which may be taken into consideration include:

- Grade point average in the applicant's major and/or final 60 hours of undergraduate work.
- Amount of time that has transpired between the applicant's undergraduate degree completion and the application to the graduate program in Justice Administration.
- Applicant's work experience and accomplishments in their profession.
- Grade point average in graduate work at other accredited academic institutions.
- A less than 3.0 grade point average that is "offset" by a combined GRE score greater than 900 or a combined GRE score less than 900 that is "offset" by a greater than 3.0 grade point average.

Non-degree status is also an option for individuals who are interested in "testing the waters" or simply taking a graduate course. Please contact us if you would like additional details on provisional or non-degree admission.

General Requirements

The general requirements for the Master of Science degree in the Administration of Justice are the completion of at least 36 graduate credit hours. The completion of these credit hours may include either thesis or non-thesis option. The thesis option requires the completion of 30 semester hours of graduate level courses and a thesis for a total of 36 credit hours. The non-thesis professional paper option requires the completion of 33 semester hours of graduate courses plus a professional paper for a total of 36 credit hours. A cumulative 3.0 grade point average must be maintained for all graduate coursework, grades of "D" must be repeated. Students are advised to complete the JA core courses prior to electives. Core or specific courses required for graduation total 15 semester hours with the remaining courses being electives. The composition of the list of elective courses will vary from student to student depending on the student's undergraduate major, aspirations and background. Electives outside of our department must have approval of the Graduate Program Coordinator.

The degree is offered in two formats, our traditional on campus classes and also via the internet, see department web-page for more information at: <https://louisville.edu/justice/degree-programs>

Students may choose either format or a combination of both methods of delivery.

Curriculum

Core Courses	Semester Hours Thesis Option	Semester Hours Professional Paper Option
JA 621 The Criminal Justice System	3	3
JA 625 Legal Aspects of Criminal Justice Management	3	3
JA 643 Theories of Crime and Delinquency	3	3
JA 649 Applied Statistics in Criminal Justice	3	3
JA 650 Research Methods in Criminal Justice	3	3
Electives (to be approved by advisor)	15	18
Thesis	6	
Professional Paper		3
Minimum Total	36	36

Departmental Faculty

Deborah G. Keeling
Professor

Chair

Gennaro F. Vito
Professor

Vice-Chair

George E. Higgins
Professor

Richard A. Tewksbury
Professor

Viviana Andreescu
Associate Professor

Elizabeth L. Grossi
Associate Professor

Thomas W. Hughes
Associate Professor

Director, Southern Police
Institute

Theresa C. Hayden

Assistant Professor
Eric S. McCord
Assistant Professor
Kristin M. Swartz
Assistant Professor

Michael Losavio
Lecturer
Cynthia Shain
Lecturer
B. Edward Campbell
Emeritus

J. Price Foster
Emeritus
Ronald M. Holmes
Emeritus
William F. Walsh
Emeritus

Doctor of Philosophy in Justice Administration

Major: ADJ_PHD

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/justiceadministration/degree-programs/doctor-of-philosophy-in-justice-administration.html>

Program Information

The Department of Justice Administration offers a **Doctor of Philosophy in Justice Administration**. The Ph.D. in Justice Administration is a degree that prepares graduates for careers in academic (e.g., teaching and research) as well as public sector (e.g., research, policy analysis and development, planning, program development and evaluation) organizations.

The program consists of a core curriculum and electives that students may use to develop their particular areas of specialization. The core provides a broad orientation and the electives enable students to develop expertise in a particular field. The curriculum includes 54 credits: 21 credits of core courses, 21 credits of specialization courses, and 12 credits of dissertation research. Students qualify for official candidacy to the Ph.D. by satisfactorily completing all course work and qualifying examinations in the core curriculum.

Admission requirements include: completed application form, transcripts of previous undergraduate and graduate study, Graduate Record Examination scores, three letters of recommendation, personal statement, writing sample and curriculum vita or resume. Additionally, applicants must show evidence, on their transcript, of the completion of both graduate-level statistics and research methods courses. Minimum GRE scores of 1000 (old system) or 291 (current system) and a minimum graduate GPA of 3.25 are required. Those applicants whose native language is not English and who do not hold a degree from a university where the language of instruction is English must also submit scores from the Test of English as a Foreign Language, with a minimum score of 80 on the Internet-based test and a minimum of 500 (old system) or 144 (current system) on the quantitative portion of the GRE.

Both full and part-time study is permitted. Part-time students are required to meet residency requirements consisting of 4 continuous semesters of enrollment and participation in departmental activities offered to meet the need for scholarly integration and academic immersion in the program.

Curriculum

Courses	Hours
JA 703 Criminal Justice Planning	3
JA 740 Seminar in Crime Prevention and Social Control	3

JA 745 Advanced Theories of Crime and Delinquency	3
JA 748 Seminar in Criminal Justice Program Evaluation	3
JA 751 Computer Applications in Criminal Justice	3
JA 749 Advanced Statistical Analysis	3
JA 750 Field Research	3
JA 799 Dissertation	12
Electives (Minimum of 15 hours from Justice Administration)	21
Minimum total hours	54

Justice Administration Electives (3 credit hours per course)

JA 602 History of Police in the United States
JA 605 Police in Our Political and Social Systems
JA 607 Law and Justice JA 609 Economic Analysis of Crime
JA 610 Theoretical Foundations of Corrections
JA 611 Critical Issues in Corrections
JA 614 Seminar in Policing
JA 613 Advanced Comparative Criminal Justice
JA 626 Emergency Management
JA 630 Critical Infrastructure Protection and Resilience
JA 644 Seminar in Juvenile Justice
JA 652 Constitutional Issues in Justice Administration
JA 665 Special Topics in Criminal Justice/Criminology
JA 670 Directed Studies/Readings JA 798 Mentored Research

Departmental Faculty

Vivana Andreescu, Ph.D.

Assistant Professor

**Cherie Dawson-Edwards,
Ph.D.**

Associate Professor

Terry Edwards, J.D.

*Associate Professor and
Graduate Program*

Coordinator

J. Price Foster, Ph.D.

Professor

Elizabeth Grossi, Ph.D.

Associate Professor

George E. Higgins, Ph.D.

Associate Professor

Thomas Hughes, J.D.

Associate Professor

Deborah Keeling, Ph.D.

*Professor and Department
Chair*

Eric S. McCord, Ph.D.

Assistant Professor

Kristin Swartz, Ph.D.

Assistant Professor

Richard Tewksbury, Ph.D.

Professor

Gennaro Vito, Ph.D.

Professor, Vice Chair

William F. Walsh, Ph.D.

Professor Emeritus

Master of Arts in Mathematics

Major: MATH

Degree Awarded: MA

Unit: GA

Program Webpage: <http://www.math.louisville.edu/graduate/>

Program Information

Appropriate preparation for a Master of Arts in Mathematics is undergraduate coursework equivalent to a major in mathematics from an accredited university. This should include a one-year course in either analysis or abstract algebra, equivalent to Mathematics 501-502 and 521-522 at the University of Louisville. Candidates who have not taken both must complete them in the second year of their M.A. program.

Curriculum

Degree Requirements:

1. Candidates must complete a program of study approved by the department. All courses (maximum of 12 credit hours total) taken outside the Department of Mathematics must have prior departmental approval.
2. All students must complete a minimum of 30 credit hours of non-thesis graduate credit, including at least 15 credit hours in the Department of Mathematics, with one full-year sequence in courses numbered 601 through 689.
3. Students must satisfy **one** of the following three requirements:
 - Master's Level Examination Option: Pass written examination in three areas of mathematics chosen from a list prepared by the department. At most, two attempts are allowed. Examinations will be approved and administered by the departmental Graduate Studies Committee.
 - Thesis Option: Write a thesis on an advanced topic in the mathematical sciences. A total of two full-year sequences among courses numbered 601 through 689 must be completed.
 - Ph.D. Qualifier Option: Pass two qualifier examinations for the departmental Ph.D. Program. These examinations need not be taken together and each may be attempted at most twice.
4. Students choosing the Thesis Option must pass a final oral examination described under "Requirements for the Master's Degree" in the General Information section of the Graduate Catalog.

Early Start Program

The Master of Arts in Teaching program in conjunction with the undergraduate programs in Chemistry, Biology, and Mathematics offers a comprehensive and professionally-focused

program leading to an additional degree of MAT Middle or Secondary Education. This early start program enables superior students to receive two degrees within five years. A total of 150 credits are required for the dual degrees: 123 credits of course work devoted toward the baccalaureate degree and 36 credits toward the MAT (nine hours are double counted). This program will be available for students who are entering their junior year. They may take graduate level courses in the College of Education and Human Development (CEHD) in their 4th year.

The current qualifications for the joint degree program have been agreed upon by discipline faculty from the Colleges of Arts and Sciences and Education and Human Development. The criteria vary by discipline.

Mathematics

1. Students must have at least 21 credit hours of mathematics required for the BA with a cumulative GPA of 3.0 in those courses.
2. Applications will be reviewed by the Graduate Committee of the Mathematics Department and the Secondary MAT Screening Committee, and the applicant must be approved by both committees.
3. Once approved, the student may take a maximum of nine (9) hours for graduate credit while in undergraduate status, which can also apply to the requirements for the BA in Mathematics. All graduate coursework must be approved by the student's MAT faculty advisor.
4. Students enrolling in the accelerated program will be non-thesis students and must adhere to all policies pertaining to Graduate Students.
5. All students must submit an application to the College of Education and Human Development (CEHD) MAT program and meet the admission criteria.

Accelerated M.A. Option in Mathematics

Students must apply for admission to the program no later than the end of the junior year and must have completed MATH 205, 206, 301, and 325, or equivalent courses, prior to application.

Applicants must have a minimum overall GPA of 3.5, and minimum GPA of 3.66 in mathematics courses. As part of the combined degree, students must complete MATH 405 and at least four (4) of the following: MATH 501, 502, 521, 522, 561, 562, or 581, including at least one sequence from among these courses.

The student may take a maximum of nine (9) hours for graduate credit, which will also apply to the requirements for the baccalaureate degree in Mathematics. All 600-level courses numbered 689 or below qualify, as do 500-level courses, when completed in accord with the stipulations for graduate credit outlined in the syllabus.

Departmental Faculty

Thomas Riedel

Professor

Department Chair

Csaba Bíró

Assistant Professor

Mary E. Bradley

Associate Professor

Udayan B. Darji

Professor

Richard M. Davitt

Emeritus

Roger H. Geeslin

Emeritus

Ryan S. Gill

Associate Professor

Graduate Advisor

Changbing Hu

Assistant Professor

Chakram S. Jayanthi

Adjunct Professor

Thomas M. Jenkins

Emeritus

André Kézdy

Professor

Director of Graduate Studies

Lael F. Kinch

Emeritus

Ewa Kubicka

Professor

Grzegorz Kubicki

Professor

Hamid Kulosman

Assistant Professor

Lee Larson

Professor

Kiseop Lee

Associate Professor

Bingtuan Li

Professor

Jiaxu Li

Assistant Professor

Jinjia Li

Assistant Professor

Robert B. McFadden

Emeritus

Alica Miller

Assistant Professor

Robert Powers

Distinguished Teaching

Professor

Assistant Chair

Prasanna Sahoo

Professor

Steven Seif

Associate Professor

David Swanson

Associate Professor

Undergraduate Director

Cristina Tone

Assistant Professor

David J. Wildstrom

Assistant Professor

W. Wiley Williams

Emeritus

Shi-Yu Wu

Adjunct Professor

Yongzhi Steve Xu

Professor

Stephen Young

Assistant Professor

Wei-Bin Zeng

Associate Professor

Doctor of Philosophy in Applied and Industrial Mathematics

Major: MATH

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://www.math.louisville.edu/graduate>

Program Information

Prerequisites

Undergraduate coursework equivalent to a major in mathematics from an accredited university. This should include at least a one-year course in either analysis or abstract algebra, equivalent to Mathematics 501-502 and 521-522 at the University of Louisville. Candidates who have not taken both must complete the second in their program.

Curriculum

All students admitted to the program must complete the following or their equivalent:

A. Core Courses - 24 semester hours

1. Two sequences, each of six (6) semester hours, chosen from:
 - Algebra MATH 621-622
 - Combinatorics MATH 681-682
 - Real Analysis MATH 601-602
2. Two sequences, each of six (6) semester hours, chosen from:
 - Mathematical Modeling MATH 635-636
 - Mathematical Statistics MATH 697-668
 - Probability MATH 663-664

B. Additional Topics and Area of Specialization - 18 semester hours

In addition to the core, an application area of 18 hours will be required. The courses may be in a department outside Mathematics. They will be chosen in consultation with the student's advisory committee.

C. Qualifying Examinations

Students must pass three written examinations. Two of these will be chosen from the areas of Algebra, Combinatorics and Real Analysis. The third will be chosen from the areas of Applied Statistics, Mathematical Modeling and Probability & Mathematical Statistics. Normally, these will be taken within a year of completion of the core coursework. These examinations need not be taken together and each may be attempted at most twice.

D. Industrial Internship

Each student, with prior approval of the Graduate Studies Director, has to complete an internship in an appropriate industrial or governmental setting, or have equivalent experience.

Computing Project: Each student must complete an approved computer project related to the student's area of concentration.

Candidacy Examination: Each student must pass an oral examination in the chosen area of concentration. Usually, at most two attempts at passing this examination will be permitted. Students who wish to make a third attempt must petition the Graduate Studies Committee of the department for permissions to do so.

Dissertation – 12 to 18 semester hours: A doctoral dissertation is required of each student.

Dual Degree Program in Applied and Industrial Mathematics and Biostatistics - Decision Science

Dual degrees in Biostatistics-Decision Science and Applied and Industrial Mathematics are offered by the College of Arts and Sciences and the School of Public Health and Information Sciences. Upon completion of the program, students will receive a Ph.D. in Applied and Industrial Mathematics and an M.S. in Biostatistics.

Application Procedure

To be admitted to the program, the student is required to apply to and be accepted by both the Department of Mathematics and the Department of Bioinformatics and Biostatistics. A student seeking admission into this program must submit letters to both the Department of Mathematics and the Department of Bioinformatics and Biostatistics stating the intent to take advantage of the dual degree program, as well as their choice of the thesis or non-thesis option for the M.S. in Biostatistics. Students must submit two (2) recent letters of recommendation with their letter of intent. Applicants will receive written notification stating whether their admission request has been approved or disapproved.

Degree Requirements***Required Courses***

The required courses for the dual degree program consist of all non-overlapping core courses for both the Ph.D. in Applied, as well as the course requirements for the M.S. in Biostatistics.

Ph.D. in Applied and Industrial Mathematics (24 semester hours).

- Two sequences, each of six (6) semester hours, chosen from:
 - Algebra - Mathematics 621 and 622

- Combinatorics - Mathematics 681 and 682
- Real Analysis - Mathematics 601 and 602
- Two sequences, each of six (6) semester hours, chosen from:
 - Mathematical Modeling - Mathematics 635 and 636
 - Mathematical Statistics - Mathematics 667 and 668
 - Probability - Mathematics 663 and 664
- Elective Courses (18 hours) * Application area courses chosen in consultation with a student's advisory committee.

These courses can be outside of the Department of Mathematics.

- Industrial Internship: Each student, with prior approval of the Graduate Studies Director and the Industrial Internship Director, has to complete an internship in an appropriate industrial or governmental setting, or have equivalent experience.
- Other Requirements: Students must pass qualifying examinations, complete an approved computing project, and pass a candidacy examination as detailed in the catalog entry for the Ph.D. in Applied and Industrial Mathematics.
- Dissertation (12-18 hours): In order for the student to fulfill the Ph.D. requirements, the student must satisfy both the qualifying examination and dissertation requirements for the Ph.D. in Applied and Industrial Mathematics. Failure to complete these requirements will not jeopardize the M.S. degree, if all its requirements have been satisfactorily completed.

M.S. in Biostatistics (12 to 18 semester hours).

Core course requirements (30 semester hours).

- Probability and Mathematical Statistics, PHST 661-662 or MATH 561-562 (6 hours)**
- Biostatistical Methods I and II, PHST 680-681 (6 hours)*
- Multivariate Statistical Methods, PHST 682 (3 hours)***
- Survival Analysis, PHST 683 (3 hours)
- Categorical Data Analysis, PHST 684 (3 hours)
- ○ Epidemiology Elective, PHEP --- (3 hours): Fulfilled by any advisor-approved course in Epidemiology, including but not limited to PHEP 602, PHEP 618, and PHEP 650
- Clinical Trials I and Clinical Trials Stat Lab, PHCI 624 and PHST 626 (3 hours)
- Biostatistics Seminar PHST 602 (1 hour)
- Independent Study PHST 675 (2 hours)****
- Public Health Background Course, PH --- (0 hours): A course in public health is a requirement for any student graduating with the M.S. degree from the Department of Bioinformatics and Biostatistics. These credit hours are not applied to the M.S. degree. Course number varies from year to year.

Additional Requirements – Optional Thesis (6 hours)

Thesis, PHST 666 (6 hours). To be completed in accordance with the guidelines written in the catalog entry for the M.S. in Bioinformatics and Biostatistics Degree.

* Courses taken to satisfy the Biostatistics component of the dual degree program can be applied to the 18 semester hours of electives which are required for the Ph.D. in Applied and Industrial Mathematics.

** The PHST 661-662/MATH 561-562 requirement is waived if the student takes MATH 663 and MATH 667. The PHST 681-682 requirement is waived if the student takes MATH 667-668. Both requirements (PHST 661-662/MATH 561-562 and PHST 681-682) are waived only if the student completes both the MATH 663-664 and MATH 667-668 sequences.

*** Can be replaced by an advisor-approved graduate-level course in Bioinformatics and Biostatistics (PHST 691, PHST 704, etc.)

**** This is a project completed under the supervision of a faculty member

Courses taken to satisfy the Biostatistics-Decision Science component of the dual degree program can be applied to the 18 semester hours of electives which are required for the Ph.D. in Applied and Industrial Mathematics.

Combined Industrial Internship, Practicum and Masters Thesis. (6-8 semester hours)

The Industrial Internship required by the Department of Mathematics and the Master's Project or Thesis required for the M.S. can be satisfied by a single internship and technical report which simultaneously satisfies the requirements for both degrees. Specifically, the internship must both focus on biostatistics so that it satisfies the Project or Thesis, and contain advanced mathematical content, so that it satisfies the Industrial Internship. Likewise, the technical report must meet two requirements: it must satisfy the requirements for a Master's Project report or Master's Thesis for the M.S. degree and it must be written at an advanced mathematical level expected Industrial Internship. Students should enroll in the Master's Project (PHST 675) or Master's Thesis (PHST 666) courses during or shortly after completion of the Industrial Internship to take advantage of the combined Industrial Internship and Master's Project/Thesis.

Students will not be permitted to enroll in the Master's Project (PHST 675) or Master's Thesis (PHST 666) courses until at least 2 qualifying examinations toward the Ph.D. in Applied and Industrial Mathematics have been completed.

Special Considerations: Students who have already completed a Master's degree in the Department of Mathematics

To preserve the spirit of a dual degree, such students need to complete 36 semester hours of courses as required for the M.S. in Biostatistics. Six (6) semester hours from the previous Master's degree coursework can be applied to this requirement. The remaining semester hours must be chosen from the list of not covered by core courses approved electives for the Department of Bioinformatics and Biostatistics, with preference given to courses in the

Departments of Mathematics and Bioinformatics and Biostatistics. Combined Industrial Internship, Practicum and Masters Thesis cannot be replaced by a previous Master's thesis. This requirement must be satisfied as previously described, meeting the specifications of both departments.

Departmental Faculty

Thomas Riedel

Professor

Department Chair

Csaba Biro

Assistant Professor

Mary E. Bradley

Associate Professor

Udayan B. Darji

Professor

Richard M. Davitt

Emeritus

Arnab Ganguly

Assistant Professor

Roger H. Geeslin

Emeritus

Ryan S. Gill

Associate Professor

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Changbing Hu

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Chakram S. Jayanthi

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Thomas M. Jenkins

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Cristina Tone

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David J. Wildstrom

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W. Wiley Williams

Emeritus

Shi-Yu Wu

Adjunct Professor

Yongzhi Steve Xu

Professor

Stephen Young

Assistant Professor

Wei-Bin Zeng

Associate Professor

Master of Arts in Pan-African Studies

Major: PAS

Degree Awarded: MA

Unit: GE

Program Webpage: <http://louisville.edu/panafricanstudies/>

Program Information

The Pan-African Studies Department offers courses that may be applied toward graduate degrees in other areas. Students must obtain their program advisor's permission before enrolling in these courses. Students who are interested in more information on these courses should contact the Chair of the Department.

Admission Information

Students applying for admission to the Master of Arts in Pan-African Studies program must meet the following standards:

- Minimum 3.00 undergraduate cumulative grade point average.
- Submission of an official transcript reflecting previous degree earned.
- Three letters of recommendation.
- Graduate Record Examination (GRE): combined score of at least 900 on the previous version or 300 on the 2011 revised test.
- Submission of a personal statement.
- Submission of a current CV
- Online Application
- Writing Sample

Curriculum

Thesis Option

Core Courses 15

PAS 601: Graduate Research Methods

PAS 602: Theories and Issues in Pan-African Studies

Nine (9) credit hours of PAS courses for graduate credit distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.

Concentration Areas:

African American Studies 12

Nine (9) credit hours of PAS courses for graduate credit focusing on African Americans distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.
- Three (3) credit hours in any PAS area focusing on African Americans.

Or African and Diaspora Studies 12

Nine (9) credit hours of PAS courses for graduate credit focusing on Africa and/or the Diaspora, distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.
- Three (3) credit hours in any PAS area focusing on Africa and/or the Diaspora.

Thesis: PAS 604 3

Elective in Related Field (with advisor's approval) 3

Minimum Total 33

Examination Option

Core Courses 15

PAS 601: Graduate Research Methods

PAS 602: Theories and Issues in Pan-African Studies

Nine (9) credit hours of PAS courses for graduate credit distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.

Concentration Areas:

African American Studies 12

Nine (9) credit hours of PAS courses for graduate credit focusing on African Americans distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.
- Three (3) credit hours in any PAS area focusing on African Americans.

Or

African and Diaspora Studies 12

Nine (9) credit hours of PAS courses for graduate credit focusing on Africa and/or the Diaspora, distributed as follows:

- Three (3) credit hours in Historical Studies;
- Three (3) credit hours in Cultural Studies; and
- Three (3) credit hours in Social Studies.
- Three (3) credit hours in any PAS area focusing on Africa and/or the Diaspora.

Electives in Related Fields (with advisor's approval) 6

Minimum Total 33

Note: Satisfactory completion of a comprehensive examination will be required of all students who do not complete a thesis.

Departmental Faculty

Tomarra Adams, Ph.D.

Assistant Professor

Latrica Best, Ph.D.

Assistant Professor

W. Carson Byrd, Ph.D.

Assistant Professor

Joy G. Carew, Ph.D.

Associate Professor

Robert L. Douglas, Ph.D.

Professor Emeritus

Tyler Fleming, Ph.D.

Assistant Professor

Pearlie Johnson, Ph.D.

Assistant Professor

Ricky L. Jones, Ph.D.

Professor

Yvonne V. Jones, Ph.D.

Associate Professor

Director of Graduate Studies

Shirletta Kinchen, Ph.D.

Assistant Professor

Michael Brandon

McCormack, ABD

Assistant Professor

Theresa A. Rajack-Talley,

Ph.D.

Associate Professor

Department Chair

Kaila Story, Ph.D.

Assistant Professor

William Tkweme, Ph.D.

Assistant Professor

Doctor of Philosophy in Pan African Studies

Major: PAS_PHD

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/panafricanstudies/>

Program Information

The Ph.D. program will train professional researchers at the highest level in one or more of the traditional disciplines as well as to focus on two substantive areas; African American or African Diaspora Studies. The expertise of the present core and affiliated faculty to the Department of Pan-African Studies is spread across African American and African Diaspora history, philosophy, sociology, political science, linguistics, religion, education, social work, psychology, art, music, anthropology, women's and gender studies. This amalgam of interdisciplinary subjects makes the department a highly active research and teaching unit that is well positioned to offer a degree of Doctor of Philosophy in Pan-African Studies. The Ph.D. is designed to educate students with the knowledge, analytic abilities, and professional development skills important for both academic and non-academic careers. Beginning in the fall of 2014, the program is open to all students regardless of race/ethnicity, gender, religion, sexual preference, or nationality. Graduates are employable in public and private corporations in areas of education, law and public policy, cultural heritage and public history, programs that deal with human rights and social inequality, economics and trade.

Admission Requirements for Pan-African Studies Ph.D. Degree

To be admitted students must:

- Demonstrate advanced competency in research skills, as evidenced by completion of a Master's thesis or other independent research project, such as a sole-authored research report; published articles in peer-reviewed journals or edited volumes.
- Completion of a minimum of 33 hours of graduate credits at the M.A. level (beyond the baccalaureate degree), and 60 hours beyond the Master's degree are required for admission to and completion of doctoral coursework.
- Students with a Master's degree in Black Studies or a traditional discipline in the humanities or social sciences will also be considered for admittance.
- Students who apply for the program without a Master's degree in Black Studies are required to take the PAS 601 (Graduate Research methods) and PAS 602 (Theories and Issues in Pan- African Studies) as prerequisites.
- Students may transfer 6 hours from a previously earned Master's degree toward the Ph.D., subject to the approval of the degree program and the Unit Dean.
- Students with a PAS MA degree will be allowed to transfer a maximum of 12 credit hours to the Ph.D. In both cases students may petition for another 6 additional credit

hours. Only courses in which the student earned grades of "B" or better will be considered for transfer.

- Official GRE Scores
- GPA of 3.0 or better

Application Process

The Pan-African Graduate Committee considers applications to the Ph.D. program for Fall and Spring Admissions. The deadline for Fall is January 15th and Spring May 15th. When credentials are complete, the Graduate Admissions Committee will review all applications and make selections. All applicants will be notified of their outcome.

Applicants applying for admission to the doctoral program must submit required credentials through School of Interdisciplinary and Graduate Studies. All Applicants are encouraged to apply early!

1. A completed Graduate Admission application. Including a \$60.00 application fee.
2. Completion of a Master's degree program or equivalent number of graduate credits prior to admission.
3. Official transcripts of all undergraduate, graduate and post-graduate work.
4. Graduate Record Examination (GRE) General Test scores – applicants generally score at least in the 50th percentile or above in the general verbal section of the GRE. The minimal score is no guarantee of admission and will be considered in relation to other admission criteria.
5. Submission of three recent letters of recommendation about the applicant's potential success in a doctoral program.
6. A written statement of intent of no more than a thousand words detailing the applicant's professional goals.
7. Current curriculum vitae.
8. A writing sample – applicants must supply a recent sample (10-20 pages) of their scholarly or professional writing.

Graduate Admissions Contact:

To check the status of your application, please visit <http://ulink.louisville.edu>

For questions about the admissions process contact the Graduate Admissions office at gradadm@louisville.edu

Current or returning students with questions about policy or procedure not related to the admissions process, contact the Graduate Student Services Office at graduate@louisville.edu

Curriculum

Program Structure (full-time):

<u>Year I & II</u>	<u>Credit Hours</u>	<u>Other Tasks</u>
<i>Research Strategies</i>		9
Quantitative Research Strategies (new course)	3	
Qualitative Research Strategies (edited PAS 601)	3	
Research Strategies – Discipline Based (historical, social, cultural – courses not in PAS)	3	9
<i>Intellectual Approaches</i>	3	
Pan-African Social Thoughts (edited PAS 614)	3	
Advanced Seminar on Race (edited PAS 615/614/ 515)	3	
Seminar on Race & Ethnicity in the Diaspora (new course)	3	OR
Intellectual Approaches – Discipline Based (historical, social, cultural – courses not in PAS)	3	
<i>Major (Track Area/Discipline)*</i>		12

4 courses in one of two tracks: African American Studies or the African Diaspora and within a historical, social or cultural field. At least one of these must be cross listed.

(Example: PAS 510, 520, 528, 531, 535,551, 577, 575, 612, 616, 618, 619, 625, 645, etc. or PAS 505, 532, 533,550, 567, 581, 618, 620, 621, 643, 657, 660, etc.).

<i>Minor (Electives) **</i>		6
<i>Professional Development Seminar</i>		0
<i>Reading for Comprehension (Summer Course)</i>		6
Comprehensive		
Exam		
<u>TOTAL (Year I & II)</u>		42

* Courses from this area are potential teaching/research fields. They could be cross-listed with other departments and must be discipline/subject based. For example, a Ph.D. student interested in history of the “Slave Trade,” will study this as a history class with possible specialization in the “Atlantic Slavery” or “African Slavery” or “Comparative Slavery,” etc. Upon graduation, the student can compete favorably for job in traditional History Departments as well as Black Studies Departments.

** The two elective courses could be taken outside the PAS as part of the student’s potential teaching fields.

<u>Year III</u>	<u>Credit Hours</u>	<u>Other Tasks</u>
<i>Semester I</i>		

Special Topics Courses	9	
<i>Semester 2</i>		
Dissertation Research *(Special Topics Exam)	9	
Total (for year III) - Defend dissertation, proposal		18
<u>Year IV</u>		
Dissertation Research & Writing (Documentary/Fieldwork)	2	
<i>Semester 2</i>		
Dissertation Research (Defend dissertation)	2	
Total (for Year IV)	4	
<u>TOTAL (Program)</u>		64

***[1] Based on this structure students will take at least 5 courses in a specific discipline at the end of the first two years. This includes 1 in research strategy, 1 in intellectual approaches, 2 electives, and at least 1 cross listed course with PAS. These courses can also be in another area study such as Women Studies, Latin American/Latino Studies and others.

Departmental Faculty

Tomarra Adams, Ph.D.
Assistant Professor
Latrica Best, Ph.D.
Assistant Professor
W. Carson Byrd, Ph.D.
Assistant Professor
Joy G. Carew, Ph.D.
Associate Professor
Robert L. Douglas, Ph.D.
Professor Emeritus

Tyler Fleming, Ph.D.
Assistant Professor
Pearlie Johnson, Ph.D.
Assistant Professor
Ricky L. Jones, Ph.D.
Professor
Yvonne V. Jones, Ph.D.
Associate Professor
Director of Graduate Studies
Shirletta Kinchen, Ph.D.
Assistant Professor

Michael Brandon McCormack, ABD
Assistant Professor
Theresa A. Rajack-Talley, Ph.D.
Associate Professor
Department Chair
Kaila Story, Ph.D.
Assistant Professor
William Tkweme, Ph.D.
Assistant Professor

Master of Science in Physics

Major: PHYS

Degree Awarded: MS

Unit: GA

Program Webpage: <http://www.physics.louisville.edu/>

Program Information

Mission Statement

The Master of Science degree in Physics will prepare students for Ph.D.-level graduate work in Physics or a related field, or for a science-related career.

General Information

The MS is a two-year degree program available to qualified individuals possessing a bachelor's degree in Physics from an accredited college or university. Students with a bachelor's degree in other related subjects, e.g. Mathematics, Chemistry or Engineering, will also be considered.

Qualified students will be considered for Graduate Teaching Assistantships (GTAs). As part of the educational experience, GTAs perform certain undergraduate teaching responsibilities in exchange for a stipend and full tuition remission.

The MS can be earned via a thesis or non-thesis option. The thesis option requires at least six credit hours of research leading to submission of the thesis. Non-thesis students are also encouraged to become involved in research. The details for each option are described below.

Program Admission

Departmental requirements for admission are as follows:

- A baccalaureate degree with at least 24 hours in physics, or the equivalent.
- A minimum quality-point standing of 3.0 (base 4.0) in physics courses.
- Mathematics course work through differential equations. (MATH 405 or equivalent).
- Submission of the Graduate Record Examination scores.

For general information concerning admission to the graduate programs at the University of Louisville consult the application directions at <http://louisville.edu/graduate/apply>.

Program admission procedure:

Admission into the Physics MS program is competitive. The application procedure is as follows:

- Submit a completed graduate application to the University of Louisville, Office of Graduate Admissions together with the \$60.00 application fee. Applications may be submitted on-line at <http://louisville.edu/graduate/apply>. Admissions are most commonly accepted to begin their program of studies in the Fall semester (which starts in late August). However, programs beginning in the Spring semester (which begins in early January) can be arranged. There is no formal application deadline, but to ensure full consideration for Fall entry applications should be received no later than February 15.
- Official transcripts from each university or college attended must be submitted to the Office of Graduate Admissions.
- Take the general section of the Graduate Record Examination and arrange for the official score to be sent to the Office of Graduate Admissions.
- Arrange for at least two letters of recommendation to be sent to the Office of Graduate Admissions. These letters should be written by persons familiar with the applicant's academic work. Please use the recommendation form found at <http://louisville.edu/graduate/apply>.
- All applicants, whose native language is not English, are required to achieve a TOEFL score greater than 213 on the computer-based test, greater than 79 on the internet-based test or greater than 550 on the paper-based test. Students holding a bachelor's degree from an accredited institution in the United States are exempt from this requirement.

In individual cases, the conditional admission of a student who does not satisfactorily meet the above requirements may be recommended by the department to the School of Interdisciplinary and Graduate Studies. If admission is granted, that student will be subject to those conditions specified by the Department of Physics and Astronomy, the College of Arts and Sciences or the School of Interdisciplinary and Graduate Studies as being necessary to remedy the conditional admission.

BS/MS Five-Year Accelerated Program

The Department of Physics and Astronomy, in the College of Arts and Sciences, offers a five-year accelerated program leading to a Bachelor of Science degree and Master of Science degree in Physics.

Requirements for admission:

- Applicant will apply for admission to the five-year accelerated program in the first semester of the senior year.
- Applicant will have completed at least 21 credit hours in Physics before applying to the program.
- Applicant will have maintained at least a 3.0 GPA in Physics courses and a 3.35 GPA overall.

Once accepted, the student must meet the following requirements:

- Submit a GRE General test score consistent with School of Interdisciplinary and Graduate Studies guidelines.
- Take at least nine (9) credit hours in 500-level physics courses for graduate credit. Two of the courses must be PHYS 542 and PHYS 556. Preferably these courses will be taken during the same semester in the student's senior year.
- Maintain a 3.0 GPA.

Curriculum

General requirements for the M.S. degree are set forth in the General Information section of the graduate catalog. Specific requirements for the M.S. degree in physics are as follows:

Thesis option: (30 hours)

1. Required courses in physics (12 hours):
 - Theoretical Mechanics PHYS 605 (3)
 - Electromagnetic Theory PHYS 611 (3)
 - Quantum Mechanics I & II PHYS 621-622 (6)
2. Physics electives (six to nine hours): courses numbered 500 and above. Courses at 500 level or above which are required for the BA/BS degree will not normally satisfy this requirement.
3. Courses in one minor field (3 to 9 hours): Mathematics is the usual minor, but another field may be chosen with the approval of the department.
4. Graduate Research and Thesis PHYS 699 (6 hours).
5. At least 21 credit hours at the 600 level or above.

Non-thesis option: (33)

1. Required courses in physics (12 hours):
 - Theoretical Mechanics PHYS 605 (3)
 - Electromagnetic Theory PHYS 611 (3)
 - Quantum Mechanics I & II PHYS 621-622 (6)
2. Physics electives (12 hours): courses numbered 500 and above. Courses at 500 level or above which are required for the BA/BS degree will not normally satisfy this requirement.
3. Courses in one minor field (3 to 9 hours): Mathematics is the usual minor, but another field may be chosen with the approval of the department.
4. Graduate Research PHYS 699 (0 to 3 hours).
5. At least 17 credit hours at the 600 level or above.

BS/MS accelerated program:

The non-physics undergraduate requirements of this degree are identical to the standard BS in physics.

Undergraduate physics requirements are as follows:

Course	Description	Credit hours
PHYS 298 or 298H	Introductory Mechanics, Heat and Sound - S	4
PHYS 299 or 299H	Introductory Electricity, Magnetism and Light - S	4
PHYS 295 or 295H	Introductory Laboratory I - SL	1
PHYS 296 or 296H	Introductory Laboratory II	1
PHYS 300	Introductory Modern Physics	3
PHYS 301	Introductory Modern Physics Laboratory	3
PHYS 390	Introductory Computational Physics	3
PHYS 450	Introductory Mathematical Physics	3
PHYS 460	Mechanics	3
PHYS 541	Electromagnetic Fields	3
PHYS 555	Elementary Quantum Mechanics	3
PHYS 498	Research	3
Total		34

Graduate requirements for the five-year BS/MS program are identical to the standard MS program (thesis and non-thesis option) except that the physics electives **must include** PHYS 542 and PHYS 556.

Departmental Faculty

David N. Brown

*High Energy Experiment
Undergraduate Program
Director*

Jian Du-Caines

Atmospheric Physics

Joseph S. Chalmers

Emeritus Professor

Chris L. Davis

*High Energy Experiment
Graduate Program Director*

Timothy E. Dowling

Atmospheric Physics

Victor K. Henner

*Adjunct Professor, High
Energy Theory
Professor, Perm State
University (Russia)*

Humberto Rodriguez Gutierrez

Condensed Matter

Experiment

Wei-Feng Huang

Emeritus Professor

Chakram S. Jayanthi

*Condensed Matter Theory
Chair*

John F. Kielkopf

*Astrophysics, Atomic and
Molecular*

James T. Lauroesch

Astrophysics

Shudun Liu

Condensed Matter Theory

Sergio Mendes

Optical Material Science

Roger E. Mills

Emeritus Professor

John C. Morrison

*Atomic and Molecular
Theory*

P. J. Ouseph

Emeritus Professor

John J. Sinai

Emeritus Professor

Serban Smadici

*Condensed Matter
Experiment*

Gamini Sumanasekera

*Condensed Matter
Experiment*

Gerard M. Williger

Astrophysics

Shi-Yu Wu

Condensed Matter Theory

Ming Yu

Condensed Matter Theory

Doctor of Philosophy in Physics

Major: PHYS

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://www.physics.louisville.edu>

Program Information

Mission Statement

The Doctor of Philosophy degree in Physics will prepare students for research-oriented careers in government, industry, and academia.

General Information

The PhD is typically a five-year degree program available to qualified individuals possessing a bachelor's degree in Physics from an accredited college or university. Students with a bachelor's degree in other related subjects, e.g. Mathematics, Chemistry and Engineering will also be considered. The first two years of the program are very similar to the non-thesis MS program. Under normal circumstances PhD students will meet the requirements for the MS degree after two years of study. The remaining three years will be dedicated primarily to research leading to the required dissertation.

For the first two years of the program, qualified students will be considered for Graduate Teaching Assistantships (GTAs). As part of the educational experience, GTAs perform certain undergraduate teaching responsibilities in exchange for a stipend and full tuition remission. In most cases, support for the remaining three years of study is via Graduate Research Assistantships (GRAs) provided by extramural faculty research funding.

Program Admission

Departmental requirements for admission are as follows:

- A baccalaureate degree with at least 24 hours in physics, or the equivalent.
- A minimum quality-point standing of 3.0 (base 4.0) in physics courses.
- Mathematics course work through differential equations. (MATH 405 or equivalent).
- Submission of the Graduate Record Examination (general) scores. The Physics subject GRE is preferred, but not required.

For general information concerning admission to graduate programs at the University of Louisville consult the application directions at <http://louisville.edu/graduate/apply>.

Program admission procedure:

Admission into the Physics PhD program is competitive. The application procedure is as follows:

- Submit a completed graduate application to the University of Louisville, Office of Graduate Admissions together with the application fee. Applications may be submitted on-line at <http://louisville.edu/graduate/apply>. Admittees are most commonly accepted to begin their program of studies in the Fall semester (which starts in late August). However, programs beginning in the Spring semester (which begins in early January) can be arranged. There is no formal application deadline, but to ensure full consideration for Fall entry applications should be received no later than February 15.
- Official transcripts from each university or college attended must be submitted to the Office of Graduate Admissions.
- Take the general section of the Graduate Record Examination and arrange for the official score to be sent to the Office of Graduate Admissions. (the Physics subject GRE is recommended, but not required).
- Arrange for at least two letters of recommendation to be sent to the Office of Graduate Admissions. Persons familiar with the applicant's academic work should write these letters. Please use the recommendation form found at <http://louisville.edu/graduate/apply>
- All applicants whose native language is not English are required to achieve a TOEFL score greater than 213 on the computer-based test, greater than 550 on the paper-based test or greater than 80 on the internet-based test. Students holding a bachelor's degree from an accredited institution in the United States are exempt from this requirement.

In individual cases, the department may recommend conditional admission of a student who does not satisfactorily meet the above requirements. If admission is granted, that student will be subject to those conditions specified by the Department of Physics and Astronomy, the College of Arts and Sciences and the School of Interdisciplinary and Graduate Studies as being necessary to remedy the conditional admission.

Curriculum

General requirements for the Ph.D. degree are set forth in the General Information section of the graduate catalog. Specific requirements for the Ph.D. degree in physics are as follows:

A. Core Courses – 21 semester hours, comprising the seven 3 semester hour courses below:

PHYS 561 – Mathematical Methods I

PHYS 605 – Classical Mechanics

PHYS 611 – Classical Electrodynamics

PHYS 621 – Quantum Mechanics I

PHYS 622 – Quantum Mechanics II

PHYS 625 – Statistical Mechanics

PHYS 650 – Research Methods for Physics and Astronomy (Pass/Fail course)

B. Elective Courses – 9-18 semester hours

Each student is required to take at least three 3 credit-hour elective courses. Courses outside the department are acceptable, if approved by the student's thesis advisor and the department Graduate Program Director.

C. Research Training – Minimum of 6 semester hours

Each student must earn a minimum of 6 semester hours of Physics Research – PHYS 699

D. Qualifying Examination

In order to demonstrate proficiency in knowledge of Physics and the ability to apply that knowledge, students will be required to pass a qualifying exam. The qualifying exam will have a written and oral component.

1. Written Component

To satisfy the written component, the student will take a written exam composed by members of the faculty of the department. The exam will cover basic and intermediate problems in the areas of mechanics, electricity and magnetism, quantum mechanics, thermodynamics and statistical mechanics, and special topics in contemporary physics. It will be administered twice yearly with advance notice, typically in September and January. Students will be required to pass all areas of the exam, normally by the end of their fourth semester, or by the end of the first semester after completing their last class numbered lower than PHYS 699. A total of four attempts at the exam will be permitted. Once a subject area part of the exam is passed, that part does not need to be retaken. Under certain circumstances, in order to confirm their familiarity with a particular subject, a student may be extended the opportunity to take an oral examination in that subject.

2. Oral Component

To satisfy the oral component the student must pass an oral exam, in the form of a presentation to the Ph.D. committee of his or her proposed research. The student is expected to take the exam before the end of their fifth semester as a graduate student. The test may be taken at most two times, and must be passed by the end of the sixth semester.

E. Candidacy

Having passed both parts of the qualifying examination the student will register for degree candidacy and continue with their dissertation research.

F. Dissertation

A doctoral dissertation is required of each student.

Departmental Faculty

David N. Brown

High Energy Experiment
Undergraduate Program
Director

Jian Du-Caines

Atmospheric Physics

Joseph S. Chalmers

Emeritus Professor

Chris L. Davis

High Energy Experiment
Graduate Program Director

Timothy E. Dowling

Atmospheric Physics

Victor K. Henner

Adjunct Professor, High
Energy Theory
Professor, Perm State
University (Russia)

Humberto Rodriguez

Gutierrez
Condensed Matter
Experiment

Wei-Feng Huang

Emeritus Professor

Chakram S. Jayanthi

Condensed Matter Theory
Chair

John F. Kielkopf

Astrophysics, Atomic and
Molecular

James T. Lauroesch

Astrophysics

Shudun Liu

Condensed Matter Theory

Sergio Mendes

Optical Material Science

Roger E. Mills

Emeritus Professor

John C. Morrison

Atomic and Molecular
Theory

P. J. Ouseph

Emeritus Professor

John J. Sinai

Emeritus Professor

Serban Smadici

Condensed Matter
Experiment

Gamini Sumanasekera

Condensed Matter
Experiment

Gerard M. Williger

Astrophysics

Shi-Yu Wu

Condensed Matter Theory

Ming Yu

Condensed Matter Theory

Master of Arts in Political Science

Major: POLS

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/politicalscience/>

Program Information

The Department of Political Science, in the College of Arts and Sciences, offers graduate training leading to the Master of Arts degree. In addition, the Department participates in a joint degree program with the Brandeis School of Law.

The MA is designed to allow a student to pursue a degree either full or part time. Most graduate-level courses are offered in the evening. The MA is oriented toward those who wish to pursue advanced training in political science or a position in the public, private, or non-profit sector.

The Department of Political Science offers a joint MA/JD program in partnership with the Brandeis School of Law. This program allows the student to obtain the MA and JD degrees in a four-year course of study. For additional information, see the law school website.

The Department of Political Science also offers its undergraduate majors an opportunity to earn both a BA (or BS) degree and an MA degree in five years of study. This program allows students to earn an MA degree at an accelerated pace (approximately one calendar year).

Applicants must meet the general requirements for admission to the School of Interdisciplinary and Graduate Studies and must submit an application to the Department of Political Science. Applicants should have an undergraduate major or minor in a social science or have sufficient alternative preparation in the social sciences.

Program admission procedure:

Admission into the MA program is competitive. The procedures for admission into the MA program are as follows:

1. Submit a completed graduate application to the Office of Graduate Admissions. There is a \$60 application fee. Application for admission must be made by July 15 for the Fall semester and November 15 for the Spring semester.
2. Forward official transcripts verifying the receipt of a baccalaureate degree from an accredited institution to the Office of Graduate Admissions. An applicant must hold a BA or BS (or foreign equivalent) before admission to the program can be granted. Applicants selected for the program have generally earned a 3.0 undergraduate GPA overall or a 3.2 undergraduate GPA in the last 60 semester hours or the equivalent.

3. Send scores from the Graduate Records Examination (GRE) to the Office of Graduate Admissions. The GRE is designed to measure general aptitude for graduate study. Applicants selected for the program generally present a Verbal score of at least 153, Quantitative score of at least 144, and an Analytical score of at least 4.0.
4. Provide two letters of recommendation from individuals familiar with the applicant's academic performance. Professional letters from employers are acceptable only when substantial time has elapsed since the applicant has attended an academic institution.
5. A written personal statement is required. This statement should detail the applicant's educational and professional experiences and goals and relate these goals to the pursuit of graduate study in political science at the University of Louisville. The statement should be approximately 400-500 words in length.
6. International applicants are required to take the TOEFL examination if English is not the native language. Applicants who have not scored 550 or higher on the TOEFL may choose to apply to the Intensive English as a Second Language (IESL) Program. Successful completion of this program or passing the Exit Examination in the advanced level of IESL will be considered adequate proof of the English proficiency required for course work in the MA program. Acceptance to the Intensive English Program does not constitute acceptance to the MA program. For information and application forms, write to IESL, University of Louisville, Louisville, KY 40292.

The Department may accept applicants who do not meet these requirements on a conditional basis if sufficient additional evidence of promise of success in the graduate program can be shown. No student will be admitted unconditionally until all materials listed above have been received.

You may apply to the Office of Graduate Admission at the university on-line at <http://louisville.edu/graduate/apply>.

Curriculum

Students are encouraged to take advantage of the unique strengths of the Department of Political Science when planning their course of study. In particular, the Department enjoys strong complements of faculty in two broad areas: International Studies and American Politics.

The International Studies field includes the comparative study of various regions and nations throughout the world as well as the study of relations among nations and other global actors. Areas of faculty expertise include: the politics of Africa, Latin America, the Middle East, East Asia, Europe, and the former Soviet Union, development, political economy, revolution, leadership, environment, civil-military relations, foreign policy, defense and security, international organizations, and international law.

The American Politics field includes the study of the American governmental institutions that formulate public policy and the study of the administration of public policy. Areas of faculty expertise include: the presidency, Congress, the judiciary, federalism, public administration,

public law, the electoral process, social policy, housing policy, urban policy, environmental policy, and economic development policy.

There are two options for earning an MA in Political Science: Thesis (30 hours) and Non-thesis (36 hours).

Courses	Description	Credit Hours
Thesis Option (6 hours total)		
POLS 670	Scope of Political Science	3
POLS 671	Methods of Political Research	3
Three of the following six courses (9 hours total)		
POLS 619	Seminar in Public Policy	3
POLS 625	Seminar in Public Administration	3
POLS 629	Seminar in American Politics	3
POLS 630	Seminar in Political Theory	3
POLS 639	Seminar in International Relations	3
POLS 649	Seminar in Comparative Politics	3
Electives* (9 hours total, from Political Science or other departments)		
POLS 699	Thesis	6
Non-thesis Option		
Core Courses (6 hours total)		
POLS 670	Scope of Political Science	3
POLS 671	Methods of Political Research	3
Three of the following six courses (9 hours total)		
POLS 619	Seminar in Public Policy	3
POLS 625	Seminar in Public Administration	3
POLS 629	Seminar in American Politics	3
POLS 630	Seminar in Political Theory	3
POLS 639	Seminar in International Relations	3
POLS 649	Seminar in Comparative Politics	3
Political Science electives		6 or more
Electives from other departments		up to 12
POLS 695	Directed Research	3

*Up to nine elective hours may be at the 500-level. Up to six hours may be independent study credit.

Departmental Faculty

Jason Abbott

Associate Professor

Aung San Suu Kyi Endowed
Chair in Asian Democracy

David Buckley

Assistant Professor

Julie M. Bunck

Professor

Anne I. Caldwell

Associate Professor

Dewey M. Clayton

Professor

Jasmine I. Farrier

Associate Professor

Michael R. Fowler

Professor

Jason Gainous

Associate Professor

Kristopher Grady

Assistant Professor Term

Tricia J. Gray

Assistant Professor

Shiping Hua

Professor

Calvin and Helen Lang

Distinguished Chair in Asian
Studies

David L. Imbroscio

Professor

Tasha Lavey

Instructor, Term

Susan M. Matarese

Professor

Melissa K. Merry

Assistant Professor

Graduate Advisor

Laura P. Moyer

Assistant Professor

Rodger A. Payne

Professor

Department Chair

Laurie A. Rhodebeck

Associate Professor

Sherri L. Wallace

Associate Professor

Tim Weaver

Assistant Professor

Okbazghi Yohannes

Professor

Charles E. Ziegler

Professor

Director, Grawemeyer Award
for Ideas Improving World
Order

Doctor of Philosophy in Psychology - Clinical

Major: CPSY

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/psychology/>

Program Information

Mission Statement

The mission of the Clinical Psychology Doctoral Program at the University of Louisville is to produce scientist-practitioners who are: (1) competent to conduct and evaluate research; (2) competent in implementing research-supported practice; (3) ethical and professional in their relationships with clients, students, and colleagues; and (4) prepared to be professionals in a diverse world.

General Information

The Department of Psychological and Brain Sciences, in the College of Arts and Sciences, offers Ph.D. programs in Experimental Psychology and Clinical Psychology.

The Clinical Psychology Ph.D. program usually requires four years of full-time course work, research, and clinical activities. Each student must also complete a one-year approved internship. Students are required to complete a Master's Research Portfolio. After completion of the Master's portfolio, students write their preliminary examination and then move on to their dissertation work. A dissertation proposal must be defended before a student may apply for internship.

Financial support for graduate students in the Ph.D. program is available in the form of teaching and research assistantships, University Fellowships, and placements in community service settings.

Program Admission Procedure

1. The Clinical Psychology Ph.D. Program application deadline is December 1.
2. Completed graduate applications should be submitted to the University of Louisville, Office of Graduate Admissions. There is a \$60 application fee (on-line at <http://louisville.edu/graduate/apply>) or call the Office of Graduate Admissions at (502)852-3101 for more information. Our Ph.D. programs admit students to begin in the Fall semester, with a usual start date of July 1.
3. The Graduate Record Examination General Test is required. Those for whom English is not their native language must also submit TOEFL scores.

4. Transcripts of college records from all schools attended must be submitted to the Office of Graduate Admissions. Students must have earned an undergraduate degree from an accredited college or university.
5. Three letters of recommendation from academic sources are required and must be submitted to the Office of Graduate Admissions.
6. Application materials are available on line, <http://louisville.edu/psychology/doctorate>. For additional information, contact Ms. Maggie Leahy, (502)852-4364 or Ms. Carolyn Mask, (502)852-8272.
7. Each student must meet department requirements including core courses, research, the preliminary examination, a research portfolio, a dissertation, and an approved internship.

Curriculum

The Clinical Psychology Ph.D. curriculum contains 2 basic sets of core courses: department cores and clinical cores. The curriculum closely follows guidelines for accreditation established and maintained by the [American Psychological Association's Office of Program Consultation and Accreditation](#).

Students take a two-course assessment sequence, a three-course intervention sequence, courses in psychopathology, personality, legal and ethical issues, and advanced seminars in specific clinical topics.

In addition to the clinical core curriculum, students take basic psychology core courses including a statistics and research methods sequence, behavioral neuroscience, personality, developmental, cognitive, and social psychology. A course on the history of psychology is required for students who have not had an equivalent undergraduate course. Students also complete research hours for master's and dissertation research. Three topical seminars are also required.

Department Core:

620 Human Learning or 621 Cognitive Processes
642 Behavioral Neuroscience
670 Advanced Social Psychology
661 Advanced Developmental Psychology
673 Advanced Personality
610 and 611 Advanced Statistics I and II
601 History and Systems (waived with an A or B in undergraduate)

Clinical Core:

656 Legal and Ethical

679 and 680 Assessment I and II
683, 684, 697 Interventions I, II, and III
693 Interviewing
689 Advanced Clinical Psychopathology
685 Clinical Practicum

Electives:

Topical seminars are offered to augment the curriculum and allow students more detailed exposure to areas of interest. Recent seminars include: Schizophrenia, Geropsychology, Neuropsychology, Anxiety Disorders, and Behavioral Medicine. Students may also, with approval from their mentor and the director of clinical training, take seminars in other departments of the University.

Students entering the program with graduate courses from another program may request that core courses be waived provided the appropriate instructors judge them to be of equivalent content.

Departmental Faculty**Cara Cashon***Associate Professor***L. Kevin Chapman***Associate Professor***Marci DeCaro***Assistant Professor***Paul J. DeMarco***Professor***Edward A. Essock***Professor***Zijiang He***Professor***Richard Lewine***Professor***Keith Lyle***Associate Professor***Benjamin Mast***Associate Professor and Vice
Chair***Suzanne Meeks***Professor and Chair***Carolyn B. Mervis***Professor***Tamara Newton***Associate Professor***John R. Pani***Professor***Heywood M. Petry***Professor***Paul Rosen***Assistant Professor***Edna Ross***Associate Professor***Paul G. Salmon***Associate Professor***Sandra Sephton***Associate Professor***Patrick Shafto***Associate Professor***Barbara Stetson***Associate Professor***Christian Stilp***Assistant Professor***Monnica Williams***Assistant Professor***Janet Woodruff-Borden***Professor and Director of
Clinical Training***Pavel Zahorik***Associate Professor and**Director of Undergraduate
Studies***Joseph F. Aponte***Emeritus***Stephen E. Edgell***Emeritus***John C. Birkimer***Emeritus***James M. Driscoll***Emeritus***Samuel Z. Himmelfarb***Emeritus***Robert G. Meyer***Emeritus***Stanley A. Murrell***Emeritus***Irwin D. Nahinsky***Emeritus***John A. Robinson***Emeritus***Richard P. Smith***Emeritus***Fred Wightman***Emeritus*

Doctor of Philosophy in Psychology - Experimental

Major: EPSY

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/psychology/>

Program Information

General Information

The Ph.D. program in Experimental Psychology at the University of Louisville's Department of Psychological and Brain Sciences trains students to be experts in the conduct of research in modern psychology. Training is based on coursework, active and continuous involvement in research, and close cooperation between students and faculty mentors.

The program currently has significant strength in several topic areas of psychology, including basic and applied areas of cognitive science, child development, developmental disabilities, hearing, learning, memory, neuroscience, perception, and vision.

Two concentrations are offered: Cognitive and Developmental Sciences, and Vision and Hearing Science. As defined below, these two concentrations have different required courses, first-year requirements and preliminary exam. The concentration area is chosen at the time of application.

The Experimental Psychology Ph.D. program requires four years of full-time training. All students must satisfy course requirements (listed below), turn in a portfolio of written work for the Master of Science degree, pass a Preliminary Examination prior to conduct of the dissertation, and complete the dissertation. In addition, VHS area students must successfully complete a first-year project and exam. Active and continuous involvement in research is essential. To remain in good standing, students must maintain an overall GPA of 3.0 and demonstrate appropriate progress in research. Equivalence of graduate work in psychology completed at another institution will be evaluated on an individual basis.

Financial support for graduate students in the Experimental Psychology Ph.D. program is available in the form of research assistantships, teaching assistantships, and University Fellowships. All forms of support are for 12 months with a standard start date of July 1. Support includes stipend, full tuition, and health insurance. Most stipends currently are set at \$22,000 per year.

Program Admission Procedure

1. Experimental Psychology Ph.D. Program Application Deadline (for both areas) is December 1.
2. Submit completed graduate application to Graduate Admissions, School of Interdisciplinary and Graduate Studies. There is a \$60 application fee (on-line at <http://louisville.edu/graduate/apply>). Call the School of Interdisciplinary and Graduate

Studies at 502-852-3101 for more information. The Ph.D. program admits students once per year, with a typical matriculation date of July 1.

3. The Graduate Record Examination is required for an application to the Ph.D. program to be reviewed. The Experimental Psychology Program requires only the general section of the GRE (Verbal, Quantitative, and Analytical Writing). Those for whom English is not their native language must also submit TOEFL scores.
4. Transcripts of your college records from all of the schools you have attended must be submitted to the Office of Graduate Admissions. Students must have earned an undergraduate degree from an accredited college or university and have a minimum grade point average of 3.0 for all undergraduate and prior graduate work.
5. Three letters of recommendation from academic sources are required and must be submitted to the Office of Graduate Admissions.
6. Fill out the departmental admissions packet and return directly to Ms. Carolyn Mask. This packet may be obtained by downloading found on the webpage at <http://louisville.edu/psychology/doctorate/experimental-psychology/apply.html>, or requesting by calling (502)852-8272 or sending email to [Carolyn Mask](#).
7. Although no other material is strictly required, you are strongly encouraged to submit a personal statement outlining interests, background, unique experiences, vita, and other information which might be helpful to persons making an admission decision.
8. Only when the application is complete will the Department Review Committee review the application and inform prospective students of its decision. Since your application will not be sent to the Department Review Committee until completed, it is imperative that you be sure that all materials are received well in advance of the closing date (December 1).
9. Additional information about department programs and admissions can be obtained from Ms. Carolyn Mask, Graduate Admissions in PBS, Department of Psychological and Brain Sciences, University of Louisville, Louisville KY 40292; (502)852-8272; [Carolyn Mask](#).

Curriculum

Minimum Coursework

Cognitive and Developmental Sciences (CDS) Concentration

Two graduate courses in statistics

PSYC 610, Advanced Statistics I

PSYC 611, Advanced Statistics II

Two graduate core courses

PSYC 621, Cognitive Psychology

PSYC 661, Advanced Developmental Psychology

Six additional graduate courses (18 credits)

To be determined jointly by the student and his/her faculty mentor. The six electives are selected from lecture courses, seminars, or internships (2 semester limit) from within or outside of the Department of Psychological and Brain Sciences.

Vision and Hearing Science (VHS) Concentration**Statistics**

PSYC 610 Advanced Statistics I
PSYC 611 Advanced Statistics II

VHS Core

PSYC 613 Methods in Vision and Hearing Science
PSYC 633 Visual Processes
PSYC 635 Sensory Neuroscience
PSYC 646 Hearing Science I
One of: PSYC 642 Behavioral Neuroscience
PSYC 643 Principles of Neuroscience
PSYC 645 Cognitive Neuroscience

Electives

Two seminars in VHS (609)
Two additional graduate-level courses (may be seminars)

Elective courses are to be determined jointly by the student and their respective faculty advisor. Multiple related undergraduate courses may satisfy one elective with permission of mentor and area director.

Research Hours

A minimum of 3 credit hours of research (CDS: PSYC 605; VHS: PSYC 602) is required to be taken each semester (including the summer), until the Preliminary examination is passed.

First-year Research Project and Exam -- VHS Concentration Only

(The CDS concentration does not include this requirement.)

After completing their first year of study, students will make a presentation of their research to-date and be given a brief oral exam by the area faculty over the student's research and research area.

MS Portfolio

Students are required to earn a Master of Science in Experimental Psychology. To earn the MS degree, the student will prepare a portfolio of written work reporting the research in which the student has been involved. The portfolio should demonstrate scope and quality of research commensurate with the degree. The portfolio typically is due at or shortly after the completion of two years of training and is evaluated by a faculty committee. After approval of the MS portfolio and 30 credit hours of graduate study, the student is awarded the Master of Science degree.

Preliminary Examination**Cognitive and Developmental Sciences Concentration**

The Preliminary Examination will consist of an original written review and critique of a research

area in cognitive and/or developmental sciences. The Preliminary Examination will be evaluated based on breadth of knowledge, integration of literature, critical thinking, and quality of scientific writing. Students will plan the preliminary examination in collaboration with their Preliminary Examination Committee. The Preliminary Examination must be completed by the end of the third year of training.

Vision and Hearing Science Concentration

The preliminary exam will be an oral exam administered by the VHS faculty. The domain of the exam will be formed by a list of readings provided to the student. The list will be compiled by the area faculty and will cover: (1) basic foundational knowledge and research methods in the general field of vision and hearing science, and (2) advanced knowledge within the student's area of research focus.

Dissertation

An original research project conducted and described in a report (the doctoral dissertation) by the student. The dissertation is conducted in consultation with a faculty committee and must be approved by the committee.

Departmental Faculty

Barbara M. Burns*Professor*

Department Chair

Cara Cashon*Assistant Professor***Paul J. DeMarco***Professor***Stephen E. Edgell***Professor***Edward A. Essock***Professor***Zijiang He***Professor***Richard Lewine***Professor***Keith Lyle***Assistant Professor***Benjamin Mast***Associate Professor***Maureen McCall***Professor***Suzanne Meeks***Professor***Carolyn B. Mervis***Professor***Robert G. Meyer***Professor***Stanley A. Murrell***Professor***Tamara Newton***Associate Professor***John R. Pani***Associate Professor***Heywood M. Petry***Professor*Director, Ph.D. Program in
Experimental Psychology**Edna Ross***Assistant Professor***Paul G. Salmon***Associate Professor***Sandra Sephton***Associate Professor***Patrick Shafto***Assistant Professor***Barbara Stetson***Associate Professor***Fred Wightman***Professor***Janet Woodruff-Borden***Professor*Director, Ph.D. Program in
Clinical Psychology**Pavel Zahorik***Assistant Professor***Joseph F. Aponte***Emeritus***John C. Birkimer***Emeritus***James M. Driscoll***Emeritus***Samuel Z. Himmelfarb***Emeritus***Irwin D. Nahinsky***Emeritus***John A. Robinson***Emeritus***Richard P. Smith***Emeritus*

Master of Public Administration

Major: PADM

Degree Awarded: MPA

Unit: GA

Program Webpage: <http://louisville.edu/upa>

Program Information

General Information

The Master in Public Administration Program at the University of Louisville is central to the University's urban/metropolitan mission. Through its academic curriculum, the Program provides students with a solid foundation in public and nonprofit administration and prepares its graduates for placement and advancement in a public, private and nonprofit sector careers. The faculty also advances the state of knowledge in the field of public administration through its theoretical and applied research. The Program is offered by the Department of Urban and Public Affairs in cooperation with the Department of Political Science to achieve broad interdisciplinary preparation.

The Program requires a minimum of 42 credit hours for completion: a core curriculum of 12 hours, including 6 hours of practicum, internship or thesis, 12 hours from one of the five areas of specialization and 18 hours of electives. The MPA program is primarily an evening program. A student can enroll on either a part-time or full-time basis. During the fall and spring semesters, courses are typically offered Monday through Thursday, one evening a week, from 5:30 until 8:15 p.m. The program includes faculty from various disciplines and is aimed at providing recent college graduates, public sector practitioners, and persons in related fields with a mix of theoretical knowledge and applied skills. The degree program is available to qualified individuals holding a bachelor's degree from an accredited college or university. No specific undergraduate major is required; however, coursework in economics and political science at the undergraduate level is helpful.

The Master in Public Administration Program offers joint degree programs with the Master in Urban Planning and the Master of Arts in Art (Creative) and Art History (Concentration in Critical and Curatorial Studies). For more information about the two dual programs please go the web page <http://louisville.edu/upa>

Program Admission Procedures

The procedures for admission into the MPA program are as follows:

1. Submit a completed graduate application to the University of Louisville, Office of Graduate Admissions. There is a \$60 application fee (See web <http://louisville.edu/graduate/apply/>). Program candidates may be admitted for Fall, Spring or Summer semesters.
2. Official transcripts verifying the receipt of a baccalaureate degree from an accredited institution must be submitted to the Office of Graduate Admissions.
3. The Graduate Record Exam (GRE) is required. An admission decision will not be made without the GRE scores. See web <http://www.gre.org> for further information about the GRE or call 1-800-GRE-CALL (1-800-473-2255).
4. A written personal statement is required. The statement should indicate why the applicant wishes to pursue the MPA degree.
5. Two letters of recommendation are required. Normally, at least one letter should be from someone who can comment about the applicant's academic performance.
6. International applicants are required to take the TOEFL examination if English is not their native language. Applicants who have not scored 550 or higher on the TOEFL (210 or higher on the computer-based version) may choose to apply to the Intensive English as a Second Language (IESL) Program. Successful completion of this program or passing the Exit Examination in the advanced level of IESL will be constitute proof of English proficiency. For information and application forms, write to IESL, University of Louisville, Louisville, KY 40292.

Curriculum

MPA Core Courses

The core consists of six required courses, or 12 credits. Six credits of the core consist of a practicum/ internship or a thesis.

	Semester Hours
PADM 600 Foundations of Public Administration	3
PADM 601 Statistics for Public Affairs	3
PADM 682 Practicum/Internship or PADM 695 Thesis	6
Total from core	12

SPECIALIZATION AREAS

Students can choose one of five specializations offered in the Program. A total of twelve hours is required for each specialization. Unless identified as a required course for the specialization, students may select among the recommended courses listed under each specialization. Students may substitute a course not listed under the specialty with permission from the Director.

City Management Specialization

	Semester Hours
PADM 604 Public Budgeting and Finance	3
PADM 605 Public Management*	3
PADM 606 Public Policy	3
PADM 607 Planning Theory	3
PADM 610 Administrative Law and Process	3
PADM 624 Ethics in Public Administration	3
PADM 642 Human Resources Management	3
PADM 680 Independent Research in Public Administration	1-3
PADM 683 Topical Seminar in Public Administration	1-3
*Required	

Nonprofit Management Specialization

	Semester Hours
PADM 603 Policy Analysis and Evaluation	3
PADM 606 Public Policy	3
PADM 609 Financial Management of Nonprofits	3
PADM 612 Nonprofit Grantsmanship and Fundraising	3
PADM 615 Theories of the Nonprofit and Voluntary Sector*	3
PADM 680 Independent Research in Public Administration	1-3
PADM 683 Topical Seminar in Public Administration	1-3

Community and Economic Development Specialization

	Semester Hours
PADM 621 Politics of Urban Development	3
PADM 626 Housing and Community Development	3
PADM 640 Urban Economics	3
PADM 645 Economic Development	3
PLAN 607 Land Use Planning	3
PLAN 631 Real Estate Principles	3
PADM 680 Independent Research in Public Administration	1-3
PADM 683 Topical Seminar in Public Administration	1-3

Human Resources Specialization

	Semester Hours
PADM 642 Human Resources Management	3
PADM 644 Collective Bargaining	3
PADM 647 Arbitration	3
PADM 648 Mediation and Dispute Resolution	3
PADM 649 Legal Aspects of Human Resources	3
PADM 652 Equal Opportunity and the Workplace	3
PADM 680 Independent Research in Public Administration	1-3
PADM 683 Topical Seminar in Public Administration	1-3

Urban Policy Specialization

	Semester Hours
PADM 603 Policy Analysis and Evaluation	3
PADM 606 Public Policy*	3
PADM 621 Politics of Urban Development	3
PADM 623 Comparative Urban Development	3
PADM 627 Environmental Policy	3
PADM 640 Urban Economics*	3
PLAN 680 Urban Sustainability	3
POLS 620 Topics in Public Policy	3
PADM 680 Independent Research in Public Administration	1-3
PADM 683 Topical Seminar in Public Administration	1-3

MPA students may choose 18 hours of elective credits from among all PADM (Public Administration) or PLAN (Planning) courses. One of the elective courses must be denoted as a methods course. For a list of all electives and identification of those courses that count as a methods course, consult the Student Guide available at the MPA home page, <http://louisville.edu/upa/programs/mpa>

Departmental Faculty

Janet Kelly
Professor

Director

Carrie Donald
Professor

John Gilderbloom
Professor

Frank Goetzke
Associate Professor

David Imbroscio
Professor

Steven Koven
Professor

Aaron Rollins

Assistant Professor

Matthew Ruther
Assistant Professor

David Simpson
Professor

Sumei Zhang
Associate Professor

Master of Arts in Sociology

Major: SOCI

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/sociology/>

Program Information

Through its use of scientific methods and systematic theory, sociology is the study of diverse social groups as they emerge, persist, and change over time and of human behavior in social settings. Sociologists seek to identify and explain the underlying patterns of social relations. The substantive focus of sociology at the University of Louisville is the study of social dynamics particularly in reference to social diversity.

The faculty of the Department of Sociology at the University of Louisville is committed to being a vibrant, learning-centered faculty that enhances comprehension of social dynamics through creative and inventive research, graduate training, and applied opportunities. The graduate degree in sociology at the University of Louisville prepares students for continued advanced study and for careers in government, nonprofits, and the private sector.

Our mission is to provide master's level graduate education at the highest standards. We will introduce students to the current state of sociological knowledge and methods through high-quality classroom instruction, faculty-student collaboration, and independent student research and practical learning opportunities.

This mission of graduate education in the Department of Sociology further encourages students to develop and apply a "sociological imagination" in the systematic analysis of all things social. The Department advances the use of the sociological approach in interpreting the causes and consequences of human social behavior, facilitating critical appraisal of social structures and cultures, and assessing public policy.

In addition, the Department pledges to conduct this mission in a climate of fairness, sensitivity to the merits of diverse lifestyles, and appreciation for all manners of social research.

The Department of Sociology, in the College of Arts and Sciences, offers graduate training leading to the Master of Arts.

The MA program is designed to allow a student to pursue a degree either full-or part-time. Many courses are offered in the evening so that those employed full-time can also pursue graduate education. Full-time students can normally complete the program in two years; those who are employed full-time typically require three years to complete the program.

The program is designed to fill the needs of students wishing to pursue the Ph.D. in sociology as well as those who are planning careers in the public or nonprofit sectors. The program also provides skills for those seeking employment in private research firms or in the field of information technology and program evaluation.

This program offers both thesis and non-thesis options (practicum. Please contact the Department for specific information.

The areas of specialty of the graduate faculty include: quantitative and qualitative methodology, social theory, criminology/delinquency, education, medical sociology, and work and labor markets.

Program Admission Procedure

All applicants must submit to the Graduate Admissions Office:

- a formal graduate [application](#) (may be submitted online)
- official copies of transcripts from all colleges attended (students with a foreign transcript must submit an evaluation of the transcript from World Education Services (www.WES.org) or Educational Credentials Evaluators (<http://www.ECE.org>)
- two references (preferably from former instructors, and in sociology, if possible) in the form of a discursive letter of recommendation (completion of the UofL [Letter of Evaluation form](#) may supplement a discursive letter but should not replace it)
- GRE scores (GRE scores should be no older than five years unless a graduate degree has been earned within the last five years)
- a *curriculum vitae*
- and, for international students, TOEFL or IELTS scores.

Applicants must also submit to the Department of Sociology:

- a Sociology Graduate Admissions Questionnaire (below), the responses to which should be of sufficient length to give the Graduate Admissions Committee a basis for evaluating the student's interest in and ability to complete the program, and provide a sample of the student's writing. Responses should be emailed to Dr. Jonetta Weber at jonettaweber@louisville.edu
- Please explain your reasons for applying to the Graduate Program in Sociology. What are your professional or occupational objectives (including any study beyond the M.A.)? How does this department's program fit into those objectives?
- What areas of sociology do you find especially interesting for study and/or research?
- What positions of responsibility, if any, have you had, and what, specifically, do you believe you have gained from such experience? (Those positions include not only employment, but offices held in organizations, volunteer work, etc.)
- Please summarize what you believe to be your most important accomplishments to date, including those in the academic or occupational areas.

Applicants are examined using the following information in the admissions decisions: GRE scores, GPA, quality of the program from which the applicant graduated, two academic letters of recommendation, responses to a questionnaire, and an interview with the candidate.

The Department of Sociology is committed to fostering diversity by considering factors such as race, ethnicity, gender, sexuality, age, and social class in its graduate and undergraduate programs; as such, background factors and circumstances will be considered when reviewing applications.

While the Graduate Admissions Committee does not base admission solely on meeting - or failure to meet - certain criteria, as a guideline, chances of admission are improved with the following:

- minimum undergraduate GPA of 3.0;
- minimum combined verbal/quantitative GRE score of 1000 (if tested prior to August, 2011) or 300 (if tested since August, 2011);
- previous course work in statistics, methods, and theory*; and
- international students should also have a quantitative GRE sub-score of at least 450 and either (a) a TOEFL score of at least 550 (on the paper-based test), 213 (on computer-based test) or 79-80 (on the internet-based test), or (b) a IELTS score of at least 6.5.

*Students may be allowed to make up deficiencies regarding these undergraduate prerequisites; however, credit for such courses cannot be applied toward graduate degree requirements.

In exceptional cases, students not qualified for regular admission may be conditionally admitted by action of the Graduate Committee.

Graduate Assistantships

The Sociology Department has available annually a limited number of graduate assistantships.

The application deadline for students not seeking funding is June 1 for fall admission and November 1 for spring admission. (Late applications may be considered on an individual basis.) The Department of Sociology does not admit students during the summer session.

The application deadline for students seeking funding (in the form of a graduate assistantship) is January 5 of the preceding year for fall admission and October 1 for spring admission. NOTE: The materials must also be accompanied by a letter of interest (a) indicating that they wish to be considered for an assistantship, and (b) elaborating why they feel they would be a good candidate for an assistantship.

Enrollment and Program Guidance

The Director of Graduate Studies serves in an advisory capacity to students for enrollment and program planning until such time as an advisor and/or committee chairperson has been formally

designated. At this point the thesis advisor and/or committee chair assumes the primary responsibility for guidance of the student.

Curriculum

All students enrolled in the MA program in Sociology are required to complete the following **core courses**:

- SOC 604 Graduate Professional Seminar 1 credit hour
- SOC 609 Seminar in Statistics I 3 credit hours
- SOC 610 Seminar in Statistics II 3 credit hours
- SOC 615 Seminar in Research Methodology 3 credit hours
- SOC 620 Seminar in Sociological Theory 3 credit hours

In addition to the required core courses, students take the appropriate number of electives corresponding to the completion option chosen. (For students who might want to pursue a Ph.D. or a career in a research-related field, the thesis option is strongly recommended.) The three options have different credit hour requirements.

Thesis Option (31 total credit hours)

- 13 credit hours of core courses, 12 credit hours of elective courses, and 6 credit hours of thesis (SOC 600)

Practicum Option (37 total credit hours)

- 13 credit hours of core courses, 18 credit hours of elective courses, and 6 credit hours of practicum (SOC 600)

No more than six credit hours of 500-level courses may be applied toward the master's degree. Up to six credit hours of course work, with approval from the Sociology Department Graduate Coordinator, may be taken outside the Sociology Department. Students may also elect to take up to three credit hours of independent study (independent readings or research). Additional credits of course work outside the department or of independent study counting toward degree requirements require special permission from the Sociology Department Graduate Coordinator.

Grades

Any students who earns below a B in a core course may not count that course toward degree requirements and must retake that course. Any student who earns below a B- in a non-core course may not count that course toward degree requirements and must retake that course. Students may only (a) repeat a course once, and (b) repeat a total of two courses. Any student needing to repeat a third course, as mandated by the guidelines above, will be dismissed from the program. In accordance with the School of Interdisciplinary and Graduate Studies

policy, when a student repeats a course, the GPA will be calculated on the basis of the last grade earned, although the original grade will remain on the transcript.

Accelerated Master's Program

The program offers motivated and academically superior students the opportunity to earn graduate credit hours during their senior year. As undergraduates, accelerated students may earn between 6-9 graduate credit hours, all of which are applied to the undergraduate degree, as well as the graduate degree, thus allowing students to begin the graduate program in sociology with credits already applied to the graduate degree.

NOTE: Students in the accelerated program may only apply their graduate credits earned as an undergraduate toward the graduate degree in sociology at UofL.

Students apply for the program during their junior year and, if accepted, begin the program in their senior year. The graduate courses taken during the student's senior year will depend on what courses the student has remaining to complete his/her undergraduate degree in sociology. The undergraduate advisor works individually with accelerated students regarding their course schedule.

Admission Requirements: 3.35 overall undergraduate GPA at time of application and a combined total GRE score of 900 on the Verbal and Quantitative sections and a 3.5 GRE score on the Analytical Reasoning section. Applicants are also required to submit two letters of recommendation and a completed Graduate Admission Questionnaire. Students must be admitted to the School of Interdisciplinary and Graduate Studies.

Departmental Faculty

Cynthia L. Negrey
Professor and Chair

D. Mark Austin
Associate Professor

James K. Beggan
Professor

Latrica Best
Assistant Professor

Derrick Brooms
Assistant Professor

John A. Busch
Associate Professor

Patricia Gagne'
Associate Professor

Robert M. Carini
Associate Professor

Karen Christopher
Associate Professor

Melissa Evans-Andris
Associate Professor

Lauren Heberle
Associate Professor

Robin Hognas
Assistant Professor

Gul Aldikaecti Marshall
Assistant Professor

Director of Graduate Studies
Deborah Potter
Assistant Professor

Jon H. Rieger
Professor

Dave Roelfs
Assistant Professor

Ryan Schroeder
Associate Professor

Debbie Warnock
Assistant Professor

Hiromi Taniguchi
Associate Professor

Wayne M. Usui
Emeritus

J. Allen Whitt
Emeritus

Master of Arts in Spanish

Major: SPAN

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/spanish/>

Program Information

General Information

The Master of Arts in Spanish provides students with a comprehensive understanding of the field of Hispanic studies through the study of literatures/cultures, linguistics, and Spanish in the workplace. The program will be immediately useful to both teachers of Spanish and professionals who seek to participate more actively in the multicultural workplace. Core courses expose students to methodologies in literary/cultural studies, linguistics, and translation/interpretation. Electives offer in-depth study of academic topics as well as practical experience. Study abroad opportunities are available and may be supported by one of several departmental travel grants.

The MA in Spanish requires 30 hours of academic work in Spanish at the graduate level. The program may be completed in four semesters.

Admission Requirements and Procedure

Applications to the MA program in Spanish are considered throughout the academic year, with start dates in fall and spring. In line with School of Interdisciplinary and Graduate Studies regulations, all application materials must be received at least six weeks before the intended start date. A prerequisite for admission is advanced proficiency in Spanish (speaking, aural comprehension, reading, and writing) and significant previous study of Hispanic literatures and cultures. Applicants who do not hold a BA in Spanish or the equivalent by their intended start date may be required to take preparatory coursework to make up for any deficiencies. Upon approval of the Director of Graduate Studies, up to six hours of graduate-level coursework taken at another institution may be applied toward the degree.

To be submitted to the School of Interdisciplinary and Graduate Studies:

- Graduate admissions application and application fee.
- Transcripts from all accredited institutions where undergraduate and/or graduate credit was earned. Minimum GPA required for undergraduate work: 3.0 on a four-point scale.
- Two letters of recommendation. Letters must be recent (written no more than a year prior to application date) and should attest to the applicant's proficiency in Spanish and potential to do graduate work.

- TOEFL scores (for applicants for whom English is a second language). Minimum required: 550 on the TOEFL Examination (paper test) or at least 210 on the TOEFL Exam (computer test).

NOTE: The Director of Graduate Studies in Spanish may grant provisional admission to students who do not meet individual requirements.

To be submitted to the Director of Graduate Studies in Spanish:

- A personal statement of 1-2 pages in Spanish discussing how the MA in Spanish relates to the applicant’s professional or personal goals.
- A sample of academic writing of at least five pages, preferably a paper written as part of the requirements for a university-level course. (May be in English or Spanish.)

Mail statement and writing sample directly to:

Director of Graduate Studies in Spanish
Department of Classical and Modern Languages
University of Louisville
Louisville, KY, 40292

Graduate Teaching Assistantships

The Department of Classical and Modern Languages offers a limited number of graduate teaching assistantships in Spanish. Applications are considered in the spring for start in the following academic year. Spanish MA applicants who wish to be considered must submit all GTA application materials by February 28th. (Details and application form are available at the Classical and Modern Languages webpage.)

Curriculum

	Semester Hours	Total
SPAN 524 Introduction to Hispanic Linguistics	3	
SPAN 554 Hispanic Culture through Film and Media	3	
SPAN 611 Introduction to Hispanic Studies	3	
SPAN 624 Topics in Hispanic Linguistics	3	
SPAN 634 Spanish for the Workplace and Community	3	
SPAN 644 Origins and Development of Hispanic Culture	3	
SPAN 648 Contemporary Issues in the Hispanic World	3	
SPAN 661 Theory and Practice of Translation	3	
SPAN 5XX Two electives in Spanish or in contingent fields or SPAN 6XX (with	6	

Director of Graduate Studies' approval)

Directed Research Project

No credit

Total Credit Hours

30

NOTE: At least 18 credit hours must be taken at the 600-level (courses restricted to graduate students). As a culminating experience, all MA candidates are required to complete a Directed Research Project for presentation in a public forum.

Departmental Faculty

Lluís Baixauli Olmos

Assistant Professor of Spanish

Rhonda L. Buchanan

*Professor of Spanish
Director, Latin American Studies*

David Coyne

Assistant Professor of American Sign Language (ASL)

William L. Cunningham

Professor of German

Matthieu Dalle

Associate Professor of French

Director of Graduate Studies in French

Bonnie Fonseca-Greber

Assistant Professor of French

John P. Greene

Professor of French

Gregory S. Hutcheson

Associate Professor of Spanish

Director of Graduate Studies in Spanish

Alan Leidner

*Professor of German
Chair of Classical and Modern Languages*

Robert Luginbill

Professor of Classics

Mary Makris

Associate Professor of Spanish

Augustus A. Mastri

Professor of Italian

Manuel F. Medina

Associate Professor of Spanish

Director of Brazilian Studies

Frank Nuessel

Professor of Spanish

Wendy Pfeffer

*Professor of French
A&S Associate Dean for Graduate Education*

Mónica Rodríguez

Assistant Professor of Spanish

Regina Roebuck

Associate Professor of Spanish

Clare Sullivan

Associate Professor of Spanish

Lisa Wagner

Associate Professor of Spanish

Li Zeng

Associate Professor of Chinese

Director of Chinese Studies

Master of Fine Arts in Studio Art and Design

Major: SAD_MFA

Degree Awarded: MFA

Unit: GA

Program Webpage: <http://louisville.edu/art>

Program Information

Admission

Successful applicants will have a superior academic background and a strong commitment to art. M.F.A. students are expected to have a thorough understanding of the principles of form, proficiency in various media and technical skills, as well as a fluency in language and discourse in the historic and contemporary contexts.

The minimum requirement for admission is an undergraduate degree in studio art from an accredited college or university with a minimum of 48 credit hours of undergraduate work in studio courses and 12 credit hours in art history courses. A B.F.A. in Studio Art is recommended. Applicants must have a minimum undergraduate grade point average of 3.0 on a 4.0 scale. Applicants must present a portfolio of work which shows technical and conceptual competency and demonstrates the promise necessary to succeed.

Students who do not meet the minimum credit requirements in undergraduate level courses (such as those who have completed a B.A. rather than a B.F.A. degree) will be required to address any deficiencies by taking undergraduate courses before admitted to the program. These courses will not count toward the requirements for the M.F.A. degree. Students must maintain a 3.0 GPA in all coursework, including undergraduate courses taken to remove deficiencies.

Application Requirements

1. Applicants to the M.F.A. program must fulfill the general admission requirements of the College of Arts & Sciences. To meet A&S requirements applicants must hold a bachelor's degree from an accredited institution with a grade point average of 3.0 on a 4.0 scale, and have completed an undergraduate major or the equivalent in the intended field of study.
2. Applicants must submit a formal Application for Graduate Admission, a \$60 nonrefundable application processing fee, at least two letters of recommendation specific to the program, and official transcripts of all college work to the School of Interdisciplinary and Graduate Studies at the University of Louisville (<http://louisville.edu/graduate/apply>). The GRE is not required for application to the M.F.A. program. However, applicants for whom English is a second language must submit official TOEFL scores. In addition, applicants must have completed a minimum

of 48 credit hours of undergraduate work in studio art courses and 12 credit hours in art history courses.

3. Applicants must submit the following additional materials directly to the Hite Art Institute, Department of Fine Arts:
 - a. A portfolio of 20 images that demonstrates competence in conceptual and technical skills;
 - b. A typed Artist's Statement relevant to the submitted artwork of no more than 500 words;
 - c. A typed Statement of Intent of no more than 500 words detailing the applicant's educational and professional goals in the field of Fine Arts;
 - d. A resume [no longer than two pages];
 - e. A completed Application for Admission for a Master of Fine Arts in Studio Art and Design (this form).

Curriculum

The 60-credit M.F.A. curriculum is structured according to guidelines established by the College Art Association of America (CAA). The professionally compliant curriculum, rigorous admissions and evaluation standards, quality and variety of courses, and the faculty mentoring structure will ensure that students accomplish the program objectives.

The M.F.A. curriculum is rigorous and professional. The program is highly selective to allow students generous access to the excellent faculty and resources. The graduate faculty provides students with individual attention, respects students' individual directions, and challenges students to explore new avenues of artistic discovery.

Drawing from the diverse expertise of an outstanding faculty, students in the M.F.A. program may choose to focus in one medium or explore and combine a variety of media. Courses are offered in ceramics, drawing, fibers, glass, painting, photography, printmaking, sculpture, graphic design, mixed media, and new media.

The M.F.A. program requires a minimum total of 60 credits (31 of which must be at the 600 level).

- Studio Art: 36 credits
- Art history, aesthetics and cultural studies: 12 credits
- Graduate Seminar (first semester): 1 credit
- M.F.A. Seminar (three semesters, 1 credit each): 3 credits
- Professional Internships or Service Learning (two semesters, 1 credit each): 2 credits
- M.F.A. Thesis Project: 3 credits
- Total: 60 credits

1. Upon entering the M.F.A. program, the student will be assigned a first-year advisor with whom they will develop a plan of study. In consultation with this advisor, the student will select courses that follow this plan. The instructor of each course will evaluate the student's level of achievement and progress in the program. Additionally, the student's work will be critiqued and evaluated in each of the four required seminar courses.
2. Upon completion of the first 36 credit hours, the student will undergo an M.F.A. Review where their progress will be evaluated by the department faculty. Students who receive a favorable evaluation will be allowed to continue in the program and prepare a body of artwork for their thesis exhibition. Students who fail the M.F.A. Review will be reevaluated in the following semester. Students who receive two unsatisfactory evaluations will be recommended for dismissal.
3. After successfully passing the M.F.A. Review, the student will be assigned a graduate studio faculty member to act as his/her mentor and serve as chair of his/her thesis committee. A minimum of two additional faculty members will serve on the thesis committee. The student will work closely with his/her mentor to develop a body of work for thesis and exhibition. During the last semester of study, the student must demonstrate artistic accomplishments through a thesis exhibition, a written thesis, and a final oral exam. The thesis committee will evaluate the student's achievement and successful completion of the M.F.A program.

Satisfactory progress toward the degree requires successfully performing of a number of activities, including regular enrollment in graduate courses, consistent satisfaction of course requirements within given time limits, and maintenance of an appropriate grade point average (minimum 3.0).

Departmental Faculty

Ying Kit Chan, MFA

Professor and Chair

Moon-he Baik, MFA

Associate Professor

Todd Burns, MFA

Associate Professor

**Kyoungmee "Kate" Byun,
MFA**

Assistant Professor

Mary Carothers, MFA

Associate Professor

Mitch Eckert, MFA

Associate Professor

Christopher Fulton, PhD

Associate Professor

Lida Gordon, MFA

Professor

James Grubola, MFA

Professor

Barbara Hanger, MFA

Associate Professor

Benjamin Hufbauer, PhD

Associate Professor

Susan Jarosi, PhD

Associate Professor

Pearlie Johnson, PhD

Associate Professor

Jongwoo Kim, PhD

Associate Professor

Delin Lai, PhD

Associate Professor

Scott Massey, MFA

Associate Professor

Gabrielle Mayer, MFA

Associate Professor

Mark Priest, MFA

Professor

Ché Rhodes, MFA

Associate Professor

Steven Skaggs, MS

Professor

John Whitesell, MFA

Professor

Master of Fine Arts in Theatre Arts

Major: TA

Degree Awarded: MFA

Unit: GA

Program Webpage: <http://louisville.edu/theatrearts>

Program Information

The Department of Theatre Arts offers a Master of Fine Arts with a concentration in Acting/Performance. A Graduate Certificate in African American Theatre is also offered. The department fosters creativity, collaboration, discipline, and artistry. It embraces the theatre as a means of creative expression, cultural understanding, and social development. The African American Theatre Program, founded in 1993, is integral to the department. All students are exposed to the diversity of multicultural theatre.

Admission

Prerequisites for admission to the MFA program are a baccalaureate degree from an accredited college or university and admission to the School of Interdisciplinary and Graduate Studies. The department requires that applicants submit a resume of theatrical experience accompany the application.

Unconditional admission requires completion of basic undergraduate course work in each of the following areas: theatre history, dramatic literature, design/technical theatre, acting/directing. To accomplish this purpose, students may be required to take preparatory courses not to be counted toward the degree. Applicants must take the Graduate Record Examination prior to beginning graduate studies.

Applicants for admission to the MFA program must demonstrate theatrical skill which indicates their potential for excellence: students planning to concentrate on Acting/Performance must audition in person (no videotaped auditions are accepted). Students are also interviewed to determine their level of preparation and commitment.

Admission to the Graduate Certificate in African American Theatre requires a baccalaureate degree from an accredited college or university and admission to the School of Interdisciplinary and Graduate Studies. Applicants to this program must interview with the Director of Graduate Studies.

Curriculum

Requirements for the MFA in Acting/Performance

Students pursuing the MFA in acting must complete 72 semester hours of graduate work. The three-year curriculum consists of the following courses: Please observe that the sequence of graduate movement and voice classes, as well as the theory sequence, alternates years.

Academic policies

Some candidates may enter the program with insufficient knowledge in basic areas that may be important to their future success in the program. These students will be required by their Graduate Advisory Committee to complete additional courses. Students who enter without sufficient knowledge of Theatre History are must take 6 credits of Theatre History during their residence.

Performance/Production Project Requirements

All students enrolled in the MFA program are expected to be active in performance or production projects during each semester in which they are enrolled. TA 625 (Performance Project) provides a mechanism for implementing this expectation and for assessing the quality of the projects undertaken. The number of credits granted for TA 624/625 varies depending on the student's year of study.

Departmental Faculty

Garry Brown*Associate Professor*Director of Undergraduate
Studies**Nefertiti Burton***Associate Professor*Associate Dean for
International, Diversity, and
Outreach Programs**Erin Crites***Associate Professor*

Director of Graduate Studies

Zhanna Goldentul

Instructor

Daniel R. Hill*Assistant Professor***Johnnie Jones***Assistant Professor***Baron Kelly***Associate Professor***Daniel Perez***Associate Professor***Amy Steiger***Assistant Professor***Russell J. Vandembroucke***Professor*Department Chair
Director of Peace, Justice,
and Conflict Transformation
Program

Doctor of Philosophy in Urban and Public Affairs

Major: UPA

Degree Awarded: Ph.D.

Unit: GA

Program Webpage: <http://louisville.edu/upa/programs/phd>

Program Information

The Ph.D. program prepares students for careers as professors, researchers, and public servants in the fields of *Urban Policy and Administration* and *Urban Planning and Sustainable Development*.

Students are required to complete 48 credit hours of study. This requires a sequence of core courses consisting of 18 credit hours. Students must complete 18 credit hours in an area of specialization including three required courses. Two field specializations are offered: *Urban Planning and Sustainable Development* and *Urban Policy and Administration*. Twelve credit hours of dissertation research are also required. Students must pass a qualifying examination before commencing formal dissertation work. Students should consult the Program Guidelines for details.

Admission Requirements

- Bachelor's degree with at least a 3.0 GPA (on 4.0 scale);
- Master's degree in an appropriate field with at least a 3.5 GPA (on a 4.0 scale);
- GRE score of at least 153 Verbal, 144 Quantitative, and 4.0 Analytical (or equivalents).
- TOEFL: Applicants whose native language is not English and who do not hold a degree from a university where the language of instruction is English must also submit scores from the Test of English as a Foreign Language, with a (normal) minimum score of 100 on the internet-based test, or the International English Language Testing System (IELTS), with a (normal) minimum score of 7.5.
- A personal interview with members of the Ph.D. Admissions Committee also may be required for applicants not fully satisfying (normal) admissions requirements. Interviews will be conducted in-person when feasible or via internet video when in-person interviews are not feasible.

Applications must include:

- all transcripts from all institutions attended;
- supplemental application (available from department web site);
- at least two letters of recommendation (preferably from former professors).

Part-time students:

Admission deadlines: The program gives preference to applicants who intend to study full-time and who can be supported with financial aid (a Graduate Research Assistantship or a Fellowship). A few part-time students may be admitted if they can demonstrate they have very

flexible schedules and can attend daytime courses and fully participate in program and department functions. Students should consult the Program's Student Guide for additional details and requirements.

Fall Admissions - July 15

February 1 to be considered for a University Fellowship or a Graduate Assistantship

Spring Admissions - November 15

Academic Policies

Waivers and Prerequisites

Students who have recently and satisfactorily completed equivalent courses elsewhere may request that up to nine hours of course work count towards their 48 hours of required Ph.D. study. Students who are not prepared for advanced study or do not hold the prerequisites for a particular course will be required to complete remedial work. Such courses do not count toward degree credit. Students should consult the Program's Student Guide for details.

Dismissal and Academic Standing

Any student with a point standing below 3.0, or experiencing similar academic problems, will be placed on probation by the Dean of the College of Arts and Sciences. Students are ordinarily not permitted to continue on academic probation for more than one semester. Students not rectifying these academic problems after one semester will be recommended for dismissal if academic problems are not corrected after one semester. In addition, students receiving more than two course grades below a "B-" (C+ or lower) in any graduate-level course (600-level or above) will be dismissed from the program. No grade below a C- will be counted towards the fulfillment of degree requirements. The Program Director will review the performance of students each semester to ensure students are making satisfactory progress. Students not making satisfactory progress are subject to dismissal from the program. Time Limit: Students not completing all program requirements four years after reaching doctoral candidacy status will ordinarily be dismissed from the program..

Qualifying (Comprehensive) Exam

To qualify for Ph.D. candidacy, students must satisfactorily complete a Comprehensive (or Qualifying) Examination. Students must sit for this exam as soon as they are eligible. The Comprehensive (Qualifying) Examination is held in May each year. Consult with the Program Director and refer to the Program's Student Guide for details about the examination.

Curriculum

The Ph.D. in Urban and Public Affairs consists of 48 credit hours of study including 18 hours of core courses, 18 hours in a field specialization, and 12 hours of dissertation research.

Core Courses (18 Credits)

UPA 602 Urban Policy and Governance

UPA 603 Urban Economics

UPA 606 Research Methods ***

UPA 610 Urban Theory and Public Affairs

SOC 610 Seminar in Statistics II ***

UPA 632 Independent Study (on Comprehensive Exam Reading Lists / Comprehensive Exam Preparation)

Note: Students with no prior study of statistics are required to take PADM 601/PLAN 602 (Statistics for Public Affairs) and SOC 609 (Seminar in Statistics I) prior to enrolling in SOC 610. These courses do not count toward the 48-semester-hour requirement.

***UPA 606 and SOC 610 require a grade of a full "B" or better (not a B-) to demonstrate proficiency. Students may repeat either of these courses only once. UPA 632 can be waived, if appropriate, by permission of the Program Director.

Field Area Courses (18 Credits)

Students must pursue one of the two specialty areas, including 9 hours of required courses and 9 hours of elective courses. Elective courses must be compatible with track and must be approved by the Program Director.

Urban Planning and Sustainable Development Option

Required Courses (9 Credits)

UPA 623 Comparative Urban Development

UPA 683 Land Use Planning

UPA 684 Planning Theory

Elective Courses (9 Credits)

Urban Policy and Administration Option

Required Courses (9 Credits)

UPA 621 Policy Analysis and Program Evaluation

UPA 630 Politics and Urban Policy

UPA 660 Advanced Organizational Behavior

Elective Courses (9 Credits)

Workshops

Students must complete workshops satisfactorily. Workshops will be convened by the Ph.D. director and will normally meet 3-5 times a semester. *Dissertation Research Workshop*. Students who have recently advanced to candidacy will present dissertation proposal ideas to other students and interested faculty. *Professional Development Workshop*. Topics may

include: academic publishing, undergraduate teaching, and the academic job market, among others.

Dissertation (12 Credits)

UPA 700 Dissertation Research

Doctoral Candidacy

After completing all required coursework, including 12 credits of dissertation research, and passing the qualifying exam, each student is required to maintain continuous enrollment in DOCT 600 Doctoral Candidacy until he or she graduates.

Departmental Faculty

Mark Austin

Associate Professor

Carrie Donald

Professor

John I Gilderbloom

Professor

Frank Goetzke

Associate Professor

David Imbroscio

*Professor and Director of
Ph.D. Program in Urban and
Public Affairs*

Janet Kelly

Professor

Steven G. Koven

Professor

Cynthia Negrey

Professor

Aaron Rollins

Assistant Professor

Mathew Ruther

Assistant Professor

Hank Savitch

Professor Emeritus

David M. Simpson

Professor

Chair of Department of
Urban and Public Affairs

Wei Song

Associate Professor

Margath Walker

Assistant Professor

Timothy Weaver

Assistant Professor

Sumei Zhang

Assistant Professor

Master of Urban Planning

Major: URPL

Degree Awarded: MUP

Unit: GA

Program Webpage: <http://louisville.edu/upa>

Program Information

Nationally ranked and fully accredited by the Planning Accreditation Board (PAB), the Master of Urban Planning Program strives to play an important role in the University of Louisville's urban/metropolitan mission by creating the best possible learning environment for the student whose goal is to become a planning practitioner, by advancing the state of knowledge in the planning field through faculty research, and by bringing that knowledge to bear on the challenges facing the community.

The Department of Urban and Public Affairs offers a Master of Urban Planning (MUP) degree in cooperation with the Department of Geography and Geosciences. The MUP Program prepares students to work in a wide variety of fields, including land use and environmental planning, urban design, historic preservation, transportation planning, open space planning, housing planning, economic development planning, real estate development, and the development of geographic information systems. With the continuing expansion of Louisville and the nation's other metropolitan areas, urban planning is one of the leading professional fields in terms of demand and job satisfaction, according to surveys by Jobs Rated Almanac and the Encyclopedia of Careers and Vocational Guidance.

Students can specialize in one or two of four areas: land use and environmental planning; administration of planning organizations; housing and community development; and spatial analysis for planning. Students have the opportunity to benefit from working on real planning problems through the required internship and studio courses. Studio courses are taught at the Urban Design Studio, located in downtown Louisville and operated by the MUP Program.

The degree requires 48 credit hours (two years of full-time study or the equivalent in part-time study), although up to 12 hours of relevant graduate course work may be transferred into the program. Students may enroll on a part-time or full-time basis. Classes are held in the evenings and on weekends to meet the scheduling needs of persons holding full-time jobs.

Admission Procedures

Applicants must hold a bachelor's degree (any major is acceptable), must have taken the Graduate Record Examination (GRE), and must submit two letters of reference (at least one from someone familiar with the applicant's academic abilities) and a statement of purpose. Admission is competitive and generally requires a minimum combined quantitative and verbal GRE score of 1,000 and a minimum undergraduate GPA of 3.0 (B).

An application form can be obtained at the Program website. All required application materials must first be submitted to Office of Graduate Admissions. Those materials will then be forwarded to the MUP Program for review by the Admissions Committee. The program will notify the applicant of the Committee's decision.

Curriculum

Core Courses (24)

PLAN 601 Planning Theory and History	3
PLAN 602 Statistics for Public Affairs	3
PLAN 603 Urban Economics	3
PLAN 604 Applied Research Methods	3
PLAN 605 Land Use and Planning Law	3
PLAN 606 Professional Practice	3
PLAN 608 (GEOG 558) Geographic Information Systems (GIS)	3
PLAN 636 Site Planning	3
One Specialty Area (listed below)	9
Other Electives	9
PLAN 649 Planning Internship	3
PLAN 650 Capstone	3

Minimum Total Hours 48

Specializations

The courses available for each specialization are as follows. Elective and advanced course work includes 9 credits in an area of specialization (with 3 credits being one required class for the specialization, marked with *** in bold letters below, eg PLAN 607 Land Use Planning for the Land Use and Environmental Planning Specialization) Other courses not listed below may be substituted with the permission of the Program Director.

Specialization in Land Use and Environmental Planning

Three courses (nine (9) credit hours) from the following:

PLAN 501 Urban Environmental Quality	3
PLAN 607 Land Use and Environmental Planning (Req'd for Specialization)	3
PLAN 608 (GEOG 558) Geographic Information Systems	3
PLAN 612 Mediation and Dispute Resolution	3
PLAN 620 Environmental Policy	3
PLAN 621 Urban Infrastructure	3
PLAN 622 Urban Design	3
PLAN 623 Environmental Policy and Natural Hazards	3
PLAN 624 Urban Transportation Planning	3
PLAN 635 Comparative Urban Development	3

PLAN 651 Urban Design Studio	3
PLAN 652 Neighborhood Planning Studio	3
PLAN 680 Urban Environment and Sustainability	3

Specialization in Administration of Planning Organizations

Three courses (nine (9) credit hours) from the following:

PADM 608 e-Government	3
PADM 612 Non-profit Grantsmanship	3
PLAN 609 Public Budgeting and Finance (Req'd for Specialization)	3
PLAN 610 Strategic Management and Planning	3
PLAN 611 Human Resources Management	3
PLAN 612 Mediation and Dispute Resolution	3
PLAN 613 Public Administration and Organizational Theory	3

Specialization in Spatial Analysis for Planning

Three courses (nine (9) credit hours) from the following:

PLAN 614 Retail Site Analysis	3
PLAN 615 Spatial Statistics	3
PLAN 616 Analytical Urban Geography	3
PLAN 618 Urban Demography	3
PLAN 619 Urban Geographic Information Systems Applications (Req'd for Specialization)	3
PLAN 621 Urban Infrastructure	3
PLAN 624 Urban Transportation Planning	3
PLAN 628 Economic Conditions and Forecasting	3

Specialization in Housing and Community Development

Three courses (nine (9) credit hours) from the following:

PLAN 614 Retail Site Analysis	3
PLAN 617 Housing and Community Development (Req'd for Specialization)	3
PLAN 621 Urban Infrastructure	3
PLAN 622 Urban Design	3
PLAN 625 Historic Preservation	3
PLAN 626 Economic Development	3
PLAN 631 Real Estate Principles	3
PLAN 633 Real Estate Development	3
PLAN 635 Comparative Urban Development	3
PLAN 637 Netherlands: Planning and Policy	3
PLAN 651 Urban Design Studio	3
PLAN 652 Neighborhood Planning Studio	3

Juris Doctor/Master of Urban Planning Dual Degree Program

The Brandeis School of Law will allow students in the dual degree program to apply nine (9) credit hours of approved courses in urban planning as electives toward the JD degree. The Brandeis School of Law will accept each of these urban planning courses on a pass/fail basis, provided that the student earns at least a “B” (3.0) in the course. The following MUP courses are approved to be counted as electives toward the JD degree:

PLAN 601 Planning Theory and History
PLAN 501 Urban Environmental Quality
PLAN 607 Land Use Planning
PLAN 612 Mediation and Dispute Resolution
PLAN 620 Environmental Policy
PLAN 609 Public Budgeting and Finance
PLAN 611 Human Resources Management
PLAN 613 Public Administration & Organizational Behavior
PLAN 608 Geographic Information Systems
PLAN 621 Urban Infrastructure
PLAN 624 Urban Transportation Planning
PLAN 617 Housing & Community Development
PLAN 625 Historic Preservation
PLAN 631 Real Estate Principles
PLAN 633 Real Estate Development

Any other MUP course approved by the Associate Dean of Student Life at the Brandeis School of Law, upon individual petition by a dual-degree student.

The urban planning program will allow students in the dual degree program to apply nine (9) credit hours of approved courses in law as electives toward the MUP degree. The urban planning program will accept each of these law courses on a pass/fail basis, provided that the student earns at least a “C” (2.0) in the course. The following JD courses are approved to be counted as electives toward the MUP degree:

- Administrative Law
- Energy Law
- Environmental Law
- Constitutional Law II
- Property II
- Real Estate Transactions
- Water Resources Law & Policy
- Any other JD course approved by the Director of the MUP Program in the School of Urban & Public Affairs, upon individual petition by a dual degree student.

In addition to the above cross-application of urban planning credits toward the JD degree and of law credits toward the MUP degree, students in the dual degree program shall be required to take

“Land Use and Planning Law,” a 3-credit interdisciplinary course cross-listed in both law and urban planning. Land Use and Planning Law shall count as a three-credit graded elective toward the JD degree, and likewise shall count as a three-credit graded elective toward the MUP degree. To receive MUP credit, the student must earn at least a “B” (3.0) in the course.

Master of Urban Planning (MUP)/ Master of Public Health (MPH) MUP/MPH

The Dual Master of Urban Planning-Master of Public Health Program (MUP-MPH program) is designed to graduate students with core competencies in both urban planning and public health. Graduates of the program receive two degrees: Master of Urban Planning and Master of Public Health.

Graduates of the MUP-MPH program are prepared for positions relating to public health and the built environment, including urban form/design and health, urban public health planning and development, and urban “green” sustainability and health planning and policy.

The MUP-MPH program is a collaboration of the MUP program in the Department of Urban and admission to the MUP-MPH program requires separate admissions to each of the MUP program and the MPH program. This includes two separate graduate education applications.

Coursework Required for Dual Degree

71 total credit-hours:

- 62 credit-hours of required coursework
- 24 credit hours of MPH core coursework
- 24 credit hours of MUP core coursework
(6 credit hours of combined public health and urban planning core coursework)
- 6 credit hours of combined MPH practicum and MUP internship experience
- 9 credit hours of MPH specialization coursework
- 9 credit-hours of elective coursework in public health and urban planning

Core Courses in Public Health

- Intro to Public Health Practice and Administration
- Intro to Biostatistics
- Intro to Epidemiology
- Issues in Public Health
- Intro to Environmental Health Services
- Intro to Health Behavior
- Critical Thinking and Program Evaluation

Electives in Public Health

- Global Issues in Environmental Health
- Managing Healthy Communities

Public Health and the Built Environment

Graduate Certificate in Real Estate Development (GCRED) Program

The Department of Urban and Public Affairs offers a Graduate Certificate in Real Estate Development designed to equip graduates with the skills needed to make better real estate decisions with respect to investment considerations and site analysis and planning. The program will be particularly attractive to planning students desiring to work in the private sector; however, the program will also be appealing to students enrolled in other graduate programs at the university or who wish to complete the GCRED on a stand alone basis. The program may be completed in conjunction with the Master of Urban Planning program without the need to take any additional course work beyond what is required for the MUP program. For MUP students, the GCRED courses satisfy the requirements for the specialization in Housing and Community development. The program requires 18 credit hours, and may be completed in one year as a full-time student or up to four years as a part-time student.

Admission

Applicants must have a bachelor's degree (any major is acceptable), and provide a completed application form, a transcript of all undergraduate work, and two letters of recommendation. Admission is competitive and generally requires a minimum undergraduate GPA of 3.00. Those applicants whose native language is not English and who do not hold a degree from a university where the language of instruction is English must complete the Test of English as a Foreign Language (TOEFL) with a score of at least 78 on the internet-based test.

Required Courses

The program requires six courses, or 18 credits. Courses may be waived by the Program Coordinator based on previous study; however, substitute course work will be required.

PLAN 605 Land Use and Planning Law
PLAN 614 Real Estate Market Analysis
PLAN 631 Real Estate Principles
PLAN 633 Real Estate Development
PLAN 634 Real Estate Finance and Investment
PLAN 636 Site Planning

Generally, PLAN 631 should be completed prior to PLAN 634 and PLAN 633, and PLAN 633, which serves as a capstone course for the program, should be taken in the final semester or year of study. Although the program does not require an internship, GCRED students who are also in the MUP program may wish to complete the required planning internship by working in a real estate development firm.

Departmental Faculty

**David M. Simpson, Ph.D.,
AICP**

*Professor and Department
Chair*

MUP Director

Tony Arnold, J.D.

Professor, School of Law

Carrie G. Donald, J.D.

Professor

Matthew Ruther, Ph.D.

Sumei Zhang, Ph.D.

John I. Gilderbloom, Ph.D.

Professor

Frank Goetzke, Ph.D.

Associate Professor

Lauren Heberle, Ph.D.

Assistant Professor,

Department of Sociology

Janet Kelly, Ph.D.

Professor

Assistant Professor

Associate Professor

Steven G. Koven, Ph.D.

Professor

H.V. Savitch, Ph.D.

Brown and Williamson

Distinguished Professor

Emeritus

Aaron Rollins, Ph.D.

Assistant Professor

Master of Arts in Women's and Gender Studies

Major: WGST

Degree Awarded: MA

Unit: GA

Program Webpage: <http://louisville.edu/wgs/>

Program Information

MA in Women's and Gender Studies

The WGS M.A. is open to qualified individuals with a bachelor's degree from an accredited college or university. Any undergraduate major is acceptable for admission; however, students without some Women's and Gender Studies background may be required to take preparatory courses before beginning the M.A. curriculum or in addition to the M.A. curriculum.

The 36-hour interdisciplinary degree program is organized around an 18-hour core of two introductory seminars and a selection of courses in four areas. In addition to the core, students complete a concentration area and either a thesis or culminating project. Faculty in the WGS Department, as well as faculty in other departments of the university, offer courses in the M.A. program.

The WGS M.A. may be completed in four semesters (fall/spring). Most courses are offered in late afternoon or evening. Limited summer offerings are also available.

MSSW/MA in Women's and Gender Studies

The dual MSSW/ WGST program recognizes the value of professional education in two interrelated fields and encourages students who have an interest in both Women's and Gender Studies and Social Work to pursue these degrees simultaneously. Social workers and Women's and Gender Studies scholars often seek to address identical or related societal concerns, albeit from different perspectives; understanding both disciplines enhances one's effectiveness in both the analysis of and engagement with contemporary social and cultural issues. Women's and Gender Studies courses strengthen the social worker's understanding of the historical foundations for policies and structures that have an impact on social institutions and human conditions; social work courses help Women's and Gender Studies scholars or activists to better understand human behavior, conflict resolution and social welfare institutions. A Women's and Gender Studies and Social Work combination provides the tools of social change for an historic problem of gender inequality and injustice.

The curriculum leading to dual degree, a Master of Arts in Women's and Gender Studies and a Master of Science in Social Work is a 72-credit hour program which combines credits in WGS and the Kent School of Social Work. Students take the core curriculum in both programs, but substitute elective hours with M.A. and MSSW hours. In addition, the Kent School has tailored

its second year-long practicum to focus on issues of gender and women, adding that content and experience for the student. Students must apply and be admitted to both programs in order to pursue the dual degree.

Program Admission Procedure

1. Students must meet the admission criteria established by the UofL School of Interdisciplinary and Graduate Studies (submit a complete application, submit official transcripts verifying the receipt of a baccalaureate degree from an accredited institution, and pay application fee).
2. Students must have a 3.0 GPA in undergraduate work. Provisional admission is possible for students who do not meet this requirement.
3. Students must submit two letters of recommendation (submitted to the School of Interdisciplinary and Graduate Studies). Letters of recommendation must be current (written within the last year), and letter writers must be familiar with the applicant's academic preparation for graduate study. Members of the WGS Graduate Admissions Committee may not be letter writers.
4. Students must achieve a combined score of at least 900 on the GRE verbal and quantitative sections. Provisional admission is possible for students with lower scores.
5. Students must submit one academic writing sample of at least five pages (a paper written as part of the requirements of a university or college course), which should be mailed directly to the Department of Women's & Gender Studies. The Graduate Admissions Committee will determine whether the student has the necessary level of competence in written communication to enter the M.A. program.
6. Students must submit a personal statement of one-two pages discussing how the M.A. in Women's & Gender Studies relates to the student's professional or personal goals (mail directly to the Department of Women's & Gender Studies).
7. Any undergraduate major is acceptable for admission; however, students without Women's and Gender Studies background may be required to take preparatory courses before beginning the M.A. curriculum or in addition to the M.A. curriculum. This will be determined by the Graduate Admissions Committee.
8. Students must maintain a 3.0 average in order to be in good standing.
9. Up to six (6) hours of graduate-level, "A" or "B" grade work in Women's and Gender Studies done at another institution may be applied toward the student's UofL degree, upon approval of the director.
10. Students enrolled in the UK or WKU graduate certificate programs may transfer up to 12 hours of graduate-level "A" or "B" grade work, upon approval of the director.

Curriculum

The M.A. curriculum includes 18 hours of core courses; 9 hours in a concentration; a thesis or non-thesis option; and three to nine hours of electives, depending on whether the thesis is chosen. At least 18 of the 36 hours must be in courses at the 600 level.

Core Curriculum (18 hours)

Foundation courses:

- WGST 600 Research and Writing in WGS (1 hour)
- WGST 601 Feminist Research and Theory in the Humanities (3 hours)
- WGST 602 Feminist Research and Theory in the Social Sciences (3 hours)
- WGST 603 History of American Feminisms

Women's/Gender History, choose one (3 hours)

- WGST 630 Feminism in Western Civilization
- WGST 631 Women in Europe and the U.S. in the 20th Century
- WGST 633 Women in 19th-Century America
- WGST 513 U.S. Social Justice Movements
- WGST 632 History of Sexualities
- WGST 591/691: Topics in WGS [recent example: Global History of Women]

Gender, Race, and Colonialism, choose one not chosen in another category (3 hours)

- WGST 612 Gender, Race, Work and Welfare
- WGST 643 Black Women's Voices
- WGST 640 Women's Health in Africa
- WGST 682 Gender, Race, Culture and Health Care
- WGST 513 U.S. Social Justice Movements
- WGST 545 Southern Women: Black and White
- WGST 558 Women and Leadership in Developing Nations
- WGST 591, 593, 691, 692: Topics in WGS [recent example: Postcolonial Bodies]

Humanities Perspectives on Women/Gender, choose one not chosen in another category (3 hours)

- WGST 622 The Body in Popular Media
- WGST 682 Gender, Race, Culture and Health Care
- WGST 520 Women's Personal Narratives
- WGST 560 Feminist Philosophical Literature
- WGST 571 Francophone Women Writers and Critics
- WGST 593/WGST 692 Topics in WGS [recent example: Feminist Theology]

Social Science Perspectives on Women/Gender, choose one not chosen in another category (3 hours)

WGST 656 Feminist Theory
WGST 612 Gender, Race, Work and Welfare
WGST 615 Sociology of Disabilities
WGST 513 U.S. Social Justice Movements
WGST 538 American Women in Sports
WGST 545 Southern Women: Black and White

WGST 632 History of Sexualities
WGST 643 Black Women's Voices
WGST 640 Women's Health in Africa
WGST 558 Women and Leadership in Developing Nations
WGST 591/691: Topics in WGS [Recent example: Gender and the Law]

Concentration, 9 hours:

For the concentration, students take three courses in a concentration, either around a theme or a more traditional grouping.

Thesis option or non-thesis option, 9 hours:

Thesis option:

In addition to the core and the concentration:
WGST 695 Practicum **or** elective (need not be in WGS), 3 hours
WGST 699 Thesis, 6 hours

Non-thesis option:

In addition to the core and the concentration:
WGST 695 Practicum or elective (need not be in WGS), 3 hours
WGST Elective, 3 hours
WGST 698 Culminating Master's Project

Departmental Faculty

Nancy M. Theriot
Professor and Chairperson
Karen Christopher
Associate Professor
Cate Fosl
Associate Professor
Dawn Heinecken
Associate Professor

Diane Pecknold
Associate Professor
Kaila Story
Assistant Professor
Audre Lorde Endowed Chair
in Race, Class, Gender, and
Sexuality
Tomarra Adams

Affiliated Faculty
Assistant Professor, Pan
African Studies
Ann Allen
Affiliated Faculty
Professor, History
Annette Allen
Affiliated Faculty

*Associate Professor,
Humanities*

Beth Boehm

*Affiliated Faculty
Professor, English*

Simona Bertacco

*Affiliated Faculty
Assistant Professor,
Humanities*

Thomas B. Byers

*Affiliated Faculty
Professor, English*

Karen Chandler

*Affiliated Faculty
Associate Professor, English*

Anne Caldwell

*Affiliated Faculty
Associate Professor, Political
Science*

Julia Dietrich

*Affiliated Faculty
Professor, English*

Christine Ehrick

*Affiliated Faculty
Associate Professor, History*

Rinda Frye

*Affiliated Faculty
Associate Professor, Theatre
Arts*

Patricia Gagne

*Affiliated Faculty
Associate Professor,
Sociology*

Alan Golding

*Affiliated Faculty
Professor, English*

Trish Gray

*Affiliated Faculty
Assistant Professor, Political
Science*

Susan Griffin

*Affiliated Faculty
Professor, English*

Mary Hums

*Affiliated Faculty
Professor, HPES*

Karen Hadley

*Affiliated Faculty
Associate Professor, English*

Susan Herlin

*Affiliated Faculty
Associated Professor,
Emerita, History and Pan
African Studies*

Suzette Henke

*Affiliated Faculty
Professor, English*

Susan Jarosi

*Affiliated Faculty
Assistant Professor, Fine
Arts*

Katherine Johnson

*Affiliated Faculty
Associate Professor,
University Libraries*

Jongwoo J. Kim

*Affiliated Faculty
Assistant Professor, Fine
Arts*

Cheryl Kolander

*Affiliated Faculty
Professor, HPES*

Karen L. Kopelson

*Affiliated Faculty
Associate Professor, English*

Gul Marshall

*Affiliated Faculty
Assistant Professor,
Sociology*

Carol Mattingly

*Affiliated Faculty
Professor, English*

Wendy Pfeffer

*Affiliated Faculty
Professor, Classical and
Modern Languages*

Natalie Polzer

*Affiliated Faculty
Assistant Professor,
Humanities*

Nancy Potter

*Affiliated Faculty
Professor, Philosophy*

Theresa Rajack-Talley

*Affiliated Faculty
Professor, Pan African
Studies*

Edwin S. Segal

*Affiliated Faculty
Professor, Emeritus,
Anthropology*

Arthur Slavin

*Affiliated Faculty
Professor, Emeritus,
Humanities*

Mary Ann Stenger

*Affiliated Faculty
Associate Professor,
Humanities*

Margaret Walker

*Affiliated Faculty
Assistant Professor,
Geography and GeoSciences*

Tamara Yohannes

*Affiliated Faculty
Assistant Professor, Term
appointment, English*

Doctor of Philosophy in Entrepreneurship

Major: ENTR

Degree Awarded: Ph.D.

Unit: GB

Program Webpage: <http://business.louisville.edu/graduate-programs/entrepreneurshipphd/>

Program Information

Admission to the program is highly competitive. It is based on an applicant's past graduate and undergraduate school records, score on the graduate management admissions test (GMAT), prior experiences, a personal statement and letters of recommendation. Applicants are only admitted in fall semesters of odd years (2013, 2015, 2017. etc.).

No specific graduate or undergraduate major is required. However, an MBA is strongly preferred. A student who does not have a master's degree in business may be required to complete a set of courses equivalent to a "core" that is covered in an MBA program. Questions about prerequisites should be directed to the program director. This is a full-time program, requiring year-round study and a 20 hour/week paid research assistantship. Typically, students can finish their course work in two years and the program in four-to-five years, subject to progress on a dissertation. Students generally take about 19 courses consisting of seminars and directed readings and/or research. A student's curriculum choices are supervised and approved by an advisory committee.

All required courses are offered on a biennial basis in the Fall, Spring and Summer semesters, along with a variety of elective courses.

Curriculum

The following are the 2013 curriculum requirements for the Entrepreneurship Ph.D. Because the state of the knowledge in the field changes, both the content and sequencing of these course requirements may change in order to address topics of current interest. Faculty may change as well. Applicants should contact the Program Director, Dr. James Fiet, for the most current requirements

YEAR 1 --First month (August) in the program

New students may be required to take an online review of statistics and/or a statistics "boot camp", taught by several College of Business faculty. Faculty mentors for research assistantships are established.

FALL I

Entrepreneurship 780: Seminar: Introduction to Entrepreneurship Research

This seminar reviews the major streams of entrepreneurship research. It will provide students the opportunity to critique and build on prior research as they endeavor themselves to contribute to the existing body of knowledge. Instructor: Dr. James O. Fiet

Entrepreneurship 761: Research Design

This seminar is designed to teach students the fundamentals of research design in the social sciences. It is intended for entrepreneurship doctoral students who will conduct empirical research publishable in scholarly journals. Topics include philosophy of science, theory building, causality analysis, overviews of statistical methods, overview of qualitative methods and an overview of psychometric theory. Instructor: Dr. Manju Ahuja

Entrepreneurship 780: Economic Theory of the Firm (1.5 credits)

Part 1 of the course will cover the basic microeconomic theory of the firm, production functions, cost functions, the basic firm profit maximization model, the basic cost minimization model, firm supply and competitive markets. Part 2 will cover the theory of monopoly, price discrimination, monopolistic competition, oligopoly, product differentiation, entry, barriers to entry and exit. Part 3 will cover managerial contracting and incentives, contracting design and the principal-agent problem, information asymmetry, adverse selection, screening, signaling, moral hazard and agency theory. Instructor: Dr. Yong Chao

PhD Seminar in New Product Strategy and Conjoint Analysis (1.5 credits)

The seminar is designed to teach doctoral students the fundamentals of new product strategy, from a marketing perspective. The course is designed to cover a range of topics and approaches (i.e. theory and method) and progresses through three main areas of discussion: a) conjoint and identification of the "best" new product concept, b) pioneer advantage versus "fast followers", and c) demand estimation for new products. Instructor: Dr. Robert Carter

Linear Statistics

Students will take one of the following statistics courses: ELFH 701 (Intermediate Statistics), PSYC 610 (Advanced Statistics I), or equivalent.

SPRING I

ELFH 703: Multivariate Statistics

The purpose of the course is to develop an understanding of multivariate statistics by students, so that they can: (a) understand the use of these statistics in published research studies, (b) apply multivariate methods to quantitative research problems in their area of interest, (c) use statistical software to analyze data using multivariate methods, and (d) correctly interpret the results of computer analyzed multivariate data. Instructor: Dr. Namok Choi

PhD Seminar in Finance and Venture Capital

This co-taught seminar reviews research in the funding of new and growing businesses from the perspective of both the funds provider and the entrepreneurial team. The seminar acquaints students with what has been learned about financing the launch of a new business, as well as to prepare them to conduct their own research in this burgeoning area. Instructors: Dr. James O. Fiet and Dr. David Dubofsky

Entrepreneurship 740: Organizational Behavior and Human Resources Issues in Entrepreneurial Firms

An intensive and critical introduction to the analysis and practice of organizational behavior. This seminar addresses the challenges faced by entrepreneurs as they attempt to create an organization in support of launching a new venture. Because they lack many initial resources, the accomplishment of this goal is different and perhaps more difficult than that faced by existing firms. Instructors: Dr. Ryan Quinn

PhD Seminar in Discovery (1.5 credits)

Reviews research on entrepreneurial discovery from the perspectives of the aspiring entrepreneurs and scholars. The coverage is both theoretically descriptive and prescriptive. Instructor: Dr. James O. Fiet

PhD Seminar in Theory (1.5 credits)

Scholars engage in research in search of "truth". This seminar explores the schism in many of the social sciences with respect to what constitutes truth and genuine knowledge about business phenomena. Students will examine these competing views that relate to reality as a knowable, objective, reducible entity versus a socially constructed, subjective realm that one cannot stand outside of and analyze without influencing in some manner. Students should gain an understanding about how these views influence the development of research questions, methods and analysis. Instructor: Dr. Beth Davis-Sramek

SUMMER I**Entrepreneurship 750: Issues and Developments in the Quantitative Approach to Entrepreneurship Research**

This seminar integrates theoretical developments and research findings, as presented in previous seminars in the program, with their method implications. It also supplements the previous seminars on research design and statistical techniques by focusing on aspects that were not previously covered or by elaborating on issues that were only treated in passing. Instructor: Dr. Per Davidsson

Qualifying exam preparation
Qualifying exam (July)
First year paper due (by mid-August)

FALL II

ECPY 764: Structural Equation Modeling

This course focuses on basic concepts, applications, and interpretations of structural equation models. Instructor: Dr. Jill Adelson

Entrepreneurship 733: Psychological Foundations of Entrepreneurship

This seminar has four fundamental purposes: 1) Increase familiarity with current research that addresses important questions about the psychology of entrepreneurship, 2) assess "gaps" in these literatures and propose research agendas to address them, 3) build an understanding of the seminal papers that underlie current contributions, and 4) write, develop skills in "mapping out" and writing one's own research papers. Instructor: Dr. Dean Shepherd

Entrepreneurship 720: Economic Foundations in Research in Entrepreneurship

This seminar includes the development of economic thought related to entrepreneurship, ranging from historical figures in economic theory such as Cantillon and Ricardo to contemporary schools of thought on entrepreneurship, including the Austrian perspective. In-depth analyses of pricing strategies, market structures, dynamic vs. static analysis, regulatory issues and examples of applications of economics in research in entrepreneurship are presented. Other topics may include real options theory, rational expectations, the economics of information, econometrics, transfer pricing, transaction cost economics and agency theory. Instructor: Dr. Simon Parker

Elective #1*

SPRING II

Entrepreneurship 710: Sociological Foundations of Entrepreneurship

The course takes an evolutionary approach, examining six popular perspectives from sociology, economics, history and political science in terms of their ability to explain organizational change. We examine the creation, persistence, transformation and disbanding of organizations of many different types. The course begins by focusing on organizational emergence. We pay special attention to the role of entrepreneurs, not only in their role as founders of organizations but also in terms of their place in society. We consider the importance of human and social capital, such as social networks as well as the role of economic and social inequality. Next, we focus on social change and models for historical analysis. We then turn to the emergence of new types of organizations and industries, as well as the forces that maintain and reproduce established populations. Last, we turn to the community level of analysis, focusing especially on social networks and inter-organizational relations. Instructor: Dr. Howard Aldrich

Entrepreneurship 700: Current Topics in Entrepreneurship Research

The focus is on theory building and empirical testing of the factors shaping the identification, evaluation, and exploitation of opportunities and the creation of new organizations. The objective of the course is to give students an introduction to the major theoretical threads and controversies in the field. It will also examine the methodologies that are important to research in this area. Students will learn about various perspectives, examine different methodologies, explore some original empirical research, make connections between theory and empirical research, and practice critiquing and identifying insight in research. Instructor: Dr. Scott Shane

Entrepreneurship 730: Entrepreneurship from a Strategic Perspective

This seminar has two objectives: 1) to expose students to the central theoretical issues in the field of strategic management and 2) to assist students in developing their research to contribute to their chosen field of work. Instructor: Dr. Jay Barney

Elective #2***SUMMER II**

Required paper must be completed and defended in order to progress into candidacy.

FALL III**Dissertation Proposal****SPRING III****Dissertation****YEARS IV and V (if necessary)****Dissertation**

*One of the two electives must be in methods or statistics, and may be taken outside the College of Business. Possible courses include:

PSYC 610: Advanced Statistics I
PSYC 611: Advanced Statistics II
SOC 610: Seminar in Statistics II
SOC 615: Seminar in Research Methodology
SOC 618: Qualitative Field Research Methods
PHST 620: Introduction to Statistical Computing
PHST 630: Applied Statistical Models
PHST 662: Mathematical Statistics

PHST 684: Categorical Data Analysis
PHST 691: Bayesian Inference and Decision
PHST 780: Advanced Nonparametrics
ELFH 602: Survey Research and Attitude Measurement
ELFH 701: Intermediate Applied Statistics
ELFH 704: Qualitative Field Research Methods
ELFH 705: Qualitative Data Analysis and Representation
MATH 560: Statistical Data Analysis
MATH 561: Probability
MATH 562: Mathematical Statistics

Departmental Faculty

Manju Ahuja

Professor

Robert E. Carter

Assistant Professor

Yong Chao

Assistant Professor

David Dubofsky

Professor

James O. Fiet

Professor

Brown-Forman Chair in

Entrepreneurship

Program Director

Bobby Garrett

Assistant Professor

Bruce Kemelgor

Associate Professor

Kristen Lucas

Assistant Professor

Ryan Quinn

Assistant Professor

Term Appointments

Howard Aldrich

Professor

Per Davidsson

Professor

Simon Parker

Professor

Dean Shepherd

Professor

Pankaj Patel

Associate Professor

Scott Shane

Professor

Master of Science in Dentistry

Major: OBIO

Degree Awarded: MS

Unit: GD

Program Webpage: <http://louisville.edu/dental/>

Program Information

The School of Dentistry offers a program of study leading to the Master of Science Degree in Dentistry for postgraduate students/residents enrolled in Advanced Specialty Certificate Programs in *Endodontics, Orthodontics, Pediatric Dentistry, Periodontics, and Prosthodontics*.

The courses for the Master of Science in Dentistry will total 31 credit hours. The curriculum is at least 19 credit hours (11 core and 8 selective courses), plus credit for research and thesis/publication. In addition, depending on the specific accreditation requirements of the specialty, either two or three years of clinical training are required. The credit hours needed to complete the MSD and the certificate are listed below.

MSD/Specialty Programs	Credits	Time to Completion
Endodontics	69	2 years
Orthodontics	72	2 years
Pediatric Dentistry	70	2 years
Periodontics	103.5	3 years
Prosthodontics	94	3 years

The School of Dentistry post-professional Master of Science in Dentistry with Specialty Certificate programs offer didactic and clinical training leading to certification in the specific dental specialty area. Completion of an accredited certificate program allows the student to be recognized by state boards of dentistry and by the respective specialty boards as eligible for specialty board examination and specialty dental licensure.

These programs help to develop skillful clinicians and researchers for careers in academic dentistry or private practice in the specialty areas of *Endodontics, Orthodontics, Pediatric Dentistry, Periodontics and Prosthodontics*. Excellent training in clinical dentistry, teaching skills, and the process and interpretation of biomedical research is essential to equip tomorrow's specialists with the proper scientific background to deal with the changes and challenges inherent in a profession undergoing rapid scientific advancement. These postgraduate students are exposed to a wide variety of clinical techniques by a group of highly qualified faculty with diverse training and varied backgrounds. The philosophy of the programs is that clinical

excellence is based on technical proficiency, expert diagnostic skills and broad-based knowledge of the specific specialty literature.

The didactic portion of the curriculum explores the concepts, designs, regulation, interpretation, and presentation of modern biomedical research upon which the practice of modern Endodontics, Orthodontics, Pediatric Dentistry, Periodontics, or Prosthodontics is based.

The Master of Science in Dentistry trains students in research concepts allowing them to design and complete a clinical or basic science research project. As a part of this program, the student is guided to design a research project and write a research proposal including any informed consent and data collection forms. The student will then conduct the research project to completion. Federal regulations and University of Louisville policy require that all research involving human subjects or analysis of data gathered from human subjects, regardless of funding status, be reviewed and approved by the IRB prior to the implementation of any research activity. After completion of the research project, the student will present the research project in both oral and written form. The oral presentation (defense) includes a review of the literature relevant to the research project, analysis of all data using appropriate statistical tests, and comparison of the results of the project to similar research in the dental literature. The student will also write a thesis or a paper that is suitable for submission and publication in an appropriate peer-reviewed journal.

Students who are enrolled in Endodontics, Orthodontics, Pediatric Dentistry, Periodontics, or Prosthodontics will complete the requirements for the Master of Science in Dentistry in conjunction with the awarding of the specialty certificate.

Program Descriptions

MSD/Endodontics

Endodontics is the branch of dentistry which is concerned with the morphology, physiology and pathology of the human dental pulp and tissues around the tooth root. Its study and practice encompass the basic and clinical sciences, including biology of the normal pulp, the etiology, diagnosis, prevention and treatment of diseases and injuries of the pulp and associated conditions occurring around the tooth root.

MSD/Orthodontics

Orthodontics is the dental specialty that includes the diagnosis, prevention, interception, and correction of malocclusion of the teeth, as well as neuromuscular and skeletal abnormalities of

the developing or mature orofacial structures.

MSD/Pediatric Dentistry

Pediatric Dentistry is an age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.

MSD/Periodontics

Periodontics is that specialty of dentistry which encompasses the prevention, diagnosis and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes and the maintenance of the health, function and esthetics of these structures and tissues.

MSD/Prosthodontics

Prosthodontics is the dental specialty pertaining to the diagnosis, treatment planning, rehabilitation and maintenance of the oral function, comfort, appearance and health of patients with clinical conditions associated with missing or deficient teeth and/or oral and maxillofacial tissues using biocompatible substitutes.

Application for Admission

After acceptance into an Advanced Specialty Certificate Program in Endodontics, Orthodontics, Pediatric Dentistry, Periodontics or Prosthodontics, please complete the application form available on-line at: <http://louisville.edu/graduate/apply>. Additionally, there is a \$60 non-refundable application fee. Applications are not processed until the application fee is received and all required application materials have been received by Graduate Admissions.

Admission Credentials

- Application and application fee
- Official transcripts of all college coursework, including evidence of a baccalaureate degree
- Two letters of recommendation
- TOEFL scores, if English is not the applicant's native language
- For international applicants, Official Course-by-Course Evaluation Report from ECE (Educational Credential Evaluators, Inc.), P. O. Box 514070, Milwaukee, Wisconsin 53203-3470-USA - <http://www.ece.org>.

Curriculum

All of the specialty programs will require 11 credit hours in the following courses:

Course	Description	Credit Hours
OBIO-501	Biomedical Data Analysis	3
OBIO-601	Introduction to Oral Biology Research	2
OBIO-606	Oral Biology Seminars and Communication	2
OBIO-617	Advanced Oral Pathology	1
OBIO-622	Multidisciplinary Seminars	1
ASNB 675	Advanced Head and Neck Anatomy	2

All of the specialty programs are also required to take at least 8 credits hours from the following list of electives:

Course	Description	Credit Hours
OBIO-600	Concepts in Oral Immunology	2
OBIO-604	Oral Microbiology	3
OBIO-605	Oral Health Seminars	1
*OBIO-610	Advanced Topics in Oral Biology	1-4

*Prerequisite: OBIO 600 or consent of instructor. Selected areas will be investigated in depth, using one or more of a variety of formats, including lectures, seminars, tutorials, and research projects.

OBIO-611	Craniofacial Osteology	1-3
OBIO-612	Craniomaxillofacial Diagnostic Imaging	2-4
OBIO-613	The Diagnosis and Treatment of Temporomandibular Disorders and Facial Pain	1
OBIO-614	Diagnosis and Oral Medicine	1
OBIO-615	Advanced Clinical Pharmacology	1
OBIO-616	Medical Genetics in Oral Diagnosis	1.5
OBIO-623	Advanced Implantology	1
Curriculum Credit Hours		19

In addition to these 19 Credit Hours, each postgraduate student/resident will complete a research project that will be supervised by the specialty program director or a designated faculty member.

Course	Description	Credit Hours
OBIO-0635-619	Research	1-8
OBIO-620	Thesis/Publication	1-8
Total hours for Master of Science in Dentistry		31

In addition to the completion of the core curriculum and the postgraduate research project, there are didactic, and clinical courses required for the completion of the necessary hours needed for each certificate as indicated in the MSD/Specialty Programs table.

Departmental Faculty

Tamer Abdel-Azim

Assistant Professor

Merilla Atarodi

Assistant Professor

Eric Bednar

Clinical Assistant Professor

Mark Bernstein

Professor

Ricardo Caicedo

Associate Professor

Sunita Chandiramani

Clinical Associate Professor

Stephen Clark

Professor

Gary A. Crim

Professor

Douglas S. Darling

Professor

Don R. Demuth

Professor

Jixiang Ding

Associate Professor

Eiad Elathamna

Assistant Professor

Carmine Esposito

Professor

Allan G. Farman

Professor

John Firriolo

Professor

Lawrence Gettleman

Professor

Robert M. Greene

Professor

Ann Greenwell

Associate Professor

Henry Greenwell

Professor

Bryan Harris

Assistant Professor

Bruce Haskell

Clinical Professor

Margaret Hill

Associate Professor

Wendy Hupp

Assistant Professor

Zafrulla Khan

Professor

Richard Lamont

Professor

Shuang Liang

Assistant Professor

Wei-Shao Lin

Assistant Professor

Regan L. Moore

Associate Professor

Joseph Morelli

Associate Professor

Dean Morton

Professor

Michelle L. Pisano

Professor

Jan Potempa

Professor

Lisa Sandell

Assistant Professor

William Scarfe

Associate Professor

David A. Scott

Associate Professor

Anibal M. Silveira

Professor

Robert H. Staat

Professor

David Tasman

Clinical Professor

Ricardo Vidal

Assistant Professor

John Virag

Clinical Assistant

Master of Science in Oral Biology

Major: OBIO

Degree Awarded: MS

Unit: GD

Program Webpage: <http://louisville.edu/dental/>

Program Information

The School of Dentistry offers a program of study leading to the Master of Science Degree in Oral Biology. The program is directed toward a general understanding of the biology of the oral cavity and processes leading to disease, including the interactions between oral and systemic health. Students obtain the scientific knowledge and biomedical skills required to perform contemporary dental research. This is a research-based degree for which each student completes a thesis project under the guidance of a faculty mentor. Research projects include basic, clinical, and translational studies.

The M.S. degree in oral biology offers training particularly important to persons wishing to pursue a career in academic dentistry. The program is available to students wishing to obtain only the M.S. in Oral Biology degree, as well as to students currently enrolled in the D.M.D. degree program, and persons who have previously earned a D.M.D. or M.D. (or equivalent) degree. See <http://louisville.edu/dentistry/departments/oralhealth>

Areas for research training include: molecular, cellular and craniofacial biology; craniomaxillofacial diagnostic imaging; neural crest-related craniofacial and cardiovascular disorders; biochemistry of calcium-regulating hormones; regulation of gene transcription; oral microbiology and immunology; cellular mechanisms of salivary gland secretion; birth defects; infection control; protein glycosylation; protein expression and trafficking; periodontology; dental materials science; orthodontics; endodontics; prosthodontics; and health services research related to dentistry. Developmental biology, oral microbiology and innate immunology are particular strengths of the program.

A minimum of 30 semester hours is needed for the M.S. degree. Requirements for the degree include courses in introductory and advanced oral biology and in data analysis, participation in seminars, development of a biomedical research project, and a thesis.

Other course work may be required as individualized programs are developed by students working with their thesis advisor and graduate committees. The graduate committee also approves proposed thesis research, reviews the thesis research, reviews the thesis for acceptance, and administers a final oral examination. Additional important information about the program is available in the Oral Biology Program Guide.

Application for Admission

The application form is available on-line at: <http://louisville.edu/graduate/apply>. Additionally, there is a \$60.00 non-refundable application fee. Applications are not processed until the application fee is received and all required application materials have been received by Graduate Admissions.

Credentials listed below should be sent to the Office of Graduate Admission by the following admission deadlines for complete applications:

- June 1 for Fall
- November 1 for Spring
- March 1 for Summer

Applications that are not complete by the deadline may not be reviewed in time for registration.

Students currently enrolled in the D.M.D. degree program who wish to apply to the M.S. degree in oral biology program should meet with the Program Director or Director of Student Affairs to determine a timeline for making application.

Admission Credentials

- Application and application fee
- Transcripts of all college coursework, including evidence of a baccalaureate degree
- Graduate Record Examination scores or acceptable scores on the DAT or National Boards Dental Exam (NBDE)
- Two letters of recommendation
- A personal statement of interest in the program
- TOEFL scores, if English is not applicant's native language

Curriculum

Major subject required (core) courses:

Courses	Description	Credit Hours
OBIO 501	Biomedical Data Analysis: Experimental Design and Statistics (Fall Semester)	3
OBIO 601	Introduction to Oral Biology Research (Fall Semester)	2
OBIO 606	Seminars in Oral Biology (Spring Semester, Prerequisite: OBIO 601)	1
OBIO 619	Research (minimum of 8 semester hours required)	8
OBIO 620	Thesis (minimum of 6 semester hours required); the student must register for at least 1 semester hour of OBIO 620 in the same semester as their thesis defense	6

Major subject selective courses:

Courses	Description	Credit Hours
OBIO 600	Concepts in Oral Immunology	2
OBIO 604	Oral Microbiology	3
OBIO 611	Craniofacial Osteology	1-3
OBIO 612	Craniofacial Diagnostic Imaging	2-4
OBIO 613	Diagnosis and Treatment of Temporomandibular Disorders	1
OBIO 614	Advanced Oral Diagnosis/Oral Medicine	1
OBIO 615	Advanced Clinical Pharmacology	1
OBIO 616	Overview of Medical Genetics in Oro-facial Disease	1.5
OBIO 617	Advanced Oral Pathology	1
OBIO 670	Dental Gross Anatomy	6
OBIO 671	General and Oral Histology	5
OBIO 675	Advanced Head and Neck Anatomy	2
BIOC 668	Molecular Biology	4
MBIO 605	Cell Biology	3

In addition, courses may be chosen from any 600-level courses offered by the School of Interdisciplinary and Graduate Studies that are deemed to be relevant and applicable to the student's program of study and thesis research, and must be approved by the student's thesis advisor/director and the Program Director.

Total semester hours required for M.S. degree: 30 semester hours

Departmental Faculty

Pascale Alard
Associate Professor
Eric Bednar
Assistant Professor
Tamer Abdel-Azim
Assistant Professor
Mark Bernstein
Professor
Cathy Binkley
Associate Professor
Ricardo Caicedo
Associate Professor

Sunita Chandiramani
Associate Professor
Stephen Clark
Professor
Gary Crim
Associate Dean
Douglas Darling
Professor
Don Demuth
Professor
Carmine Esposito
Professor

Allan Farman
Professor
John Firriolo
Professor
Larry Gettleman
Professor
Bob Greene
Chairperson and Professor
Ann Greenwell
Assistant Professor
Henry Greenwell
Professor

Bryan Harris
Assistant Professor
Margaret Hill
Associate Professor
Wendy Hupp
Assistant Professor
Zaf Khan
Professor
Rich Lamont
Professor
Shuang Liang
Assistant Professor
Weishao Lin
Assistant Professor
Matthew Lawrenz
Assistant Professor
Mike Mansfield
Instructor

Lee Mayer
Associate Professor
Joseph Morelli
Associate Professor
Dean Morton
Professor
Michele Pisano
Professor
Jan Potempa
Professor
Lisa Sandell
Assistant Professor
John Sauk
Dean and Professor
William Scarfe
Professor
David Scott
Associate Professor

Brian Shumway
Assistant Professor
Anibal Silveira
Chairperson and Professor
Jackie Singleton
Associate Professor
Robert Staat
Professor
David Tasman
Professor
John Virag
Assistant Professor
Jon Warawa
Assistant Professor
Dennis Warner
Assistant Professor

Master of Arts in Teaching in Art Education

Major: EDAR

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-ae>

Program Information

This program leads to Kentucky certification in Art Education, grades P-12. Applicants to the program should have excellent academic credentials as well as successful experience working with children and/or adolescents. Applicants should have an undergraduate degree with a major in Fine Arts.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education. Minimum undergraduate degree GPA 2.75, Minimum GRE scores as required by EPSB; Praxis II content exam registration and/or scores; three letters of recommendation; professional statement; bachelor's degree with major in Art or appropriate prerequisite courses; "C" or higher in English 102 and oral communication courses; acceptable interview.

*EDTP 602 Exploring Teaching Within the Socio-Cultural Context of P-12 Schools	3
*ECPY 607 Learning Theory and Human Growth and Development	3
(NOTE: The above two courses must be taken prior to or concurrent with the next two courses)	
*ART 508 Art Education Methods/Research I	3
*ART 518 Art Education Methods/Research II	3

Mid-Point Assessment: Prior to Student Teaching: Satisfactory dispositions assessment; No lower than 2.0 in art education methods/research class; Within 3 credits of meeting content requirements; EDTP 602 and ECPY 607, and ART 508 and 518 passed; Satisfactory mid-point teacher performance assessment (TPA); Positive recommendation from Middle/Secondary Program Committee. Electronic documentation of 200 hours of diverse and approved field experiences.

EDTP 612 Student Teaching P-12	6
EDTP 677 Capstone Seminar: Initial Certification ²	3
EDSP 545 Exceptional Child in the Regular Classroom	3

Certification Assessment: Satisfactory dispositions assessment; All certification course work* completed with 2.5 cumulative GPA; 2.5 cumulative GPA in content course requirements; 2.0 or higher in each student teaching; Satisfactory certification teacher performance assessment

(TPA); Passing scores on required PRAXIS content and PLT exams; Positive recommendation from Middle/Secondary Program Committee.

EDTP 503 Developing Cross-Cultural Competence ¹	3
ART 5xx Academic support course ¹	3
ART 6xx Academic support course ¹	3
EDTP 620 Reading and Writing Across the Curriculum/Adolescent Literature ¹	3
¹ Can be taken at any point in the program; at least one must be at the 600 level.	
² Must be taken concurrently with Student Teaching	
Minimum total hours	36

Content courses remaining to complete certification requirements:

Degree Assessment: Satisfactory dispositions assessment; All program course work with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses); Satisfactory degree teacher performance assessment (TPA).

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for master's candidacy as outlined in the graduate Catalog "Academic Policies, Procedures, and Requirements”, under the section called academic policies and requirements.

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or www.ets.org/praxis for current requirements.

Departmental Faculty

Barbara Hanger
Associate Professor
Penny Howell
Associate Professor
Maggie McGatha
Associate Professor
Susan Peters
Assistant Professor

Caroline Sheffield
Assistant Professor
Melissa Shirley
Assistant Professor
Steve Swan
Instructor
Shelley Thomas
Associate Professor

Tom Tretter
Professor
Jean Wolph
Instructor

Master of Education in Community Health

Major: HPE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-ch>

Program Information

Students generally pursue careers at work-sites (plan and implement wellness programs to keep employees healthy and maintain a safe work environment), medical services (develop, implement and evaluate health promotion programs in hospitals, HMO's, acute care clinics and long-term facilities) and communities (assess needs for health promotion programs, and deliver education programs at various sites in the community, including voluntary health agencies and government-based service programs).

The goal of the health education program is the development and preparation of individuals to be future leaders in a variety of urban settings including public and private corporations and government agencies in the area of health and human performance.

Program Admission

All candidates must meet the requirements for admission to certain specific programs offered by the College of Education and Human Development. All students applying for a master's program in education must submit Graduate Record Examination (GRE) scores. A combined score of 293 on the verbal and quantitative sections of the GRE and a 4.0 on the Analytical section is required for this program. Some programs may require a higher GRE score. Exit Requirements: Minimum of 3.0 GPA, and two of the following: portfolio, internship, exit exam, research project or thesis.

The deadlines for admission will be:

- March 1 for Summer or Fall admission.
- October 1 for Spring admission.

The Community Health Admissions Screening Committee requires the following materials:

- Transcripts of all undergraduate and graduate work. Minimum cumulative grade point average (GPA) of 2.75 overall.
- GRE scores of at least 293 (verbal and quantitative combined) and 4.0 on the Analytical section.
- Test of English as a Foreign Language (TOEFL) score for international students from countries where English is not the native language. Students holding a baccalaureate or

advanced degree from an accredited institution in the U.S. are exempt from this requirement.

- Two letters of recommendation
- Formal Statement of Purpose

Curriculum

Core Curriculum

HSS 675 Health Promotion and Disease Prevention at the Individual Level	3
HSS 676 Community Health Promotion and Disease Prevention	3
HSS 684 Program Planning in Health Education and Promotion	3
HSS 655 Current Trends and Issues in Health and Sport Sciences	3
HSS 631 Leadership in Health Promotion	3

Research Methods

ELFH 600 Introduction to Research Methods and Statistics	3
HSS 604 Research Methods in Health and Sport Sciences	3

Internship/Practicum – Location approved by advisor.

HSS 692 Cooperative Internship/Practicum	6
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Electives – Courses approved by advisor. 9

Minimum total hours: 36

Exit Requirements: Student must also satisfactorily complete an exit exam and submit a portfolio of all Hallmark Assessments and internship materials.

Departmental Faculty

Carol O'Neal, PhD

Associate Professor

Health Education Program Director

Kristy King, PhD

Assistant Professor

Cheryl Kolander, PhD

Professor

Master of Education in Counseling and Personnel Services

Major: CPS_MEDCPL

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-cps-csp>

Program Information

Master's degree applicants must take the Graduate Record Examination (GRE) and obtain a minimum combined score of 800 on the verbal and quantitative sections. Applicants must have earned a minimum 2.75 grade point average (GPA) in an undergraduate degree from an accredited institution.

Applicants for the concentration in Counseling Psychology must obtain a score of 900 on the verbal and quantitative section of the GRE. Also, applicants for this concentration must have earned a minimum 3.0 grade point average (GPA) in an undergraduate degree from an accredited institution. If the applicant meets one of the above standards and does not meet the other (e.g., receives scores between 700-799 on the GRE, or earns between a 2.50-2.74 GPA), he/she may be considered for admission in a conditional status.

Additionally, all applicants should submit (2) letters of recommendation and a statement of professional goals not to exceed 750 words. Deadlines for completed applications are March 1st for the summer and fall semesters and October 1st for the spring semester. (Extended deadline of June 15 for fall if spaces are available after the March 1 deadline).

Curriculum

Clinical Mental Health Counseling

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Clinical Mental Health Counseling Program

General Requirement: Undergraduate prerequisite: Course in abnormal psychology ¹

Core Professional Area (total 30 hours)

ELFH 600 Introduction to Research Methods and Statistics ²	3
ECPY 540 Evaluation & Measurement	3
ECPY 605 Human Development	3
ECPY 619 Empirical and Theoretical Foundations of Counseling & Psychotherapy	3
ECPY 629 Theories and Techniques of Counseling & Psychotherapy	3
ECPY 650 Group Process & Practice	3
ECPY 663 Multicultural & Diversity Issues	3

ECPY 670 Career Counseling	3
ECPY 730 Social, Legal & Ethical Issues	3
Mid-Point Assessment: Prior to ECPY 672 Practicum: Must complete ECPY 629 with at least a grade of "B".	
ECPY 672 Practicum in Clinical Mental Health Counseling ³	3
Clinical Mental Health Counseling Concentration (total 24 hours)	3
ECPY 621 Differential Diagnosis & Treatment in Counseling	3
ECPY 626 Consultation	3
ECPY 640 Assessment Methods for Counselors	3
ECPY 682 Internship in Clinical Mental Health Counseling ³	3
ECPY 682 Internship in Clinical Mental Health Counseling ³	3
ECPY 601 Introduction to Clinical Mental Health Counseling	3
ECPY 639 Prevention and Treatment of Substance Abuse	3
ELFH 601 Applied Statistics	
Professional Electives from the 9 areas designated in Curriculum Guidelines for CACREP and LPCC (total 6 hours) ⁴	6
Minimum total hours:	60

Degree Assessment: All program coursework with a 3.0 cumulative GPA.

¹ *Students admitted to the Clinical Mental Health Counseling Program who have not completed a course in abnormal psychology are required to take PSYC 385: Abnormal Psychology as a prerequisite to the program. Students who have successfully completed a graduate-level course in abnormal psychology at another institution can transfer it into the program as an elective course.*

² *ELFH 600 must be taken within the first 9 hours.*

³ *At least 700 hours of field placement must be completed during the practicum and 2 internships including at least 280 direct service hours. CACREP requires that 600 hours be completed during the internships.*

CACREP and Kentucky Board of Licensed Professional Counselors Curriculum Guidelines:

1. The helping relationship, including counseling theory and practice
2. Human growth and development
3. Lifestyle and career development
4. Group dynamics, process, counseling, and consulting
5. Assessment, appraisal, and testing of individuals
6. Social and cultural foundations, including multicultural issues
7. Principles of etiology, diagnosis, treatment planning, and prevention of mental and emotional disorders and dysfunctional behavior
8. Research and evaluation
9. Professional orientation and ethics.

School Counseling (P-12)

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies and School Counseling Program

General Requirement: Undergraduate prerequisites as required by concentration

Core Professional Area (total 30 hours)

ECPY 540 Evaluation and Measurement in Education	3
ECPY 619 Empirical and Theoretical Foundations of Counseling and Psychotherapy	3
ECPY 605 Human Development	3
ECPY 630 Theories and Techniques of School Counseling	3
ECPY 650 Group Process and Practice	3
ECPY 663 Multicultural and Diversity Issues	3
ECPY 670 Career Development and Counseling	3
ECPY 730 Social, Legal, & Ethical Issues in Counseling	3
ELFH 600 Introduction to Research Methods and Statistics	3

Mid-Point Assessment: Prior to Practicum in School Counseling: Students must earn at least a grade of "B" in ECPY 630 & satisfactory completion of midpoint portfolio to be completed in ECPY 624

ECPY 674 Practicum in School Counseling	3
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School Counseling Concentration (total 21 hours)

ECPY 611 Learning Systems: Theory and Practice	3
ECPY 624 Foundations of School Counseling	3
ECPY 626 Consultation	3
ECPY 639 Prevention and Treatment of Substance Abuse	3
ECPY 640 Assessment Methods for Counselors	3
ECPY 684 Internship in School Counseling (Two internships are required for CACREP accreditation)	3
ECPY 684 Internship in School Counseling	3

Minimum total hours: **51**

Notes: ECPY 674 Practicum in School Counseling must be applied for by March 1 for Fall term and October 1 for Spring term.

1. Students must earn at least a B in ECPY 630 to be eligible to enroll in ECPY 674 School Counseling Practicum.
2. For school counseling certification, a grade of "B" or better is required in ECPY 674.
3. Transfer of credit is dependent upon receipt of transcript and advisor's approval.
4. Upon admission, students have six years to complete the program.
5. All students must have liability insurance prior to taking practicum.
6. At any point after admission, the faculty reserves the right to review a student's fitness on the basis of personal characteristics, for continuing in the counseling or student personnel program. Such a review shall be initiated upon written recommendation of two faculty

members and shall consist of a review of the student's academic result in a recommendation to the Dean for (1) continuation of the student in the program, (2) continuation for a specified provisional period with specific conditions for continuation thereafter, or (3) dismissal from the program.

7. The program requires the acceptable completion of a program portfolio.
8. The program is not official unless signed by both advisor and student.

College Student Personnel

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & College Student Personnel Program

Core Professional Area (total 30 hours)

ELFH 600 Introduction to Research Methods and Statistics	3
ECPY 660 Introduction to Student Personnel Works	3
ECPY 661 Theories of College Student Development	3
ECPY 623 Helping Skills for Student Affairs Professionals	3
ECPY 662 Student Affairs Programs, Policies, and Practices	3
ECPY 663 Multicultural and Diversity Issues	3
ECPY 664 College Student Sub-Cultures	3
ECPY 670 Career Counseling	3
ECPY 761 Program development & Evaluation in Student Affairs	3
Mid-Point Assessment: Prior to Internship in College Student Personnel Services: Must complete ECPY 660	
ECPY 681 Internship in College Student Personnel Services	3
College Student Personnel Concentration (total 9 hours)	
ECPY 681 Internship in College Student Personnel Services	3
ELFH 682 The Organization and Administration of Higher Education Institutions	3
ECPY 695 Capstone Seminar in College Personnel Work	3
Professional Elective (3 hours)	3
Minimum total hours:	42

Degree Assessment: All program coursework with a 3.0 cumulative GPA.

Counseling Psychology

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Counseling Psychology Program

General Requirement: Undergraduate prerequisite: Degree in psychology or completion of 4 leveling courses. ¹

Core Professional Area (total 30 hours)

ECPY 540 Evaluation & Measurement	3
ECPY 605 Human Development	3

ECPY 619 Empirical and Theoretical Foundations of Counseling & Psychotherapy	3
ECPY 629 Theories and Techniques of Counseling & Psychotherapy	3
ECPY 650 Group Process & Practice	3
ECPY 663 Multicultural & Diversity Issues	3
ECPY 670 Career Counseling	3
ECPY 730 Social, Legal & Ethical Issues	3
ELFH 600 Introduction to Research Methods and Statistics ²	3
Mid-Point Assessment: Prior to ECPY 673 Practicum: Must complete ECPY 629 with at least a grade of "B".	
ECPY 673 Practicum in Counseling Psychology ³	3
Counseling Psychology Concentration (total 24 hours)	
ECPY 611 Learning Systems	3
ECPY 621 Differential Diagnosis & Treatment in Counseling	3
ECPY 648 Psychological Assessment I	3
ECPY 649 Psychological Assessment II	3
ECPY 673 Practicum in Counseling Psychology ³	3
ECPY 683 Internship in Counseling Psychology ³	3
ECPY 775 Biological Bases of Behavior	3
ELFH 601 Applied Statistics	3
Professional Electives (6 hours)	6
Minimum total hours:	60

Degree Assessment: All program coursework with a 3.0 cumulative GPA.

^{1.} *Students admitted to the Counseling Psychology Program who have not completed an undergraduate degree in psychology must complete four leveling courses in the areas of developmental psychology, abnormal psychology, social psychology, and statistics/research design for the social sciences.*

^{2.} *ELFH 600 must be taken within the first 9 hours.*

^{3.} *At least 900 hours of field placement must be completed during the two practicums and internship. No less than 10 and no more than 20 hours per week are required during the two practicums. Counseling psychology students take one practicum in counseling, and one practicum in psychological assessment.*

Art Therapy

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Art Therapy Program

General Requirement: Undergraduate prerequisite includes 18 credit hours in studio art and 15 credit hours in psychology. ¹

Core Professional Area (total 30 hours)

ECPY 540 Evaluation & Measurement in Education	3
ECPY 605 Human Development	3
ECPY 619 Empirical and Theoretical Foundations of Counseling & Psychotherapy	3
ECPY 629 Theories and Techniques of Counseling & Psychotherapy	3
ECPY 650 Group Process & Practice	3

ECPY 663 Multicultural & Diversity Issues (<i>section taught by an ATR</i>)	3
ECPY 670 Career Counseling	3
ECPY 730 Social, Legal & Ethical Issues (<i>section taught by an ATR</i>)	3
ELFH 600 Introduction to Research Methods and Statistics	3
Mid-Point Assessment: Prior to ECPY 676 Practicum: Must complete ECPY 643 with at least a grade of "B".	
ECPY 676 Practicum in Art Therapy - Counseling ²	3
Art Therapy Concentration (total 24 hours)	
ECPY 621 Differential Diagnosis & Treatment in Counseling	3
ECPY 632 Clinical Art Therapy I: Theories	3
ECPY 633 Clinical Art Therapy II: Assessment and Practice	3
ECPY 638 Group Art Therapy Techniques	3
ECPY 639 Research in Art Therapies	3
ECPY 641 Applied Methods in Art Therapies	3
ECPY 643 Field Studies in Art Therapy	3
ECPY 676 Practicum in Art Therapy - Counseling ²	3
Minimum total hours	60

Professional Elective from the educational areas designated in Curriculum Guidelines for LPCC and ATR (6 hours) ³

Art Therapy electives include, but are not limited to, the following: ECPY 653 Medical/Grief Counseling in Art Therapy, ECPY 655 Art for Children with Special Needs, and ECPY 694 Chemical and Substance Abuse in Art Therapy.

Degree Assessment: All program coursework with a 3.0 cumulative GPA.

^{1.} *Students admitted to the Art Therapy Program who have not completed prerequisites of 15 hours in Psychology and 18 credit hours in Studio Art must do so within the first year of study.*

^{2.} *At least 700 hours of field placement must be completed during field studies and two practicums. Ten hours per week are required during field studies. No less than 20 hours per week are required during the two practicums.*

American Art Therapy Associate (AATA) Educational Standards

1. History and theory of art therapy
2. Techniques of practice in art therapy
3. Applications of art therapy with people in different treatment settings
4. Group work
5. Art therapy assessment
6. Ethical and legal issues of art therapy practice
7. Standards of practice in art therapy
8. Cultural and social diversity

Kentucky Board of Licensed Professional Counselors Curriculum Guidelines: ³

1. The helping relationship, including counseling theory and practice
2. Human growth and development
3. Lifestyle and career development
4. Group dynamics, process, counseling, and consulting
5. Assessment, appraisal, and testing of individuals
6. Social and cultural foundations, including multicultural issues
7. Principles of etiology, diagnosis, treatment planning, and prevention of mental and emotional disorders and dysfunctional behavior
8. Research and evaluation
9. Professional orientation and ethics.

Departmental Faculty

Jill Adelson, Ph.D.

Assistant Professor

Richard Balkin, Ph.D.

Professor

Stephanie Budge, Ph.D.

Assistant Professor

Eileen Estes, Ph.D.

Assistant Professor

Patrick Hardesty, Ph.D.

Associate Professor

Amy Hirschy, Ph.D.

Assistant Professor

Thomas R. Jackson, Ph.D.

Adjunct Faculty

Mark Leach, Ph.D.

Professor

Assistant Chair
of Educational and
Counseling Psychology
Department

Marybeth Orton, MA

Instructor

Jason Osborne, Ph.D.

Professor

Department Chair

Jesse Owen, Ph.D.

Assistant Professor

Patrick Possel, Ph.D.

Associate Professor

**Bridgette O. Pregliasco,
Ed.D.**

Assistant Professor

Fred W. Rhodes, Ed.D.

Adjunct Faculty

Gale S. Rhodes, Ed.D.

Adjunct Faculty

Associate University Provost

Natalie Stipanovic, Ph.D.

Assistant Professor

Jeffrey Valentine, Ph.D.

Associate Professor

Hongryun Woo, Ph.D.

Assistant Professor

Doctor of Philosophy in Counseling and Personnel Services

Major: CPS_PHDSTP

Degree Awarded: Ph.D.

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/phd-cps-csp>

Program Information

The Doctor of Philosophy with an emphasis in Counseling and Personnel Services encompasses 4 specialties: 1) College Student Personnel, 2) Counseling Psychology, 3) Evaluation and Measurement, and 4) Counselor Education and Supervision.

Distinctive Characteristics of Doctoral Programs in CEHD.

I. Social Justice and Equity

Aligned with our mission, our students would build experience and expertise in the issues of social justice and equity. This theme would align with our metropolitan mission and that of student achievement.

II. Leadership

This area could be assisted by the Future Faculty/Future Leaders program. Leadership is a distinct focus in other programs in CEHD and the doctoral program should be no exception. In this component students would gain expertise in supervising and leading others to achieve organizational goals and missions, managing complex systems, addressing administrative issues and procedures, conducting research to enhance leadership and teaching others about the art of organizational leadership.

III. Practical Experience

The doctoral programs in CEHD will also contain practicums, internships, or embedded field experience that aligns both with their program studies and their career goals. These experiences are to be mentored and may include a number of the following areas: teaching; research, administration or other appropriate areas.

IV. Scholarship/Research

The emphasis on scholarship would include experience and mentorship in ethics, publications, presentation, grantsmanship, and other forms of creative activity. The research component will be characterized by the development of vertical research teams; senior faculty, junior faculty, doctoral students, masters students, and in some programs, undergraduate students, working

together on research projects and research areas. These might be bolstered by partnerships with local school districts, businesses, or community agencies.

The doctoral degree is granted in recognition of scholarly proficiency and distinctive achievement in a specific field/discipline. All candidates for a doctoral degree in the CEHD must successfully complete qualifying exams and a dissertation/professional portfolio that clearly indicates the candidate has mastered and can exhibit/articulate the content knowledge, skills and dispositions specific to their discipline and can utilize appropriate research methodologies to contribute to the body of knowledge in their field.

Curriculum

60 Hour Program

Master's Degree prerequisite + 60 hours minimum: The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

Specialty Components (33 hours minimum) <i>Selected with Program Committee Approval</i>	33
Research Methodology (27 hours minimum) <i>Selected with Program Committee Approval</i>	
Statistics and Methodology I (<i>ELFH 601 or equivalent required</i>)	3
Statistics and Methodology II ^b (<i>ELFH 701 – Intermediate Multiple Regression</i>)	3
Statistics and Methodology III (<i>ELFH 703 - Multivariate educational statistics</i>)	3
Research Electives:	6
<i>e.g., Field Survey Research, additional qualitative methodologies and/or quantitative methodologies.</i> ^{a,b}	
Dissertation/Portfolio Research	12
Elective Component or Master's Degree Master's Degree comprises Elective component of program.	
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours:	60

90 Hour Program

The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (60 hours minimum) *Selected with Program Committee Approval*

Includes Counseling Core – 12 hours

Foundations – 18 hours

60

RESEARCH METHODOLOGY (27 hours minimum) *Selected with Program Committee Approval*

Statistics and Methodology I (<i>ELFH 601 or equivalent required</i>)	3
Statistics and Methodology II ^b (<i>ELFH 702 – Applied Multiple Regression</i>)	3
Statistics and Methodology III (<i>ELFH 703 - multivariate educational statistics</i>)	3
Equation Modeling or ECPY 793 Multilevel Modeling or ECPY 793 Meta-analysis and Systematic Review or equivalent required)	3
Evaluation and Measurement (<i>ECPY 540 or equivalent required</i>)	3
Advanced Psychotherapy Research Methodology I (<i>ECPY 793 Adv. Psychotherapy and Practice or equivalent required</i>)	3
Supervised Research (<i>ECPY 700</i>)	6
Dissertation / Portfolio Research	3
ELECTIVE COMPONENT (21 hours Minimum) <i>Selected with Program Committee Approval</i>	
Counseling Psychology Speciality	21
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours:	108

Departmental Faculty

Jill Adelson, Ph.D.

Assistant Professor

Richard Balkin, Ph.D.

Professor

Stephanie Budge, Ph.D.

Assistant Professor

Eileen Estes, Ph.D.

Assistant Professor

Patrick Hardesty, Ph.D.

Associate Professor

Amy Hirschy, Ph.D.

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Professor

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of Educational and
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**Bridgette O. Pregliasco,
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Assistant Professor

Fred W. Rhodes, Ed.D.

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Adjunct Faculty

Associate University Provost

Natalie Stipanovic, Ph.D.

Assistant Professor

Jeffrey Valentine, Ph.D.

Associate Professor

Hongryun Woo, Ph.D.

Assistant Professor

Doctor of Philosophy in Curriculum and Instruction

Major: EDCI

Degree Awarded: Ph.D.

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/phd-ci>

Program Information

Distinctive Characteristics of Doctoral Programs in CEHD

I. Social Justice and Equity

Aligned with our mission, our students would build experience and expertise in the issues of social justice and equity. This theme would align with our metropolitan mission and that of student achievement.

II. Leadership

This area could be assisted by the Future Faculty/Future Leaders program. Leadership is a distinct focus in other programs in CEHD and the doctoral program should be no exception. In this component students would gain expertise in supervising and leading others to achieve organizational goals and missions, managing complex systems, addressing administrative issues and procedures, conducting research to enhance leadership and teaching others about the art of organizational leadership.

III. Practical Experience

The doctoral programs in CEHD will also contain practicums, internships, or embedded field experience that aligns both with their program studies and their career goals. These experiences are to be mentored and may include a number of the following areas: teaching; research, administration or other appropriate arenas.

IV. Scholarship/Research

The emphasis on scholarship would include experience and mentorship in Ethics, Publications, Presentation, Grantsmanship, and other forms of creative activity. The research component will be characterized by the development of vertical research teams; senior faculty, junior faculty, doctoral students, masters' students, and in some programs, undergraduate students, working together on research projects and research areas. These might be bolstered by partnerships with local school districts, businesses, or community agencies.

The doctoral degree is granted in recognition of scholarly proficiency and distinctive achievement in a specific field/discipline. All candidates for a doctoral degree in the CEHD must

successfully complete qualifying exams and a dissertation/professional portfolio that clearly indicates the candidate has mastered and can exhibit/articulate the content knowledge, skills and dispositions specific to their discipline and can utilize appropriate research methodologies to contribute to the body of knowledge in their field.

Curriculum

60 Hour Program

Master's Degree prerequisite + 60 hours minimum: The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

Specialty Components (33 hours minimum) <i>Selected with Program Committee Approval</i>	30
EDAP 711 Doctoral Professional Seminar: First Year	3
Research Methodology (27 hours minimum) <i>Selected with Program Committee Approval</i>	
ELFH 601 Applied Statistics	3
ELFH 701 – Intermediate Multiple Regression	3
ELFH 703 - Multivariate Educational Statistics	3
Research Electives:	6
e.g., <i>Field Survey Research, additional qualitative methodologies and/or quantitative methodologies.</i> ^{a,b}	
Dissertation Research	12-15
Elective Component Masters Degree comprises elective component of program and satisfies 30 credit hours of the Ph.D. program.	
a. <i>Selected with Program Committee Approval within program guidelines/framework</i>	
b. <i>ELFH 600 may not be used for these courses.</i>	
Minimum total hours:	90

90 Hour Program

The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (42 hours minimum) <i>Selected with Program Committee Approval</i>	39
EDAP 711 Doctoral Professional Seminar: First Year	3

RESEARCH METHODOLOGY (27 hours minimum) <i>Selected with Program Committee Approval</i>	
ELFH 601 Applied Statistics	3
ELFH 701 – Intermediate Statistics	3
ELFH 703 - Multivariate Educational Statistics	3
Research Electives: e.g., <i>Field Survey Research, additional qualitative methodologies and/or quantitative methodologies.</i> a,b	6
EDAP 795 Dissertation Research	12-15
ELECTIVE COMPONENT (21 hours Minimum) <i>Selected with Program Committee Approval</i>	21
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for these courses.</i>	
Minimum total hours:	90

Departmental Faculty

Debra Bauder, Ed.D.

Associate Professor

Jennifer Bay-Wiliams, Ph.D.

Professor

Sherri Brown, Ph.D.

Associate Professor

William S. Bush, Ed.D.

Professor

James Chisholm, Ph.D.

Assistant Professor

Justin Cooper, Ph.D.

Assistant Professor

Ginevra R. Courtade, Ph.D.

Associate Professor

Monica E. Delano, Ph.D.

Associate Professor

Director of Doctoral

Programs

Penny Howell, Ed.D.

Associate Professor

Karen Karp, Ed.D.

Professor

Diane W. Kyle, Ed.D.

Professor

Timothy J. Landrum, Ph.D.

Professor

Ann Elisabeth Larson,

Ph.D.

Professor

Dean

Amy Lingo, Ed.D.

Associate Professor

Maggie McGatha, Ed.D.

Associate Professor

Lori Norton-Meier, Ph.D.

Professor

Robert Pennington, Ph.D.

Assistant Professor

Susan Peters, Ph.D.

Assistant Professor

Terry Scott, Ph.D.

Professor

Caroline Sheffield, Ph.D.

Assistant Professor

Melissa Shirley, Ph.D.

Assistant Professor

Thomas Simmons, Ph.D.

Associate Professor

Steve Swan, M.Ed.

Term Instructor

Shelley Thomas, Ed.D.

Associate Professor

Thomas R. Tretter, Ed.D.

Professor

Ingrid Weiland, Ph.D.

Assistant Professor

Kathy Whitmore-Barten,

Ph.D.

Endowed Chair Professor

Master of Arts in Teaching in Early Elementary Education (P-5)

Major: ERED

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-eee>

Program Information

The MAT in Early Elementary Education enables graduate students to earn their initial teaching certificate for grades P-5 in Kentucky. Candidates learn to teach through instruction in pedagogy, child development, special education, gifted education, technology and diversity. They develop their skills in field experiences in local area schools. The Early Elementary Education program emphasizes meeting the needs of the individual learner using best instructional practices in a standards-based environment. Through coursework and clinical field experiences, teacher education students become critical thinkers who are prepared to meet the demands of 21st century elementary education.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; minimum undergraduate degree GPA 2.75; minimum GRE scores as required by EPSB; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree and specific prerequisite courses; "C" or higher in English 102 and oral communication course; and acceptable interview.

*EDTP 602 Exploring Teaching Within the Socio-Cultural Context of P-12 Schools	3
*ECPY 607 Learning Theory and Human Growth and Development	3
*EDTP 501 General Methods	3
<i>(NOTE: The above three courses must be taken prior to any of the next 4 courses)</i>	3
*EDTP 603 Language Arts Methods	3
*EDTP 604 Mathematics Methods	3
*EDTP 605 Science Methods	3
*EDTP 606 Social Studies Methods	3

Mid-Point Assessment: Prior to Student Teaching: No lower than 2.0 in each content methods class; all prerequisites met; all courses listed above passed; Positive recommendation from Elementary Program Committee (including assessment of dispositions and mid-program portfolio).

*EDTP 615 Student Teaching (Primary)	3
*EDTP 616 Student Teaching (Intermediate)	3
*EDSP 545 Exceptional Child in the Regular Classroom	3

Certification Assessment: After Student Teaching: All certification course work* completed with 2.5 cumulative GPA; 2.0 or higher in each student teaching course; Passing scores on required PRAXIS and PLT exams; Positive recommendation from Elementary Program Committee (including assessment of dispositions and final certification portfolio).

EDTP 503 Developing Cross-Cultural Competence ¹	3
EDTP 580 Digital Citizenship: Teaching with Technology ¹	3

¹ Can be taken at any point in the program.

² Must be taken concurrently with student teaching.

* Course is required for certification

Minimum total hours **36**

Prerequisite courses remaining to complete certification requirements:

Degree Assessment: All program course work with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses); Positive recommendation from Elementary Program Committee (including assessment of dispositions and final degree portfolio).

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Profession Standards Board (EPSB) website at www.epsb.ky.gov or www.ets.org/praxis for current requirements.

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog, "Academic Policies, Procedures, and Requirements".

Departmental Faculty

Sherri Brown

Associate Professor

Director Early Childhood
and Elementary Program

Tammi Davis

Instructor

Betty Doyle

Instructor

John Finch

Instructor

Jill Jacobi-Vessels

Assistant Professor

Pam Jett

Instructor

Karen Karp

Professor

Diane Kyle

Professor

Department Chair

Lori Norton-Meier

Associate Professor

Caroline Sheffield

Assistant Professor

Christine Sherretz

Assistant Professor

Steve Swan

Instructor

Shelley Thomas

Assistant Professor

Ingrid Weiland

Associate Professor

Specialist in Education in Educational Administration

Major: EDAD

Degree Awarded: Ed.S.

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/eds-ea>

Program Information

Includes both Principal Certification and Supervisor of Instruction Certification

CARDS 7: DEGREE PROGRAM ADMISSION REQUIREMENTS

- Joint screening by ELFH Department and local school district personnel
- A written rationale for pursuing the degree (limit of 1 page)
- A current resume.
- Your philosophy of education (not to exceed 2 pages)
- Two written letters of recommendation attesting to the candidate's skills and understanding of (a) ability to improve student achievement, (b) leadership, (c), advanced knowledge of curriculum, instruction, and assessment. One must be from the current site supervisor.
- Three years of successful K-12 teaching experience in Kentucky (including successful completion of the Kentucky Teacher Internship Program), or three years (1 year = 140 contract days) of successful K-12 teaching outside the state of Kentucky.

Admission:

- Evidence of bachelors and masters degree.
- Transcripts of all undergraduate and graduate work

Admission to this Program:

- General Test Section score on the Graduate Record Examination of 900 (Verbal + Quantitative)
- A 3.3 grade point average from the masters degree program
- Signed copies of the following forms: Acceptable Use of Technology Agreement and Professional Code of Ethics for Kentucky School Personnel

Curriculum

Level 1

ELFH 633	Organizational Structures and Operations	3
ELFH 634	P-12 Leadership for Curriculum, Instruction, and Assessment	3
ELFH 635	P-12 Human Resources: Securing and Developing Staff	3
ELFH 636	Shaping School Culture and Community	3

CARDS 8: MIDPOINT ASSESSMENT

Satisfactory dispositions assessment. Satisfactory completion of Hallmark/Dispositions Assessments in ELFH 633, 634, 635, and 636. Must maintain a GPA of 3.3.

ELFH 637	Leveraging Community Systems and Resources for School Improvement	3
ELFH 620	Legal Issues in P-12 Education	3
ELFH 622	Educational Resource Management in P-12 Education	3
ELFH 782	Reflective Practice for School Leaders	3
	Total Hours for Level 1	24

Refer to program completion requirements for Level 1 prior to Level 2

ELFH 609	Principal Internship (required course)	3
ELFH XXX	Elective (TBD by student and advisor - may be a course leading to additional certification)	
ELFH XXX	Elective (TBD by student and advisor - course may be outside of the College of Education)	
ELFH XXX	Elective (TBD by student and advisor - course may be outside of the College of Education)	

CARDS 9: EXIT ASSESSMENT

Students in the Ed.S. program will be required to complete an exit portfolio in their last semester of the program.

Minimum Total Hours for Ed.S.	30
*Minimum Total Hours for Rank I	60

*Completion of a Rank I program requires a minimum of 60 hours in approved program before 45 hours have been completed. For Rank I purposes, approved graduate hours at the Masters level may be counted to reach 60 hours, though some of those hours may not count toward certification. Students seeking Rank I simultaneously with this certification program must complete the appropriate form with the advisor. The advisor must approve electives/unnamed courses.

DEGREE PROGRAM COMPLETION REQUIREMENTS

1. A grade point average of 3.3 in all courses counting on this program.
2. Successful completion of a capstone in ELFH 782 at the completion of Level 1.
3. Successful completion of a program portfolio at the end of Level 2. Information about the portfolio is found in "Guidelines for Portfolio Completion Requirement," available from your advisor.

Certification requirements

1. The Education Professional Standards Board is responsible for issuing and renewing certificates for all Kentucky teachers and administrators. Candidates for principal certification must pass both the SLLA and the KYTP. These tests may be taken during the last semester of coursework for Level 1 Principal Certification. Current information about the Kentucky assessment program may be retrieved from www.kyepsb.net/assessment/principaltests.asp.
2. Completion of three (3) years of full-time teaching experience.

Departmental Faculty**Meera Alagaraja***Assistant Professor***Melissa Andris***Professor***Mathew Bergman***Instructor***Beth Bukoski***Assistant Professor***Roger Buskill***Instructor***Bradley Carpenter***Assistant Professor***Namok Choi***Professor***Phyllis Connelly***Assistant Professor***Denise Cumberland***Assistant Professor***Sherry Duffy***Instructor***Jacob Gross***Assistant Professor***W. Blake Haselton***Associate Professor*

Superintendent in Residence

Ann Herd*Assistant Professor***Amy Hirschy***Assistant Professor***Jason Immekus***Associate Professor***Kyle Ingle***Associate Professor***Gaetane Jean-Marie***Professor*

Department Chair

Tiffanie Lewis*Assistant Professor***Bridgette O. Pregliasco***Assistant Professor***Kevin Rose***Assistant Professor***Michael Rowland***Assistant Professor***Brad Shuck***Assistant Professor***James Stone***Professor***Jeffery Sun***Professor*

Doctor of Education in Educational Leadership and Organizational Development

Major: ELOD

Degree Awarded: Ed.D.

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/edd-elod>

Program Information

Distinctive Characteristics of Doctoral Programs in CEHD

I. Social Justice and Equity

Aligned with our mission, our students would build experience and expertise in the issues of social justice and equity. This theme would align with our metropolitan mission and that of student achievement.

II. Leadership

This area could be assisted by the Future Faculty/Future Leaders program. Leadership is a distinct focus in other programs in CEHD and the doctoral program should be no exception. In this component students would gain expertise in supervising and leading others to achieve organizational goals and missions, managing complex systems, addressing administrative issues and procedures, conducting research to enhance leadership and teaching others about the art of organizational leadership.

III. Practical Experience

The doctoral programs in CEHD will also contain practicums, internships, or embedded field experience that aligns both with their program studies and their career goals. These experiences are to be mentored and may include a number of the following areas: teaching; research, administration or other appropriate arenas.

IV. Scholarship/Research

The emphasis on scholarship would include experience and mentorship in ethics, publications, presentation, grantsmanship, and other forms of creative activity. The research component will be characterized by the development of vertical research teams: Senior faculty, junior faculty, doctoral students, masters' students, and in some programs, undergraduate students, working together on research projects and research areas. These might be bolstered by partnerships with local school districts, businesses, or community agencies.

The doctoral degree is granted in recognition of scholarly proficiency and distinctive achievement in a specific field/discipline. All candidates for a doctoral degree in the CEHD must successfully complete qualifying exams and a dissertation/professional portfolio that clearly indicates the candidate has mastered and can exhibit/articulate the content knowledge, skills and dispositions specific to their discipline, and can utilize appropriate research methodologies to contribute to the body of knowledge in their field.

Curriculum

60 Hour Program

Master's Degree prerequisite + 60 hours minimum: The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (33 hours minimum), <i>selected with Program Committee Approval</i>	30
ELFH 715 Advanced Organizational Theory	3
RESEARCH METHODOLOGY (27 hours minimum), selected with Program Committee Approval	
Statistics and Methodology I (<i>ELFH 601</i> or equivalent required)	3
Research Course to aid in the completion of the EdD Degree	3
Research Course to aid in the completion of the EdD Degree	3
RESEARCH ELECTIVES: e.g., <i>Field Survey Research, additional qualitative methodologies and/or quantitative methodologies. a,b</i>	
ELFH 777 Capstone for Education Doctorate Degree	12
MASTER'S DEGREE OR ELECTIVE COMPONENT Master's Degree comprises Elective component of program.	30
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours:	60

90 Hour Program

The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (42 hours minimum), <i>selected with Program Committee Approval</i>	39
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ELFH 715 Advanced Organizational Theory	3
RESEARCH METHODOLOGY (27 hours minimum), selected with Program Committee Approval	
Statistics and Methodology I (ELFH 601 or equivalent required)	3
Research Course to aid in the completion of the EdD Degree	3
Research Course to aid in the completion of the EdD Degree	3
RESEARCH ELECTIVES:	3
e.g., Field Survey Research, additional qualitative methodologies and/or quantitative methodologies. a,b	
ELFH 777 Capstone for Education Doctorate Degree	12
ELECTIVE COMPONENT selected with Program Committee Approval	21
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours:	90

Departmental Faculty

Meera Alagaraja
Assistant Professor

Melissa Andris
Professor

Mathew Bergman
Instructor

Beth Bukoski
Assistant Professor

Roger Buskill
Instructor

Bradley Carpenter
Assistant Professor

Namok Choi
Professor

Phyllis Connelly
Assistant Professor

Denise Cumberland
Assistant Professor

Sherry Duffy
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Associate Professor

Superintendent in Residence

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Assistant Professor

Amy Hirschy
Assistant Professor

Jason Immekus
Associate Professor

Kyle Ingle
Associate Professor

Gaetane Jean-Marie
Professor

Department Chair

Tiffanie Lewis
Assistant Professor

Bridgette O. Pregliasco
Assistant Professor

Kevin Rose
Assistant Professor

Michael Rowland
Assistant Professor

Brad Shuck
Assistant Professor

James Stone
Professor

Jeffery Sun
Professor

Doctor of Philosophy in Educational Leadership and Organizational Development

Major: ELOD

Degree Awarded: Ph.D.

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/phd-elod>

Program Information

The Doctor of Philosophy with an emphasis in Educational Administration/Educational Leadership and Organizational Development encompasses five specialties: P-12 Administration, Postsecondary Administration, Sport Administration, Human Resource Development, and Evaluation.

Distinctive Characteristics of Doctoral Programs in CEHD

I. Social Justice and Equity

Aligned with our mission, our students would build experience and expertise in the issues of social justice and equity. This theme would align with our metropolitan mission and that of student achievement.

II. Leadership

This area could be assisted by the Future Faculty/Future Leaders program. Leadership is a distinct focus in other programs in CEHD and the doctoral program should be no exception. In this component students would gain expertise in supervising and leading others to achieve organizational goals and missions, managing complex systems, addressing administrative issues and procedures, conducting research to enhance leadership and teaching others about the art of organizational leadership.

III. Practical Experience

The doctoral programs in CEHD will also contain practicums, internships, or embedded field experience that aligns both with their program studies and their career goals. These experiences are to be mentored and may include a number of the following areas: teaching; research, administration or other appropriate arenas.

IV. Scholarship/Research

The emphasis on scholarship would include experience and mentorship in ethics, publications, presentation, grantsmanship, and other forms of creative activity. The research component will be characterized by the development of vertical research teams; senior faculty, junior faculty,

doctoral students, masters' students, and in some programs, undergraduate students, working together on research projects and research areas. These might be bolstered by partnerships with local school districts, businesses, or community agencies.

The doctoral degree is granted in recognition of scholarly proficiency and distinctive achievement in a specific field/discipline. All candidates for a doctoral degree in the CEHD must successfully complete qualifying exams and a dissertation/professional portfolio that clearly indicates the candidate has mastered and can exhibit/articulate the content knowledge, skills and dispositions specific to their discipline and can utilize appropriate research methodologies to contribute to the body of knowledge in their field.

Curriculum

60 Hour Program

Master's Degree prerequisite + 60 hours minimum: The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (33 hours minimum), selected with Program Committee Approval	33
ELFH 715 Advanced Organizational Theory	3
RESEARCH METHODOLOGY (27 hours minimum), <i>selected with Program Committee Approval</i>	
Statistics and Methodology I (ELFH 601 or equivalent required)	3
Research Course to aid in the completion of the Ph.D. Degree	3
Research Course to aid in the completion of the Ph.D. Degree	3
Research Electives: e.g., <i>Field Survey Research, additional qualitative methodologies and/or quantitative methodologies.</i> ^{a,b}	
ELFH 777 Capstone for Education Doctorate Degree	12
MASTER'S DEGREE OR ELECTIVE COMPONENT <i>Master's Degree comprises Elective component of program. (30 hours)</i>	
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours	60

90 Hour Program

The Student and Committee must develop courses, programs and experiences that clearly identify and address the specific themes of Leadership, Scholarship, Social Justice and Equity. These areas of emphasis must have descriptive competencies that the student should attain and the Committee can assess.

SPECIALTY COMPONENTS (42 hours minimum), selected with Program Committee Approval	42
RESEARCH METHODOLOGY (27 hours minimum), selected with Program Committee Approval	
Statistics and Methodology I (ELFH 601 or equivalent required)	3
Statistics and Methodology II^b (ELFH 702 – Applied Multiple Regression)	3
Statistics and Methodology III (ELFH 703 - multivariate educational statistics)	3
Research Electives: e.g., Field Survey Research, additional qualitative methodologies and/or quantitative methodologies. ^{a,b}	6
Dissertation/Portfolio Research	12
ELECTIVE COMPONENT (21 hours Minimum), selected with Program Committee Approval	21
<i>a. Selected with Program Committee Approval within program guidelines/framework</i>	
<i>b. ELFH 600 may not be used for this course.</i>	
Minimum total hours	90

Departmental Faculty

Meera Alagaraja
Assistant Professor

Melissa Andris
Professor

Mathew Bergman
Instructor

Beth Bukoski
Assistant Professor

Roger Buskill
Instructor

Bradley Carpenter
Assistant Professor

Namok Choi
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Jason Immekus
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Kyle Ingle
Associate Professor

Gaetane Jean-Marie
Professor

Department Chair

Tiffanie Lewis
Assistant Professor

Bridgette O. Pregliasco
Assistant Professor

Kevin Rose
Assistant Professor

Michael Rowland
Assistant Professor

Brad Shuck
Assistant Professor

James Stone
Professor

Jeffery Sun
Professor

Master of Science in Exercise Physiology

Major: EXP

Degree Awarded: MS

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/ms-ep>

Program Information

General program information: Students who complete the Master of Science degree in Exercise Physiology are prepared to pursue a number of career options. Graduates from our program have continued their education by completing the Ph.D. degree in fields such as exercise physiology, physiology, biochemistry, and the M.D. Many students have pursued careers in allied health fields such as nursing and physical therapy as well as in such fields as aviation physiology, cardiac rehabilitation, corporate wellness, and ergonomics. Because many of our students seek to work in the fields of cardiac rehabilitation and corporate wellness, the curriculum is structured to satisfy the preliminary requirements for certification as “exercise technologists” or “exercise specialist” as set by the American College of Sports Medicine. The curriculum provides students the necessary knowledge base and course work to satisfy entrance into the certification process (which is under control of the American College of Sports Medicine and requires both a written and practical exam).

Program admission procedure: In order to be admitted unconditionally a student must have earned a grade-point average of at least 2.75 on a 4-point scale in their undergraduate program. A variety of undergraduate majors are acceptable, including exercise science, biology, chemistry, physiology, nursing, etc. In addition, the student must complete the application procedure as required by the School of Interdisciplinary and Graduate Studies. Students are expected to score a minimum of 293 (Verbal and Quantitative sections combined) and 4.0 on the Analytical section of the Graduate Record Exam. Students with a grade point standing below 2.75 may be admitted conditionally. Only under unusual circumstances will students with less than a 2.5 grade-point average be admitted to the program. Individuals who do not meet the 293 requirement on the GRE may still be admitted. Admission in such cases will be based on prior course work (including GPA in science classes), experience, three (3) letters of recommendation a resume, and a personal statement explaining interest in the program and long term objectives.

Curriculum

Thesis Option

The M.S. thesis option requires a minimum of 33 hours of course work, which includes six credits devoted to completion of the thesis. Students in this option are required to actively participate in all phases of research within the laboratory. The thesis program requires two full years of study including the summer between the first and second years. To complete the M.S. in Exercise Physiology, a minimum of 23 hours must be at the 600 level or above

First Year:*Fall*

EXP 501 Applied Exercise Physiology 3

EXP 601 Lab Methods in Exercise Physiology 3

EXP 605 Human Physiology 3

Spring

EXP 502 Principles of Exercise Testing & Prescription 3

EXP 600 Physiology of Exercise 3

ELFH 601 Applied Statistics 3 **OR**

HSS 604 Research Methods 3

Summer

EXP 604 Advanced Topics in Exercise Physiology 3

EXP 699 Thesis 1-6

Second Year:*Fall*

EXP 603 Seminar in Exercise Physiology 3

EXP 604 Advanced Topics in Exercise Physiology 3

EXP 699 Thesis 1-6

Spring

EXP 604 Advanced Topics in Exercise Physiology 3

EXP 699 Thesis 1-6

Minimum Total Hours 33**Non-Thesis Option**

The M.S. non-thesis option emphasizes the use of exercise as a clinical intervention. This option is heavily slanted toward improved cardiovascular health and cardiovascular rehabilitation through the use of exercise. Students in this option must complete a minimum of 36 hours of course work. The non-thesis program requires two full years of study including the summer between the first and second years.

First Year:*Fall*

EXP 501 Applied Exercise Physiology 3

EXP 601 Lab Methods in Exercise Physiology 3

EXP 605 Human Physiology 3

Spring

EXP 502 Principles of Exercise Testing & Prescription 3

EXP 600 Physiology of Exercise 3

EDFD 601 Applied Statistics	3
	OR
<i>Summer</i>	
HSS 604 Research Methods	3
EXP 604 Advanced Topics in Exercise Physiology	3
EXP 611 Principles of Electrocardiography	3
Second Year:	
<i>Fall</i>	
EXP 603 Seminar in Exercise Physiology	3
EXP 604 Advanced Topics in Exercise Physiology	3
<i>Spring</i>	
EXP 604 Advanced Topics in Exercise Physiology (OPTIONAL)	3
EXP 620 Clinical Internship	6
Minimum Total Hours	36

Thesis Option - Concentration in Strength and Conditioning

Core (24 hours)	
HSS 604 Research Methods in HSS OR	3
ELFH 601 Applied Statistics	3
EXP 501 Applied Exercise Physiology	3
EXP 502 Principles of Exercise Testing & Prescription	3
EXP 600 Physiology of Exercise	3
EXP 601 Laboratory Methods in Exercise Physiology	3
EXP 603 Seminar in Exercise Physiology	3
EXP 604 Advanced Topics in Exercise Physiology	3
EXP 605 Human Physiology	3
Strength and Conditioning Concentration Non-thesis option (10-15 hours)	
HSS 530 Nutrition and Athletic Performance	3
EXP 607 Neuromuscular Mechanics of Human Movement	3
EXP 608 Advanced Strength and Conditioning	3
EXP 699 Thesis	1-6
Minimum Total Hours	36-39

Non-thesis Option - Concentration in Strength and Conditioning

Core (24 hours)	
HSS 604 Research Methods in HSS OR	3
ELFH 601 Applied Statistics	3
EXP 501 Applied Exercise Physiology	3
EXP 502 Principles of Exercise Testing & Prescription	3

EXP 600 Physiology of Exercise	3
EXP 601 Laboratory Methods in Exercise Physiology	3
EXP 603 Seminar in Exercise Physiology	3
EXP 604 Advanced Topics in Exercise Physiology	3
EXP 605 Human Physiology	3
Strength and Conditioning Concentration Non thesis option (12-15 hours)	
EXP 530 Nutrition and Athletic Performance	3
EXP 607 Neuromuscular Mechanics of Human Movement	3
EXP 608 Advanced Strength and Conditioning	3
EXP 620 Exercise Physiology Clinical Internship	3
Minimum Total Hours	36-39

Departmental Faculty

Ann Swank, Ph.D.

Professor,

Interim Co-Chair,

Exercise Physiology Program

Director

Adrienne Bratcher, Ph.D.

Assistant Professor

M.S. Program Coordinator

Kathy Carter, M.S.

Instructor

Jessica Gibb, M.S.

Instructor

Michael Jett, M.S.

Instructor

Brock Symons, Ph.D.

Assistant Professor

Daniela Terson de Paleville,

Ph.D.

Assistant Professor

Gerald Zavorsky, Ph.D.

Associate Professor

Master of Arts in Teaching Health and Physical Education

Major: HPE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-hpe>

Program Information

The Master of Arts in Teaching Health and Physical Education degree provides Kentucky certification in grades P-12.

The Departments of [Teaching and Learning](#) and [Health and Sport Sciences](#) are committed to the highest standards of professional preparation. Our programs have sought and received national accreditation from the National Council for Accreditation of Teacher Education. Graduates of initial teacher certification programs at the University of Louisville begin their teaching careers secure in the knowledge that they have been prepared for the real world of classrooms through a rigorous teacher preparation program.

The degree offers school-based methods in the fall semester (August-December) in health and physical education for grades P-12. During the spring semester candidates complete 14 weeks of student teaching at the elementary and secondary levels, a weekly seminar class and an action research project. The program's schedule coincides with that of the public schools. Candidates progress through the program in a cohort group. The program is full-time and classes are offered only during the day.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Admission to Teacher Education. Minimum undergraduate degree GPA of 2.75, Minimum GRE scores as required by EPSB; Praxis II content exam registration and/or scores; three letters of recommendation; professional statement; Bachelor's degree with major in content area or appropriate prerequisite courses; "C" or higher in English 102 and oral communication course.

HSS 605	Teaching and Learning for Elementary Physical Education	6
HSS 606	Teaching and Learning for Secondary Physical Education	6
HSS 609	Methods in Practical Living: Health	6

Mid-point assessment: Prior to Student Teaching: All content methods classes listed above passed with a cumulative 3.0 GPA; Positive recommendation from the Health and Physical Education Program Committee (includes assessment and mid-point portfolio).

HSS 611 Seminar in Student Teaching in Health and Physical Education	3
HSS 612 Student Teaching in Health Physical Education I *	6
HSS 613 Student Teaching in Health Physical Education II *	6
HSS 614 Action Research Project	3
HSS 615 Student Teaching in Health Education	4
Minimum total hours	36

**These courses are the exit requirements for this program. Includes Teacher Certification in P-12 Health and Physical Education*

Certification Assessment: After Student Teaching: Satisfactory dispositions assessment; All certification course work completed with 2.5 cumulative GPA; 2.5 cumulative GPA in content course requirements; 2.0 GPA or higher in each student teaching; Satisfactory certification portfolio; Passing scores on PRAXIS content and PLT exams; Positive recommendation from Health and Physical Education Program Committee.

Degree Assessment: Satisfactory dispositions assessment; All program course work with 3.0 cumulative gpa (and no more than a total of two “C’s” in degree courses); satisfactory degree portfolio.

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog Academic Policies, Procedures, and Requirements.”

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.ets.org.praxis/ky for current requirements.

Departmental Faculty

Stefanie C. Wooten Burnett
Instructor
Physical Education Program
Director

Cody Hinton, MAT
Instructor
Cheryl A. Kolander, PhD
Professor
School Health Program
Coordinator

Dylan Naeger, M.S.
Instructor
Carla Vidoni
Assistant Professor

Master of Arts in Higher Education

Major: HED

Degree Awarded: MA

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/ma-he>

Program Information

This program is designed for students who wish to qualify for college administrative positions. It does not qualify graduates for Kentucky administration certification. This degree is also available for distance education through on-line instruction.

Program Admission Procedure

- Evidence of a Bachelor's Degree and 2.75 cumulative grade point average (GPA).
- Transcripts of all undergraduate and graduate work.
- General test scores on the Graduate Record Examination (GRE) of 800 (verbal + quantitative) taken prior to August 1, 2011.
- Two letters of recommendation.
- Department committee reviews application materials and makes recommendation to School of Interdisciplinary and Graduate Studies.

Curriculum

General Requirements (3 hours)

ELFH 600 Introduction to Research Methods and Statistics 3

Professional Area (15 hours)

ELFH 607 Principles of Educational Leadership (for higher Education) 3

ELFH 678 The American College and University 3

ELFH 680 Legal Issues -- Postsecondary 3

ELFH 681 Philosophy of Higher Education 3

ELFH 682 Organization and Administration of Higher Educational Institutions 3

ELFH 683 College Students in the U.S. 3

ELFH 684 Educational Resource Management in Postsecondary Education 3

ELFH 694 Diversity and Higher Education 3

Electives (approved by advisor) (6 hours) 6

Exit Requirements (3 or 4 hours)

ELFH 690 Internship in Postsecondary Education 3

Minimum total hours 36

Concentration in Sport Administration

Professional Area

ELFH 607 Principles of Educational Leadership	3
ELFH 620 Legal Issues in Education	3
EDFH 682 Organ. & Admin. of Higher Educ. Institutions	3
EDFH 600 Introduction to Research Methods & Statistics	3
EDFD 680 The American College and University OR	3
EDFD 681 The Philosophy of Higher Education	3
SPAD 625 Sport Administration	3

Specialization Area

SPAD 618 Rise of the Sport System in America OR	3
SPAD 680 Athletic in Higher Education	3
SPAD 505 Sport Facility Management OR	3
HSS 575 Administration of P.E. Programs & Athletics	3
SPAD 684 Current Trends & Issues in Sport Administration	3
SPAD Elective as approved by the advisor	3

Exit Requirements, 4-6 hours

ELFH 699 Thesis or Professional Paper OR	3
SPAD 692 Internship in Sport Administration	6

Minimum total hours **31-33**

Departmental Faculty

Meera Alagaraja

Assistant Professor

Melissa Andris

Professor

Mathew Bergman

Instructor

Beth Bukoski

Assistant Professor

Roger Buskill

Instructor

Bradley Carpenter

Assistant Professor

Namok Choi

Professor

Phyllis Connelly

Assistant Professor

Denise Cumberland

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Jason Immekus

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Kyle Ingle

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Gaetane Jean-Marie

Professor

Department Chair

Tiffanie Lewis

Assistant Professor

Bridgette O. Pregliasco

Assistant Professor

Kevin Rose

Assistant Professor

Michael Rowland

Assistant Professor

Brad Shuck

Assistant Professor

James Stone

Professor

Jeffery Sun

Professor

Master of Science in Human Resources and Organization Development

Major: HRE

Degree Awarded: MS

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/ms-hrod>

Program Information

This program educates professionals who lead workplace performance, development, and learning through discovery and critical inquiry. Students and graduates work in corporations, government agencies, health-care organizations, the military, non-profit organizations, education institutions, and community-based groups.

The program has three concentrations which emphasize various aspects of this field:

- Health Professions Education - Education, learning, leadership, and organization change for health-care settings.
- Human Resource Leadership - Strategic and tactical human resource leadership for generalists and specialists.
- Workplace Learning and Performance - Learning, training, performance improvement, and instructional design in organizational settings.
- Career and Technical Education - Performance development and learning in career and technical education through discovery and critical inquiry.

Curriculum

Concentration in Health Professions Education

Program Purpose: To prepare professionals who lead performance, development, and learning in the health professions through discovery and critical inquiry. Students may also apply for the Health Professions Education Certificate after completion of the 12-hour concentration in Health Professions Education.

Initial Assessment:

- Admission to the School of Interdisciplinary and Graduate Studies
- GRE Completed
- Attended mandatory program orientation
- Program Competency Self-Assessment
- Approved by Faculty Committee

Curriculum

Core Courses (18-21 hours)

ELFH 617 Evidence Based Research in HROD	3
ELFH 616 HROD Integrative Capstone OR	3-6
ELFH 699 Thesis (requires 36 hours total)	3
ELFH 605 Leadership in HROD	3
ELFH 614 Program and Organization Evaluation	3
ELFH 661 Adult and Organizational Learning	3
ELFH 662 Organizational Analysis	3

Concentration: Health Professions Education (12 hours)

ELFH 671 Performance Improvement	3
ELFH 672 Instructional Design and Development	3
ELFH 673 E-Learning Design and Development	3
ELFH 675 Teaching and Learning in Health Professions Education	3

Elective (3 hours)

ELFH 684 Organizational Change and Consulting	3
ELFH 612 Talent Acquisition and Management	3

Minimum total (33-36 hours)

Midpoint Assessment: Successful progress on Hallmark Assessment Rubrics, as determined by faculty advisor

Exit Assessment: Competency Self-Assessment/Reflection, Program Portfolio and Integration of Research, Theory, and Practice or Thesis

Degree Assessment:

- A minimum of 33 hours with an overall grade point average of 3.0, and no more than 2 grades of C.
- Satisfactory completion of Program Portfolio.

Concentration in Human Resource Leadership

Program Purpose: To prepare professionals who lead people, performance, development, and learning through discovery and critical inquiry.

Initial Assessment:

- Admitted to the School of Interdisciplinary and Graduate Studies
- GRE completed
- Attended mandatory program orientation
- Program Competency Self-Assessment

- Approved by Faculty Committee

Curriculum

Core Courses (18-21 hours)

ELFH 617 Evidence Based Research in HROD	3
ELFH 616 HROD Integrative Capstone OR	3-6
ELFH 699 Thesis (requires 36 hours total)	3
ELFH 605 Leadership in HROD	3
ELFH 614 Program and Organization Evaluation	3
ELFH 661 Adult and Organizational Learning	3
ELFH 662 Organizational Analysis	3

Concentration (15 hours)

ELFH 611 Strategic Human Resources	3
ELFH 612 Talent Acquisition and Management	3
ELFH 631 Performance Management and Rewards	3
ELFH 664 Organizational Change and Consulting	3
ELFH 671 Performance Improvement	

Minimum total (33-36 hours)

Midpoint Assessment: Successful progress on Hallmark Assessment Rubrics, as determined by faculty advisor

Exit Assessment: Competency Self-Assessment/Reflection, Program Portfolio and Integration of Research, Theory, and Practice or Thesis.

Degree Assessment:

- A minimum of 33 hours with an overall grade point average of 3.0, and no more than 2 grades of C.
- Satisfactory completion of Program Portfolio.

Concentration in Workplace Learning and Performance

Program Purpose: To prepare professionals who lead performance, development, and learning through discovery and critical inquiry.

Initial Assessment:

- Admitted to the School of Interdisciplinary and Graduate Studies
- GRE Completed
- Attended mandatory program orientation
- Program Competency Self-Assessment

- Approved by Faculty Committee

Curriculum

Core Courses (18-21 hours)

ELFH 617 Evidence Based Research in HROD	3
ELFH 616 HROD Integrative Capstone OR	3-6
ELFH 699 Thesis (requires 36 hours total)	3
ELFH 605 Leadership in HROD	3
ELFH 614 Program and Organization Evaluation	3
ELFH 661 Adult and Organizational Learning	3
ELFH 662 Organizational Analysis	3

Concentration (12 hours)

ELFH 611 Strategic Human Resources	3
ELFH 664 Organizational Change and Consulting	3
ELFH 671 Performance Improvement	3
ELFH 672 Instructional Design and Development	3

Elective (3 hours)

ELFH 641 Graduate Seminar	3
ELFH 663 Methods of Facilitation	
ELFH 673 E-Learning Design and Development	3

Minimum total (33-36 hours)

Midpoint Assessment: Successful completion on Hallmark Assessment Rubrics, as determined by faculty advisor

Exit Assessment: Competency Self-Assessment/Reflection, Program Portfolio and Integration of Research, Theory, and Practice or Thesis

Degree Assessment:

- A minimum of 33 hours with an overall grade point average of 3.0, and no more than 2 grades of C.
- Satisfactory completion of Program Portfolio.

Concentration in Career and Technical Education

Program Purpose: To prepare professionals who lead performance, development, and learning in career and technical education through discovery and critical inquiry.

Initial Assessment:

- Admitted to School of Interdisciplinary and Graduate Studies
- GRE Completed
- Attended mandatory program orientation
- Program Competency Self-Assessment
- Approved by Faculty Committee

Curriculum

Core Courses (18-21 hours)

ELFH 617	Evidence Based Research in HROD	3
ELFH 616	HROD Integrative Capstone OR	3-6
ELFH 699	Thesis (requires 36 hours total)	
ELFH 605	Leadership in HROD	3
ELFH 614	Program and Organization Evaluation	3
ELFH 661	Adult and Organizational Learning	3
ELFH 662	Organizational Analysis	3

Concentration: Career and Technical Education (12 - 15 hours)

ELFH 510*	Teaching Career and Technical Education (req for NTI only)	3
ELFH 663*	Methods of Facilitation*	3
ELFH 672*	Instructional Design and Development	3
ECPY 507*	Learning Theory and Human Growth and Development* OR	3
ECPY 607*	Learning Theory and Human Growth and Development* OR	3
ECPY 540*	Introduction to the Exceptional Child* OR	3
ECPY 545*	Exceptional Children in the Regular Classroom*	3
ELFH 641	Seminar in Workforce Development	3

Elective (3 hours)

ELFH 607	Principles of Educational Leadership for Higher Education	3
ELFH 673	E-Learning Design and Development	3
ELFH 684	Educational Resource Management in Post-secondary Education	3
ELFH 686	The Two-Year College	3

Minimum total 33-36 hours

*Courses designed as KY CTE Teacher 64-hour rank change certification requirements; ELFH 540 is designed for New Teaching Institute (NTI) students only.

Midpoint Assessment: Successful progress on Hallmark Assessment Rubrics, as determined by faculty advisor.

Exit Assessment: Competency Self-Assessment/Reflection, Program Portfolio, and Integration of Research, Theory, and Practice or Thesis.

Degree Assessment:

- A minimum of 33 hours with an overall grade point average of 3.0, and no more than 2 grades of C.
- Satisfactory completion of Program Portfolio.

Departmental Faculty

Meera Alagaraja, Ph.D.

Assistant Professor

Mathew Bergman, Ph.D.

Instructor

Denise Cumberland, Ph.D.

Assistant Professor

Ann Herd, Ph.D.

Assistant Professor

Jason Immekus, Ph.D.

Associate Professor

Kevin Rose, Ph.D.

*Scholar-Practitioner in
Residence*

Michael Rowland, Ph.D.

Assistant Professor

Health Professions Education

Program Coordinator

Joint Appointment with the

School of Medicine

Brad Shuck, Ed.D.

Assistant Professor

James Stone, Ed.D.

Professor

Master of Education in Instructional Technology

Major: IT

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-it>

Program Information

Initial Requirements:

1. Teaching certification in P-12 Area.
2. Admission to the School of Interdisciplinary and Graduate Studies
3. Admission to M.Ed. in Instructional Technology program (which requires completion of EDAP 585: Introduction to Educational Technology with B+ or higher or equivalent course/experience).
4. Meeting with faculty advisor to discuss Kentucky Experienced Teacher Standards, UofL Program Themes, Conceptual Framework, and ISTE Technology Facilitation Standards.

Curriculum

CARDS 4 (Entry Assessment): Admission to the School of Interdisciplinary and Graduate Studies and to the Instructional Computer Technology program; Self-Assessment on Kentucky Guide to Reflective Classroom Practice; Professional Growth Plan.

Research (3 hours)

ELFH 600 Introduction to Research Methods and Statistics **OR** 3

EDAP/EDSP 639 Education Research in the P-12 Setting 3

Leadership (6 hours) Instructor Permission required

EDAP 677 Teacher Leadership: Mentoring and Coaching 3

EDAP 607 Teacher Leadership in Practice 3

Area of Emphasis (15 hours)

EDAP 688 Designing a Technology Integrated Curriculum ¹ 3

EDAP 690 Teaching with Multimedia Tools ¹ 3

EDAP 587 Teaching and Learning Online ¹ 3

EDAP 687 Literacy, Teaching and Technology 3

EDAP 585 Introduction to Education Technology: Integrating Technology into Instruction 3

Successful completion of 15 hours of Instructional Computer Technology coursework; self-assessment on Standards 1-4 of the Scored acceptable or target on Rubrics for Advanced Candidates (by advisor); acceptable Dispositions assessment, minimum GPA of 3.0.

Electives (6 hours)

EDAP 601 Teaching with Emerging Technologies	3
EDSP 618 Instructional Technology for Students with Special Needs	3
EDSP 689 Using the Internet in P12 Teaching	3

Other courses, as approved by advisor

CARDS 6 (Exit Assessment): Successful completion of all required coursework, updated and revised Professional Growth Plan, final self-assessment on all standards of the *Kentucky Guide to Reflective Practice*. Scored acceptable or target on Rubrics for Advanced Candidates (by faculty advisor)

Minimum total hours **30**

1 Denotes Courses that are required for the endorsement.

Mid-Point Assessment:

Review program on KY Experienced Teacher Standards, UofL Program Themes, Conceptual Framework, and ISTE Technology Facilitation Standards (2002); half of required KETS and ISTE Technology Facilitation standards and indicators met within portfolio work.

Degree Assessment: Minimum GPA of 3.0; no grade lower than "C", acceptable portfolio.

Endorsement Assessment:

1. All endorsement coursework completed.
2. No lower than 3.0 GPA in endorsement courses and no credit accepted for grade lower than C.
3. Review of Portfolio which includes Post-Program Self-Assessment.

Departmental Faculty

Jennifer Bay-Williams

Professor

Chair of Middle/Secondary
Education Department

Debra Bauder

Associate Professor

Peggy Brooks

Instructor

Coordinator of the Kentucky
Teacher Internship Program

Sherri Brown

Associate Professor

Assistant Chair of Early
Childhood/Elementary
Education Department

William Bush

Professor

Director of Center for

Research in Mathematics and
Science Teacher Division

James Chisholm

Assistant Professor

Justin Cooper

Assistant Professor

Ginevra Courtade

Associate Professor

Tammy Davis

Instructor

Monica Delano

Associate Professor

Director Doctoral Program

John Finch

Instructor

Penny Howell

Associate Professor

Jill Jacobi-Vessels

Assistant Professor

Pam Jett

Instructor

Karen Karp

Professor

Diane Kyle

Professor

Chair of Early Childhood/
Elementary Education

Department

Timothy Landrum

Professor

Chair of Special Education

Ann Larson
Professor, Dean

Amy Lingo
Associate Professor

Maggie McGatha
Associate Professor

Lori Norton-Meier
Associate Professor

Robert Pennington
Assistant Professor

Susan Peters
Assistant Professor

Bob Ronau
Professor

Terry Scott
Professor

Caroline Sheffield
Assistant Professor

Melissa Shirley
Assistant Professor

Thomas Simmons
Associate Professor

Steve Swan
Instructor

Director of Instructional
Technology Program

Shelley Thomas
Associate Professor

Thomas Tretter
Professor

Director of Gheens Science
Hall and Rauch Planetarium

Ingrid Weiland
Assistant Professor

Kathryn Whitmore-Barten
Endowed Chair, Early

Childhood Education
Director, Early Childhood

Research Center

Jean Wolph
Instructor

Director of Louisville
Writing Project

Master of Arts in Teaching in Interdisciplinary Early Childhood Education

Major: IECE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-iece>

Program Information

Interdisciplinary Early Childhood Education Birth to Primary Teacher Certification Program

The IECE program emphasizes in-depth academic preparation and field experiences that allow teachers to be knowledgeable about the field of early childhood/special education and to develop critical thinking and lifelong learning skills. The program emphasizes:

- Nurturing students as active agents in their own learning
- Authentic, performance-based assessment of teaching and learning
- Meeting the needs of all students
- Responding constructively to socio-cultural differences among students

The program prepares students interested in working with children from birth to age 5 in a wide variety of settings—day care centers, public and private preschools, community programs, and clinics. This program gives students authentic experiences with infants, toddlers, and preschool children in the areas of curriculum development, typical and atypical child development, programs and services for children and their families, family involvement and intervention, screening and assessment, program administration, current topics, and practicum/action research.

The goals of this program include:

- IECE Teacher Certification
- Preparation of teachers for the education of typical and atypical children in different settings
- Provide background information on Kentucky Child Learning and Assessment Standards

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education. Minimum undergraduate degree GPA 2.75, Minimum GRE scores as required by EPSB; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admission Guidelines; Bachelor's degree; "C" or higher in English 102 and oral communication; interview.

EDTP 527	Inquiry into Early Childhood Education and Child Development	3
EDTP 532	Curriculum and Methods in Early Childhood Education	3
EDTP 533	Curriculum and Methods in Early Childhood Special Education	3
EDTP 536	Theories of Play	3
EDTP 537	Infant/Toddler Development and Care	3
EDTP 635	Administration and Consultations: Day Care and Early Childhood Education	3
EDTP 641	Interdisciplinary Content Methods in Early Childhood Education	3
EDSP 684	Family Dynamics and Early Interventions in IECE	3
EDSP 683	Early Childhood/Special Education Screening	3

Mid-Point Assessment: Prior to Student Teaching: No lower than 2.0 in EDTP 641; successful completion of all courses listed above except EDSP 684; Positive recommendation from Program Committee (including assessment of dispositions and mid-program portfolio). Electronic documentation of 200 hours of diverse and approved field experiences.

EDTP 614	Student Teaching (Birth to Primary)	3
EDTP 615	Student Teaching (Primary)	3

Minimum total hours: **36**

Certification Assessment: After Student Teaching: Satisfactory dispositions assessment, 2.0 or higher in student teaching, satisfactory certification portfolio, passing scores on required PRAXIS exams, positive recommendation from ECEE Program Committee.

Degree Assessment: Satisfactory dispositions assessment, all program course work with 3.0 cumulative GPA (and no more than a total of two "C's" in degree courses, satisfactory degree portfolio).

Degree Candidacy: If not enrolled during the semester in which you are graduating, you will need to register for a degree candidacy as outlined in the graduate catalog under the section called academic policies and requirements.

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or www.ets.org/praxis.ky for current requirements.

Departmental Faculty

Sherri Brown

Associate Professor

Director Early Childhood
and Elementary Program

Betty Doyle

Instructor

Jill Jacobi-Vessels

Assistant Professor

Diane Kyle

Professor

Department Chair

Lori Norton-Meier

Professor

Kathryn Whitmore-

Barten

Endowed Chair in Early

Childhood Education

Director, Early Childhood
Research Center

Dianna Zink

Instructor

Director of the Early
Learning Campus

Alternative Route to 5-9 Certification in Middle School

Major: MSED

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-ac>

Program Information

The Alternative Certification program is designed to assist local school districts in meeting the demand for qualified teachers in high need content areas. The program provides candidates with an opportunity to pursue initial teacher certification while working as a full time teacher on a temporary provisional license.

Employment is not required for initial acceptance to the program. However, candidates must be employed in a Kentucky-accredited school by the start of the school year in order to continue in the program. This program is a two year, 30 credit hour program resulting in initial teacher certification and a Master of Arts in Teaching degree.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; employment as a full-time temporary provisional teacher; passing scores on Content Praxis II exams; minimum undergraduate GPA of 2.75; minimum GRE scores as required by EPSB; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree in content area or prerequisite content courses; "C" or higher in English 102 and oral communication course; and acceptable interview.

EDTP 631 Integrated Teaching and Learning I	3
EDTP 632 Integrated Teaching and Learning II	3
<u>Choose one from the following courses</u> (3 hours)	
EDTP 607 Middle School Language Arts Methods OR	3
EDTP 608 Middle School Math Methods OR	3
EDTP 609 Middle School Science Methods OR	3
EDTP 610 Middle School Social Studies Methods OR	3
EDTP 633 Integrated Teaching and Learning III	3
EDTP 627 Practicum for Alternative Certification	3

Mid-Point Assessment: Completion of all courses listed above; satisfactory dispositions assessment; no lower than 2.0 in content methods class(es); 2.0 or higher in Practicum for

Alternative Certification. 2.50 cumulative GPA in content course requirements; passing score on 5-9 PLT PRAXIS exam; satisfactory midpoint teacher performance assessment (TPA); positive recommendation from Middle/Secondary Program Committee.

EDTP 503 Developing Cross-Cultural Competence	3
Choose the technology course appropriate for your content certification area:	3
EDTP 581 Technology Applications for Math Teachers (Math) OR	
EDTP 582 Technology Applications for Science Teachers (Science) OR	
EDTP 580 Digital Citizenship (English, Social Studies)	
EDTP 620 Reading and Writing Across the Curriculum	3
EDTP 678 Supporting the Intern Teacher I	3
EDTP 679 Supporting the Intern Teacher II	3
Minimum total hours	30

Content courses remaining to complete certification requirements:

To maintain your Temporary Provisional Certificate, you MUST be enrolled in Alternative certification coursework.

Certification Assessment: Satisfactory dispositions assessment; satisfactory certification teacher performance assessment (TPA). Passing score on 5-9 PLT PRAXIS exam; must pass KTIP.

Degree Assessment: Satisfactory dispositions assessment; all program course work with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses). Satisfactory Alternative Certification degree teacher performance assessment (TPA).

Degree Candidacy: If not enrolled during the semester in which you are graduating, you will need to register for a degree candidacy as outlined in the Graduate Catalog, http://louisville.edu/graduatecatalog/toc#Academic_Policies, under the section called academic policies and requirements.

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.org or <http://www.ets.org/praxis.ky> for current requirements.

Departmental Faculty

Jennifer Bay-Williams

*Professor, Mathematics
Education*

Chair of Middle/Secondary
Education Department

Peggy Brooks

*Instructor
KTIP Coordinator*

William S. Bush

*Professor
Director of Center for
Research in Mathematics and
Science Teacher
Development*

Janet Calvert

*Instructor
Coordinator of Alternative
Certification Program*

James Chisholm

Assistant Professor

Betty Doyle

Instructor

Maxine Elliott

*Coordinator Field and
Clinical Experiences*

John Finch

Instructor

Penny Howell

*Assistant Professor, Literacy
and Middle Grades
Education*

Pam Jett

Instructor

Ann Larson

*Professor, English Education
Dean*

Maggie McGatha

Associate Professor

Danna Morrison

*Instructor
Coordinator of Field &
Clinical Placement*

Susan Peters

*Assistant Professor,
Mathematics Education*

Caroline Sheffield

*Assistant Professor, Social
Studies Education*

Melissa Shirley

*Assistant Professor, Science
Education*

Steve Swan

*Instructor
Director of Instructional
Technology Program;
Instructional Technology and
Special Education*

Shelley Thomas

*Associate Professor, Social
Studies Education*

Thomas Tretter

*Professor
Director, Ghens Science
Hall Rauch Planetarium,
Science Education*

Ingrid Weiland

*Assistant Professor, Science
Education*

Jean Wolph

*Instructor
Director, Louisville Writing
Project*

Master of Education in Literacy

Major: LITEMED

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-re>

Program Information

The M.Ed. in Literacy with Literacy Specialist P-12 Endorsement is designed for certified teachers who plan to seek a master's degree. The program was designed in collaboration with P-12 classroom teachers, district specialists, and university faculty for preparing reading specialists/literacy coaches. The program leads to a Kentucky "Literacy Specialist P-12" endorsement.

Program Highlights include:

- Prepares candidates to become reading specialists (work with students who are struggling readers) as well as literacy coaches (work with adults to advance literacy school-wide)
- Meets the International Reading Association Standards for Reading Professionals (2010)
- Has a strong emphasis on the balance among knowledge, skills, and strategies
- Prepares candidates to work with students in literacy from birth through grade 12
- Uses the Common Core Standards as a guide
- Is taught by nationally recognized faculty in collaboration with practitioners
- Focuses on meeting the needs of diverse learners
- Emphasizes coaching and mentoring colleagues
- Places your classroom and school as the focus of course discussions and assessment

Curriculum

CARDS 4 (Entry Assessment): Admission to School of Interdisciplinary and Graduate Studies and to the M.Ed. in Literacy program; Self-Assessment on *The Kentucky Guide to Reflective Classroom Practice*; Professional Growth Plan; must hold a valid teaching certificate and 3 years of full-time teaching experience.

Research (3 hours)

EDAP 639 Education Research in the P-12 Setting 3

Teaching Reading Core (15 hours) (9 hours should be completed before EDAP 615/CARDS 5)

EDAP 610 Literacy Research and Theory 3

EDAP 636 Advanced Reading Methods 3

EDAP 642 Literacy Learning and Cultural Differences 3

EDAP 678 Language Knowledge and Acquisition 3

EDAP 615 Measurement and Diagnosis of Literacy 3

CARDS 4 (Mid-point Assessment--after at least 9 hours)

Successful completion of 9 hours Teaching Reading Core; IRA Standards Midpoint Portfolio (to be completed and assessed in EDAP 615); self-assessment on standards 1-4 of *The Kentucky Guide to Reflective Classroom Practice*. Scored acceptable or target on Rubrics for Advanced Candidates (by advisor); acceptable Dispositions assessment; minimum GPA of 3.0

Reading Specialist/Literacy Coach Focus (15 hours)

EDAP 614 Supporting Struggling Readers and Writers	3
EDAP 693 Teaching Writing P-12	3
EDAP 641 Literacy Leadership and School-wide Planning	3
EDAP 618 Practicum in Literacy: Reading Specialist	3
EDAP 679 Practicum in Literacy: Literacy Coach	3
Elective (to be approved by advisor) 3 hours	3
Minimum total hours	36

CARDS 6 (Exit Assessment):

Successful completion of all required coursework; completed IRA Standards Portfolio (to be assessed by advisor); updated and revised Professional Growth Plan; final self-assessment on all standards of *The Kentucky Guide to Reflective Classroom Practice*. Scored acceptable or target on Rubrics for Advanced Candidates (by advisor). Praxis for Reading Specialist (#0300) with acceptable KY cut off score. At least 3 years of teaching experience is required to be eligible for the Literacy Specialist Endorsement.

Notes

1. Transfer credit must be officially accepted by the advisor--final acceptance is dependent upon receipt of official transcripts.
2. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree (upon approval of advisor)
3. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C".

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog, "Academic Policies, Procedures, and Requirements".

Departmental Faculty

Tammi Davis

Instructor

Penny Howell

Assistant Professor

Pam Jett

Instructor

Diane Kyle

Professor

Chair of Early

Childhood/Elementary

Education Department

Ann Larson

Professor

Dean

Lori Norton-Meier

Professor

Program Director of Reading

Program

Kathryn Whitmore-Barten

Endowed Chair in Early

Childhood Education

Director, Early Childhood

Research Center

Jean Wolph

Instructor

Director of Louisville

Writing Project

Master of Arts in Teaching in Middle School Education

Major: MSED

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-mse>

Program Information

The MAT in Middle School Education enables graduate students to earn their initial teaching certification for Kentucky in the content areas of English, Mathematics, Science or Social Studies. Teacher candidates learn to teach through instruction in pedagogy, child development, special education, technology and diversity. The program integrates field experiences that align both with program studies and professional education career goals.

Curriculum

Single Content Area Certification

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education. Minimum undergraduate degree GPA 2.75; minimum GRE scores as required by EPSB; Praxis II content exam registration and/or scores; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree with major in content area or appropriate prerequisite courses; "C" or higher in English 102 and oral communication; acceptable interview.

*EDTP 602	Exploring Teaching Within the Socio-Cultural Context of P-12 Schools	3
*ECPY 607	Learning Theory and Human Growth and Development	3
*EDTP 501	General Methods	3

NOTE: The above three courses must be taken prior to either of the next 2 courses

Choose one from that following courses (3 hours)

*EDTP 607	Middle School Language Art Methods ³	3
*EDTP 608	Middle School Math Methods ³	3
*EDTP 609	Middle School Science Methods ³	3
*EDTP 610	Middle School Social Studies Methods ³	3
*EDSP 545	Exceptional Child in the Regular Classroom ³	3

Mid-Point Assessment: Prior to Student Teaching: Satisfactory dispositions assessment; no lower than 2.0 GPA in content methods class; within 3 credits of meeting content requirements.

ECPY 607 and EDTP 501, 602, and content method course passed; satisfactory mid-point teacher performance assessment (TPA); positive recommendation from Middle/Secondary Program Committee; electronic documentation of 200 hours of diverse and approved field experiences.

*EDTP 617	Student Teaching: Middle School	6
*EDTP 677	Capstone Seminar: Initial Certification ²	3

Certification Assessment: After Student Teaching: Satisfactory dispositions assessment; all certification course work* completed with 2.5 cumulative GPA; 2.5 cumulative GPA in content course requirements. 2.0 or higher GPA in student teaching; satisfactory certification teacher performance assessment (TPA); passing scores on PRAXIS content and PLT exams; positive recommendation from Middle/Secondary Program Committee.

EDTP 503	Developing Cross-Cultural Competence ¹	3
EDTP 620	Reading and Writing Across the Curriculum/Adolescent Literature ¹	3
<u>Choose the technology course ¹ appropriate for your content certification area:</u>		
EDTP 580	Digital Citizenship (English, Social Studies, Business, World Lang)	3
EDTP 581	Technology Applications for Mathematics Teaching	3
EDTP 582	Technology Applications for Science Teaching	3

¹ Can be taken at any point in the program.

² Must be taken concurrent with student teaching.

³ Must be taken concurrently.

Minimum total hours **36**

Degree Assessment: Satisfactory dispositions assessment; all program course work with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses); satisfactory certification teacher performance assessment (TPA).

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the graduate catalog "Academic Policies, Procedures, and Requirements".

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or <http://www.ets.org/praxis.ky> for current requirements.

Double Area Certification

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; minimum undergraduate degree GPA of 2.75; minimum GRE scores as required by EPSB; Praxis II content exam registration and/or scores; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User

Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree with major in content area or appropriate prerequisite courses; "C" or higher in English 102 and oral communication course; acceptable interview.

*EDTP 602	Exploring Teaching Within the Socio-Cultural Context of P-12 Schools	3
*ECPY 607	Learning Theory and Human Growth and Development	3
*EDTP 501	General Methods	3
(NOTE: The above three courses must be taken prior to either of the next 2 courses)		
<u>Choose two from the following courses</u> (6 hours)		6
*EDTP 607	Middle School Language Art Methods	
*EDTP 608	Middle School Math Methods	
*EDTP 609	Middle School Science Methods	
*EDTP 610	Middle School Social Studies Methods	
*EDSP 545	Exceptional Child in the Regular Classroom	

Mid-Point Assessment: Prior to Student Teaching: Satisfactory dispositions assessment; no lower than 2.0 GPA in either content methods classes; within 3 credits of meeting content requirements; ECPY 607 and EDTP 501, 602, and content methods courses passed; satisfactory mid-point teacher performance assessment (TPA); positive recommendation from Middle/Secondary Program Committee; electronic documentation of 200 hours of diverse and approved field experiences.

*EDTP 617	Student Teaching: Middle School	6
*EDTP 677	Capstone Seminar: Initial Certification ²	3

Certification Assessment: After Student Teaching: Satisfactory dispositions assessment; all certification course work* completed with 2.5 cumulative GPA. 2.5 cumulative GPA in content course requirements. 2.0 GPA or higher in each student teaching. Satisfactory certification teacher performance assessment (TPA); passing scores on PRAXIS content and PLT exams; positive recommendation from Middle/Secondary Program Committee.

EDTP 503	Developing Cross-Cultural Competence ¹	3
EDTP 620	Reading and Writing Across the Curriculum/Adolescent Literature ¹	3
Choose the technology course ¹ appropriate for your content certification area:		
EDTP 580	Digital Citizenship (English, Social Studies, Business, World Lang)	3
EDTP 581	Technology Applications for Mathematics Teaching	
EDTP 582	Technology Applications for Science Teaching	

¹ Can be taken at any point in the program

² Must be taken concurrent with student teaching.

³ Must be taken concurrently.

Minimum total hours **36**

Content courses remaining to complete certification requirements:

Degree Assessment: Satisfactory dispositions assessment; all program course work completed with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses); satisfactory teacher performance assessment (TPA).

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog.

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or <http://www.ets.org/praxis.ky> for current requirements.

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*Assistant Professor, Science
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Jean Wolph

Instructor

Director, Louisville Writing
Project

Master of Education in Middle School Education

Major: MSED

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-tl>

Program Information

This program is no longer admitting new students. It has been replaced by the M.Ed. in Teacher Leadership.

Admission Requirements: Baccalaureate degree from an accredited institution, two letters of recommendation, minimum combined score of 800 on the GRE, Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language, a copy of a Kentucky teaching certificate, and 2.75 cumulative grade point average, or 2.75 grade point average for the senior college years.

Program Admission Procedure

- Holds certification in a 5-9 area.
- Admission into Graduate School.
- Completion of Official Program with advisor are required.

Curriculum

Inquiry (Critical Thinker) (6 hours)	
EDAP 606 Orientation and Readings (take in first semester of enrollment)	3
ELFH 600 Introduction to Research Methods & Statistics	3
Advocacy (Professional Leader) (6 hours)	
Leadership: (select one of the following) (3 hours)	
EDAP 607 Leadership and change OR	3
EDAP 625 Social and Ethical Dev. of Teaching OR	3
EDAP 624 Curriculum Theory OR	3
ELFH 603 Administrative Leadership in a Reform Environment	3
Diversity: (Select one of the following) (3 hours)	
EDAP 626 Affirming Diversity	3
EDAP 642 Literacy Learning & Cultural Differences OR	3
EDTP 503 Developing Cross-Cultural Competence	3
Action (Problem Solver) (3 hours)	
EDAP 680 Capstone Course	3

AREA OF EMPHASIS (At least 12 credits)**Elective** (3 hours)**Minimum total hours:****30**

Midpoint Requirement: M.Ed. candidates are required to submit a mid-program portfolio to a faculty advisor at the completion of 15 credit hours of course work. The faculty advisor will assess the candidate's portfolio, which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met a candidate will be prohibited from course registration beyond 15 credit hours.

Exit Requirements: Portfolio or Master's Thesis (EDAP 699)

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts and approval by the School of Interdisciplinary and Graduate Studies.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree (upon approval of advisor).
4. All courses must be completed within 6 years of admission to the program.
5. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C"

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*Assistant Professor, Science
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Jean Wolph
Instructor
Director, Louisville Writing
Project

Master of Arts in Teaching in Music Education

Major: EDMU

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-me>

Program Information

The MAT Program enables graduate students to earn their initial teaching certification for Kentucky, grades P-12. The teacher candidates learn to teach through instruction in pedagogy, child development, special education, technology and diversity.

The Department of Teaching and Learning is committed to the highest standards of professional preparation. Our programs have sought and received national accreditation from the National Council for Accreditation of Teacher Education.

Graduates of initial teacher certification programs at the University of Louisville begin their teaching careers secure in the knowledge that they have been prepared for the real world of classrooms through a rigorous teacher preparation program.

The School of Music provides each student with a copy of the Handbook for Graduate Music Students. Students are expected to read the School of Music handbook and the University Graduate Catalog, and to follow regulations and procedures regarding their specific degree program at the University of Louisville.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; minimum undergraduate degree GPA 2.75, Minimum GRE scores as required by EPSB; three letters of recommendation; professional statement; Praxis II content exam (middle/secondary); dispositions self-assessment; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelors degree, "C" or higher in English 102 and oral communication course; and acceptable interview.

Prerequisites: Completion of the Pre-Teacher Education courses: ECPY 507/607 Learning Theory and Human Growth and Development and EDTP 502/602 Exploring Teaching within the Socio-Cultural Context of P-12 Schools; appropriate Bachelors degree or specific Music Education content required. Students must be admitted to Teacher Education before being permitted to take the following courses: MUED 605, 606, 607, 608, 609, 610, and 611.

Professional Education Requirments:

MUED 605 Pre-Student Teaching: Orientation and General Methods (Vocal)* OR	
MUED 606 Pre-Student Teaching: Orientation and General Methods (Instrumental)*	3

* **Note:** Students are strongly encouraged to take either MUED 605 (Vocal) or MUED 606 (Instrumental) in accordance with their degree emphasis prior to student teaching. **No student may receive credit for both MUED 556 and 605/606.**

MUED 628 Qualitative Research Methods	2
MUED 629 Foundations of Music Education	2
MUED 630 Quantitative Research Methods	2
MUED 639 Learning Theories in Music Education	2
MUS 611 Applied Music OR	
MUS 659 Conducting	2
MUS 612 Applied Music OR	
MUS 660 Conducting	2
Exit Requirement	
MUED 607 Student Teaching Seminar	2
MUED 608 Student Teaching Seminar	2
MUED 609 Capstone Seminar (Second semester of student teaching)*	3
MUED 610 Music Student Teaching in the Elementary/Secondary Schools I	4
MUED 611 Music Student Teaching in the Elementary/Secondary Schools II	4
Minimum total hours	30

***Electronic documentation of 200 hours of diverse and approved field experiences required prior to student teaching.**

Certification Exit Assessment: B- or better in student teaching; satisfactory portfolio; passing score on Praxis content and PLT exams; 2.50 GPA overall and 2.5 GPA in content area; satisfactory dispositions assessment; positive recommendation from Music faculty.

Degree Exit Assessment: B- or better in each student teaching placement; certification exit requirements; 3.0 GPA overall with no more than two "C's" in degree courses; satisfactory degree portfolio.

Degree Candidacy: If not enrolled during the semester in which you are graduating, you must register for degree candidacy as outlined in the graduate catalog, under the section called "academic policies and requirements".

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or www.ets.org/praxis.ky for current requirements.

Departmental Faculty

Amy Acklin

Assistant Professor

Robert Amchin

Professor

Division Head-Music

Jack Ashworth

Professor

Jerry W. Ball

Professor Emeritus

Ansyn Banks

Assistant Professor

Dror Biran

Assistant Professor

Paul R. Brink

Professor Emeritus

Greg Byrne

Professor

Jean Christensen

Professor Emerita

Anne Marie de Zeeuw

Professor

Melvin Dickinson

Professor Emeritus

Christopher Doane

Professor

Francis Fuge

Professor Emerita

Donn Everette Graham

Professor Emeritus

Karl-Werner Guempel

Professor Emeritus

Kent Hatteberg

Professor

D. Bruce Heim

Professor

John Jones

Associate Professor

Brenda E. Kee

Professor Emerita

Herbert Koerselman

Professor

John LaBarbera

Professor

Kimcherie Lloyd

Associate Professor

Lee Luvisi

Professor Emeritus

Daniel McAninch

Professor Emeritus

Peter McHugh

Professor Emeritus

Naomi Oliphant

Professor

Seow-Chin Ong

Professor

Acton Ostling

Professor Emeritus

J. Patrick Rafferty

Professor

Steve Rouse

Professor

Marc Satterwhite

Professor

Brett Shuster

Associate Professor

Richard Spalding

Professor Emeritus

Frederick Speck

Professor

Dallas Tidwell

Professor

Edith Davis Tidwell

Professor

Gerald Tolson

Professor

Michael Tracy

Professor

Michael Tunnell

Professor

Loren Waa

Professor Emerita

Krista Wallace-Boaz

Associate Professor

Robert Weaver

Professor Emeritus

Daniel Weeks

Assistant Professor

Krzysztof Wolek

Assistant Professor

Paul York

Professor

Master of Education in Reading Education

Major: RE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-re>

Program Information

The Teacher Literacy Leadership Program will provide an M.Ed. in Reading Education which includes the Kentucky Reading and Writing Endorsement (P-12).

Admission Requirements

Teaching certification in P-12 Area, Admission to M.Ed. in Reading program, Meeting with faculty advisor to discuss KYETS, U of L Program Themes, Conceptual Framework, and IRA Standards, baccalaureate degree or its equivalent from an accredited institution, two letters of recommendation, minimum combined score of 800 on the GRE, Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language, a copy of a Kentucky teaching certificate, and 2.75 cumulative grade point average.

Curriculum

Research (3 hours)

ELFH 600 Introduction to Research Methods and Statistics 3

Leadership (3 hours)

EDAP 641 Literacy Leadership and School-wide Planning 3

Diversity (3 hours)

EDAP 642 Literacy Learning and Cultural Differences 3

Curriculum and Instruction (3 hours)

EDAP 639 Advanced Reading Methods P-12 3

Area of Emphasis (21 hours)

EDAP 610 Literacy Research and Theory 3

EDAP 614 Supporting Struggling Readers and Writers 3

EDAP 615 Measurement and Diagnosis of Literacy 3

EDAP 618 Capstone Practicum in Literacy: Reading Specialist 3

EDAP 678 Language Knowledge and Acquisition 3

EDAP 679 Capstone Practicum in Literacy: Literacy Coach 3

EDAP 693 Teaching Writing P-12 3

Electives (3 hours)

EDAP 540 Teaching Adolescent Readers 3

EDAP 604 Teacher Leadership: Mentoring and Coaching	3
EDAP 624 Curriculum Theory	3
EDAP 643 Emergent Literacy	3
EDAP 644 Reading/Writing Workshop	3
EDAP 645 Advanced Studies in Children's Literature	3
EDAP 687 Literacy, Teaching, and Technology	3
EDAP 694 Special Topics in Writing	3
Course approved by Advisor	3
Total hours for M.Ed. in Reading (includes six hours supervised practicum)	36

Special Program or Institutes * (These are selective programs.) (See Special Programs note below)

EDAP 694 Kentucky Reading Project	3
EDAP 612 Louisville Writing Project	3
EDAP 694 Reading Recovery	6
NBPTS: English Language Arts Early & Middle Childhood Literacy: Reading-Language Arts OR Early Adolescence OR Adolescence and Young Adult (may count three hours)	6
EDAP Kentucky Institute for Arts in Education	3

Mid-Point Assessment: Review program on KY Experienced Teacher Standards, U of L Program Themes, Conceptual Framework, and International Reading Association Standards for Reading Professionals (2003). Two of five standards completed for culminating Reading Specialist/Literacy Coach portfolio based on the IRA Standards. One Capstone Practicum completed, EDAP 618.

Exit Assessment: Updated Self-Report on Kentucky Experienced Teacher Standards, U of L Program Themes, Conceptual Framework, and IRA Standards for Reading Professionals (2003); Academic average of "B"; no grade lower than "C"; completed Reading Specialist/Literacy Coach Portfolio based on IRA Standards; passing score on PRAXIS for Reading Specialist

* *Special Programs note:*

1. *Some special programs are three graduate credit hours. If the advisor approves, three hours may be substituted for an appropriate required course, or candidates may choose to apply three hours as the elective.*

2. *Some special programs are six graduate credit hours. If the advisor approves, three hours may be substituted for an appropriate required course, and three hours may be used as the*

elective. As an alternative, candidates may choose to apply three hours as an elective and apply the additional three hours toward a Rank I or doctoral program.

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Master of Arts in Teaching in Secondary Education

Major: SE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-se>

Program Information

The Master of Arts in Teaching (MAT) degree in Secondary Education leads to certification in Biology, Chemistry, Earth Science, English, Mathematics, Physics, and Social Studies Education (grades 8-12). Business Education leads to certification in grades 5-12. Modern Language Education (Spanish and French) leads to certification in grades P-12.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; minimum undergraduate degree GPA of 2.75; minimum GRE scores as required by EPSB; Praxis II content exam registration and/or scores; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree with major in content area or appropriate prerequisite courses; "C" or higher in English 102 and oral communication course; acceptable interview.

*EDTP 602 Exploring Teaching Within the Socio-Cultural Context of P-12 Schools	3
*ECPY 607 Learning Theory and Human Growth and Development	3
*EDTP 501 General Methods	3
(NOTE: The above three courses must be taken prior to Methods Course)	
<u>Choose from one of the following courses (3 hours):</u>	
*EDTP 622 High School English Methods	3
*EDTP 623 High School Math Methods	3
*EDTP 624 High School Science Methods	3
*EDTP 625 High School Social Studies Methods	3
*EDTP 628 Business Methods 5-12	3
*EDTP 629 Foreign Language Methods P-12	3
*EDSP 545 Exceptional Child in the Regular Classroom	3

Mid-Point Assessment: Prior to Student Teaching: Satisfactory dispositions assessment; No lower than 2.0 in content methods class; within 3 credits of meeting content requirements; ECPY 607 and EDTP 501, 602, and content methods courses passed; satisfactory mid-point teacher performance assessment (TPA); positive recommendation from Middle/Secondary Program Committee; electronic documentation of 200 hours of diverse and approved field experiences.

Choose one of the following courses (6 hours)

*EDTP 618 Student Teaching: Middle and High School	6
*EDTP 619 Student Teaching: High School	6
*EDTP 677 Capstone Seminar: Initial Certification ²	3

Certification Assessment: After Student Teaching: Satisfactory dispositions assessment; all certification course work* completed with 2.5 cumulative GPA; 2.5 cumulative GPA in content course requirements; 2.0 or higher in student teaching; satisfactory certification teacher performance assessment (TPA); passing scores on PRAXIS content and PLT exams; positive recommendation from Middle/Secondary Program Committee.

Academic support course ¹ :	3
EDTP 503 Developing Cross-Cultural Competence ¹	3
EDTP 620 Reading and Writing Across the Curriculum/Adolescent Literature ¹	
Choose the technology course ¹ appropriate for your content certification area:	3
EDTP 580 Digital Citizenship (English, Social Studies, Business, World Lang)	
EDTP 581 Technology Applications for Mathematics Teaching	
EDTP 582 Technology Applications for Science Teaching	

¹ Can be taken at any point in the program.

² Must be taken concurrently with student teaching.

Minimum total hours **36**

Content courses remaining to complete certification requirements:

Degree Assessment: Satisfactory dispositions assessment; all program course work completed with 3.0 cumulative GPA (and no more than a total of two “C’s” in degree courses); satisfactory certification teacher performance assessment (TPA).

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog "Academic Policies, Procedures, and Requirements".

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for certification test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or <http://www.ets.org/praxis/ky> for current requirements.

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Jean Wolph

Instructor

Director, Louisville Writing
Project

Alternative Route to 8-12 Certification in Secondary Education

Major: SE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-ac>

Program Information

The Alternative Certification program is designed to assist the local school districts in meeting the demand for qualified teachers in high need content areas. The program provides candidates with an opportunity to pursue initial teacher certification while working as a full time teacher on a temporary provisional certificate.

Employment is not required for initial acceptance to this program. However, candidates must be employed in a Kentucky-accredited school by the start of the school year in order to continue in the program. This program is a two year, 30 credit hour program resulting in initial teacher certification and a Master of Arts in Teaching degree.

Curriculum

Initial Assessment: Admission to School of Interdisciplinary and Graduate Studies & Teacher Education; employment as a full-time temporary provisional teacher; passing scores on content Praxis II exams; minimum undergraduate GPA of 2.75; minimum GRE scores as required by EPSB; three letters of recommendation; professional statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; Bachelor's degree in content area or prerequisite content courses; "C" or higher in English 102 and oral communication course; acceptable interview.

EDTP 631 Integrated Teaching and Learning I	3
EDTP 632 Integrated Teaching and Learning II	3
Choose one from the following (3 credit hours)	3
EDTP 622 High School English Methods	
EDTP 623 High School Math Methods	
EDTP 624 High School Science Methods	
EDTP 625 High School Social Studies Methods	
EDTP 628 Business Methods 5-12	
EDTP 629 Foreign Language Methods P-12	
EDTP 633 Integrated Teaching and Learning III	3
EDTP 627 Practicum for Alternative Certification	3

Mid-Point Assessment: Completion of all courses listed above; satisfactory dispositions assessment; no lower than 2.0 GPA in content methods class(es); 2.0 or higher GPA in Practicum for Alternative Certification; 2.50 cumulative GPA in content course requirements; passing scores on 8-12 PLT Praxis exam; satisfactory mid-point teacher performance assessment (TPA); positive recommendation from Middle/Secondary Program Committee.

EDTP 503 Developing Cross-Cultural Competence	3
Choose the technology course appropriate for your content certification area:	3
EDTP 580 Digital Citizenship (English, Social Studies, Science, World Language)	
EDTP 581 Technology Applications for Math Teaching (Math)	
EDTP 582 Technology Applications for Science Teaching (Science)	
EDTP 620 Reading and Writing Across the Curriculum	3
EDTP 678 Supporting the Intern Teacher I	3
EDTP 679 Supporting the Intern Teacher II	3
Minimum total hours	30

Certification courses remaining to complete certification requirements:

To maintain your Temporary Provisional Certificate, you MUST be enrolled in Alternative Certificate coursework.

Certification Assessment: Satisfactory dispositions assessment; satisfactory certification teacher performance assessment (TPA); passing score on 8-12 PLT Praxis exam; must pass KTIP.

Degree Assessment: Satisfactory dispositions assessment; all program course work with 3.0 cumulative GPA (and no more than a total of two "C's" in degree courses); satisfactory Alternative Certification degree teacher performance assessment (TPA).

Degree Candidacy: Students who are not enrolled during the semester in which they are graduating must register for degree candidacy as outlined in the Graduate Catalog, under the section called academic policies and requirements".

Praxis Disclaimer: Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.org or <http://www.ets.org/praxis.ky>

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Master of Education in Secondary Education

Major: SE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-tl>

Program Information

This program is no longer admitting new students. It has been replaced by the M.Ed. in Teacher Leadership.

Admission Requirements: Baccalaureate degree or its equivalent from an accredited institution, two letters of recommendation, minimum combined score of 800 on the GRE, Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language, a copy of a Kentucky teaching certificate, and 2.75 cumulative grade point average, or 2.75 grade point average for the senior college years.

Curriculum

Inquiry (Critical Thinker) (6 hours)

EDAP 606 Orientation and Readings (take in first semester of enrollment) 3

ELFH 600 Introduction to Research Methods & Statistics 3

Advocacy (Professional Leader) (6 hours)

Leadership: (select one of the following) (3 hours)

EDAP 607 Leadership and change 3

EDAP 625 Social and Ethical Dev. of Teaching 3

EDAP 624 Curriculum Theory 3

ELFH 603 Administrative Leadership in a Reform Environment 3

Diversity: (Select one of the following) (3 hours)

EDAP 626 Affirming Diversity 3

EDAP 642 Literacy Learning & Cultural Differences 3

EDTP 503 Developing Cross-Cultural Competence 3

Action (Problem Solver) (3 hours)

EDAP 680 Capstone Course 3

AREA OF EMPHASIS (At least 12 credits)

Elective (3 hours)

Minimum total hours: 30

Midpoint Requirement: M.Ed. candidates are required to submit a mid-program portfolio to a faculty advisor at the completion of 15 credit hours of course work. The faculty advisor will

assess the candidate's portfolio, which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met a candidate will be prohibited from course registration beyond 15 credit hours.

Exit Requirements: Portfolio or Master's Thesis (EDAP 699)

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts and approval by the School of Interdisciplinary and Graduate Studies.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree (upon approval of advisor).
4. All courses must be completed within 6 years of admission to the program.
5. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C"

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Master of Education in Special Education

Major: SPE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-se>

Program Information

The goal of the program is to offer a Master's degree that will advance one's knowledge and further expertise in a specialty area. Through this program students will increase their understanding of individuals with Autism/Pervasive Developmental Disorder (PDD) across the lifespan. They will learn to use alternative communication systems to address the needs of persons with Autism/PDD.

Curriculum

Non-Education Certification

This degree is designed for master's degree candidates who may be advancing their current teaching certification or whose goals are in the area of early childhood/special education, specifically comprehensive-care centers, institutions, hospitals, clinics, day care centers, preschools, and community programs.

Admission Requirements/Entry Assessment: Admission to School of Interdisciplinary and Graduate Studies; baccalaureate degree or its equivalent from an accredited institution; two letters of recommendation; minimum combined score of 800 on the GRE; Test of English as a Foreign Language (TOEFL) required of all international students from countries in which English is not the native language; and 2.75 cumulative GPA; personal statement (Ideas to Action Unit Dispositions Rubric and Ideas to Action Holistic Construct Rubric completed by Special Education Screening Committee using personal statement; signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines; and background check as required by work setting.

Inquiry (Critical Thinker) (6 hours)

EDSP 540 Introduction to Exceptional Children 3

EDSP 644 Applied Behavior Analysis 3

Advocacy (Professional Leader) (6 hours)

EDSP 652 Academic and Behavior Response to Intervention 3

EDSP 627 Applications in Assistive Technology 3

Action (Problem Solving) (3 hours)

EDSP 639 Education Research in P-12 Settings 3

Midpoint Assessment: Cumulative GPA of 3.0 or higher; grade no lower than B- in all coursework; Acceptable or Target performance on all Hallmark Assessment Tasks to date.

Area of Emphasis in Special Education: (At least 15 hours) 15
Minimum total hours: 30

Exit Assessment: Cumulative GPA of 3.0 or higher, grade no lower than B- in all coursework; Acceptable or Target performance on all Hallmark Assessment Tasks

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog, "Academic Policies, Procedures, and Requirements".

Advanced courses 9
Related Electives 9

Exit Requirement:
EDSP 639 Research Analysis in Special Education 3

Minimum total hours 33

Departmental Faculty

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Ginevra Courtade
Associate Professor

Monica Delano
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Amy Lingo
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Rob Pennington
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Terry Scott
Professor
Thomas Simmons
Associate Professor

Master of Education in Special Education with Concentration in Assistive Technology

Major: SPE**Degree Awarded:** MED**Unit:** GE**Program Webpage:** <http://louisville.edu/education/degrees/med-se-at>

Program Information

Admission Requirements: Admission to School of Interdisciplinary and Graduate Studies; baccalaureate degree or its equivalent from an accredited institution; two letters of recommendation; minimum combined score of 800 on the GRE, Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language; and 2.75 cumulative grade point average.

Prerequisite to entry into the program:

EDSP 540 Introduction to Exceptional Children or equivalent	3
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Curriculum

Inquiry (Critical Thinker) (9 hours)

EDSP 644 Applied Behavior Analysis	3
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EDSP 639 Research Analysis in Special Education	3
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EDSP 669 Single Subject Research Methods and Designs	3
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Advocacy: (Professional Leader) (6 hours)

EDSP 652 Academic and Behavior Response to Intervention	3
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EDSP 627 Applications of Assistive Technology	3
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Action (Problem Solver) (3 hours)

EDSP 668 Assistive Technologies Seminar	3
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Midpoint Assessment: Completion of ½ of Experienced Teacher Standards, with ¾ of indicators for each standard

Area of Emphasis (18 hours)

EDSP 663 Low Tech Assistive Technologies	3
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EDSP 664 Assistive Technology: Computer Access and Switches and Toys	3
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EDSP 672 Assistive Technology: Autism	3
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EDSP 661 Assistive Technology: Assessment Data Collection and Decision-Making	3
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EDSP 665 Assistive Technology: Multimedia and the Classroom Integration	3
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EDSP 632 Assistive Technology: Universal Design for Learning	3
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Minimum total hours:	36
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Exit Requirements: Portfolio (All ETS standards and ¾ of indicators for each standard) or Master's Thesis (EDSP 699)

Note

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) – final acceptance is dependent upon receipt of official transcripts.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master’s degree (upon approval of advisor).
4. All courses must be completed within 6 years of admission to the program.
5. To complete the program students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than “C”.

Departmental Faculty

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Professor
Thomas Simmons
Associate Professor

Master of Education in Special Education with Concentration in Autism

Major: SPE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-se-a>

Program Information

Admission Requirements:

1. Non-teachers--Admission to School of Interdisciplinary and Graduate Studies; baccalaureate degree in special education, psychology, speech language pathology, occupational therapy or social work from an accredited institution; professional certification/license in a field related to autism (e.g., special education, psychology, speech language pathology, occupational therapy or social work); current employment working with individuals with autism or availability to complete 10 hours of fieldwork per week throughout the duration of the program; statement of professional goals related to working with individuals impacted by autism; 2 letters of recommendation related to the applicant's work with individuals with autism; combined score of 800 on the GRE; Test of English as a Foreign Language required of all international students from countries in which English is not the native language; and 2.75 grade point average.

2. Certified teachers--Admission to School of Interdisciplinary and Graduate Studies; Masters degree in Special Education; copy of teaching certificate; statement of professional goals related to working with individuals impacted by autism; 2 letters of recommendation; minimum combined score of 800 on the GRE; and Test of English as a Foreign Language required of all international students from countries in which English is not the native language.

Prerequisite to entry into the program: EDSP 540 Introduction to Exceptional Children or equivalent

EDSP 540 Introduction to Exceptional Children or equivalent	3
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Curriculum

Inquiry (Critical Thinker) (9 hours)

EDSP 644 Applied Behavior Analysis	3
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EDSP 639 Research Analysis in Special Education	3
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EDSP 669 Single Subject Research Methods and Designs	3
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Advocacy: (Professional Leader) (6 hours)

EDSP 652 Academic and Behavior Response to Intervention	3
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EDSP 627 Applications in Assistive Technology	3
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Action (Problem Solver) (3 hours)

EDSP 635 Practicum in Autism and Applied Behavior Analysis	3
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Completion of ½ of Experienced Teacher Standards, with ¾ of indicators for each standard

Midpoint Assessment: ALL STUDENTS: Cumulative GPA of 3.0 or higher; no lower than B in all course work; completion of intervention proposal and presentation with a rating of Satisfactory. Acceptable or Target performance on all Hallmark Assessments to date including

EDSP 644, 669, 670, 671, and 646. Positive recommendation from the Special Education Program Committee.

ADDITIONAL REQUIREMENTS FOR TEACHER CANDIDATES: CARDS

5: Acceptable or Target performance on the following rubrics: Ideas to Action Holistic Construct Rubric, Ideas to Action Dispositional Rubric and Advanced Planning Rubric.

Area of Emphasis (18 hours)

EDSP 670 Autism: Introduction and Understanding	3
EDSP 671 Autism: Strategies and Techniques	3
EDSP 646 Augmentative Communication	3
EDSP 650 Advanced Applied Behavior Analysis	3
EDSP 651 Behavior Consultation	3
EDSP 673 Supporting Students with Asperger's Syndrome in the Classroom	3
Minimum total hours:	36

Exit Requirement: ALL STUDENTS: Cumulative GPA of 3.0 or higher; grades no lower than B in all coursework; Completion of intervention proposal and presentation with a rating of Satisfactory. Acceptable or Target performance on all Hallmark Assessments. Positive recommendation from the Special Education Program Committee.

ADDITIONAL REQUIREMENTS FOR TEACHER CANDIDATES: CARDS

6: Acceptable or Target performance on the following rubrics: Ideas to Action Holistic Construct Rubric; Ideas to Action Dispositions Rubric; Advanced Program Technology Rubric; Advanced Program Impact on P-12 Student Learning Rubric; Advanced Program Clinical Practice Rubric.

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Associate Professor

**Master of Education in Special Education with
Concentration in Learning and Behavior Disorders P-12**

Major: SPE

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-se-lbd>

Program Information

Admission Requirements: Admission to School of Interdisciplinary and Graduate Studies, Bachelor's degree from an accredited institution, two letters of recommendation, minimum combined score of 800 on the GRE. Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language, a copy of a teaching certificate, and 2.75 cumulative grade point average.

Prerequisite for Admission to the Program:

1. EDSP 540, Introduction to Exceptional Children or its equivalent
2. Teacher Certification

Curriculum

Inquiry (Critical Thinker) (9 hours)

EDSP 644* Applied Behavior Analysis 3

EDSP 639 Research Analysis in Special Education 3

EDSP 669 Single Subject Research Methods and Designs 3

Advocacy (Professional Leader) (6 hours)

EDSP 652 Academic and Behavior Response to Intervention 3

EDSP 627 Applications of Assistive Technology 3

Action (Problem Solver) (3 hours)

EDSP 645* Learning and Behavioral Disorders Practicum 3

Midpoint Assessment: Completion of 1/2 of Experienced Teacher Standards, with 3/4 of indicators for each standard

Area of Emphasis (At least 18 hours)

EDSP 637 Transdisciplinary Collaboration for Inclusion 3

EDTP 647 Teaching Mathematics to Students with Disabilities 3

EDSP 512* Methods for Students with Learning and Behavior Disorders 3

EDSP 516* Assessment Procedures for Learning and Behavior Disorders 3

EDSP 675* Characteristics, Needs, and Responses to Students with EBD 3

EDTP 640* Teaching Reading in Special Education P-12 3

Minimum total hours 36

*Course is required for certification.

Exit Requirements: Portfolio (All ETS standards and 3/4 of indicators for each standard) or Master's Thesis (EDAP 699)

Notes

1. Students who make a grade of B- or below in any course leading to teacher certification are required to repeat the course before being admitted to Practicum (EDSP 645).
2. Successful completion of the appropriate PRAXIS Exams is required for Learning and Behavior Disorders teacher certification.
3. Successful completion of midpoint evaluation of program, performance and portfolio.
4. Minimum of 18 hours in 600-level courses is required.
5. Transfer credit must be officially approved by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
6. A maximum of 6 hours taken in non-degree status can be applied toward a Masters degree (upon approval of advisor).
7. All courses must be completed within 6 years of admission to the program.
8. To complete the program, students must have a minimum 3.0 grade point average. No credit shall be accepted for carrying a grade lower than "B-".

PRAXIS Disclaimer: "Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov or <http://www.ets.org/praxis/ky> for current requirements.

Certification and Degree Assessment: Satisfactory dispositions assessment; 3.0 cumulative GPA (and no more than a total of two "C's" in degree courses); satisfactory portfolio; passing scores on PRAXIS exams; positive recommendation from the Special Education Program Committee.

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Master of Education in Special Education with Concentration in Moderate and Severe Disabilities P-12

Major: SPE

Degree Awarded: MED

Unit: GE**Program Webpage:** <http://louisville.edu/education/degrees/med-se-msd>

Program Information

Admission Requirements: Admission to the School of Interdisciplinary and Graduate Studies; Bachelors degree from an accredited institution; two letters of recommendation; minimum combined score of 800 on the Graduate Record Exam; Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language; copy of teaching certificate; and 2.75 cumulative grade point average.

Prerequisites for admission to the program:

EDSP 540 Introduction to Exceptional Children	3
Teacher certification	

Curriculum

CARDS 4 (Entry Assessment): Admission to the School of Interdisciplinary and Graduate Studies, bachelors degree from an accredited institution, two letters of recommendation, minimum combined score of 800 on the GRE, Test of English as a Foreign Language required of all foreign students from countries in which English is not the native language, Kentucky Teaching Certificate, and 2.75 cumulative grade point average. Personal statement (Ideas to Action Unit Dispositions Rubric and Ideas to Action Holistic Construct Rubric completed by Special Education Screening Committee using personal statement); signed Professional Code of Ethics/Technology User Agreement/Statement of Understanding of Admissions Guidelines.

Inquiry (Critical Thinker) (9 hours)

EDSP 644* Applied Behavior Analysis	3
EDSP 639 Research Analysis in Special Education	3
EDSP 669 Single Subject Research Methods and Designs	3

Advocacy: (Professional Leader) (6 hours)

EDSP 652 Academic and Behavior Response to Intervention	3
EDSP 627 Applications of Assistive Technology	3

Action (Problem Solver) (3 hours)

EDSP 635* Moderate and Severe Disabilities Practicum	3
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CARDS 5 (Mid-point Assessment): Cumulative GPA of 3.0 or higher; no grade lower than B- in all coursework; Acceptable or Target performance on all Hallmark Assessment Tasks to date (520, 609, 611, 644); Acceptable or Target performance on the following rubrics: Ideas to Action Holistic Construct Rubric, Ideas to Action Dispositions Rubric (failure to receive Acceptable on the dispositions assessment may result in removal from the program), Advanced Program Planning Rubric; positive recommendation from the Special Education Program Committee.

Area of Emphasis (At least 18 hours)	
EDSP 611* Moderate/Severe Disabilities Methods II	3
EDSP 520 Assessment of Exceptional Learners	3
EDSP 609* Moderate/Severe Disabilities Curriculum and Methods I	3
EDSP 611* Moderate/Severe Disabilities Methods II	3
EDSP 670 Autism: Introduction and Understanding	3
EDSP 646* Augmentative Communication	3
Minimum total hours	36

CARDS 6 (Exit Assessment): Cumulative GPA of 3.0 or higher; no grade lower than B- in all coursework; Acceptable or Target performance on all Hallmark Assessment Tasks; Acceptable or Target performance on the following rubrics: Ideas to Action Holistic Construct Rubric, Ideas to Action Dispositions Rubric (failure to receive Acceptable on the dispositions assessment may result in removal from the program), Advanced Program Technology Rubric, Advanced Program Impact on P-12 Student Learning Rubric, Advanced Program Clinical Practice Rubric; positive recommendation from the Special Education Program Committee.

*Course is required for certification.

Exit Requirements:

Notes

1. Students who make a grade below a B- in any required course must repeat the course before being admitted to Practicum (EDSP 635).
2. Successful completion of the appropriate PRAXIS Exams is required for Moderate and Severe Disabilities teacher certification.
3. Target or Acceptable on all Hallmark Assessment Tasks; Acceptable or Target on all additional rubrics (see CARDS 4, 5, and 6 above).
4. Minimum of 18 hours in 600-level courses is required.
5. Transfer credit must be official accepted by the advisor (maximum of 6 hours) - final acceptance is dependent up on receipt of official transcripts.
6. A maximum of 6 hours taken in non-degree status can be applied toward a Masters degree (upon approval of advisor).
7. All courses must be completed within 6 years of admission to the program.
8. To complete the program, students must have a minimum 3.0 grade point average. No credit shall be accepted for carrying a grade lower than "B-".

Praxis Disclaimer:

Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.ets.org/praxis/ky or <http://www.ets.org/praxis/ky> for current requirements.

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Master of Arts in Teaching in Special Education Specialization in Learning and Behavior Disorders P-12

Major: SPE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-se-lbd>

Program Information

Due to ESEA regulations pertaining to highly effective teachers, the Department of Special Education is re-evaluating the MAT program for Learning and Behavior Disorders. No applications will be accepted to this program.

This program leads to certification in Kentucky for areas of Behavior Disorders, Learning Disabilities, and Mild Mental Disability.

Curriculum

Initial Assessment: Admission to Teacher Education, Minimum undergraduate degree GPA 2.75, Minimum GRE scores [Verbal 150 (450), Quantitative 143 (490), Analytical Writing 4.0], three letters of recommendation, professional statement, bachelor's degree, "C" or higher in English 102 and oral communication.

Student Characteristics (6 hours)

EDSP 540 Introduction to Exceptional Children	3
EDSP 675 Characteristics, Needs, & Responses to Students with EBD	3

Pedagogy (30 hours)

EDSP 612 LBD Curriculum Methods and Assessment I	3
EDSP 616 LBD Curriculum Methods and Assessment II	3
EDSP 607 Student Teaching in Learning & Behavior Disorders OR	3
EDSP 617 Practicum in Learning & Behavior Disorders	3
EDSP 644 Applied Behavior Analysis	3
EDSP 640 Teaching Reading Special Education P-12	3

Satisfactory dispositions assessment; grade no lower than B- in all coursework; satisfactory mid-point portfolio; positive recommendation from the Special Education Program Committee.

EDSP 618 Instructional Technology for Students with Special Needs	3
EDAP 647 Teaching Mathematics to Students with Disabilities	3
EDSP 637 Transition, Collaboration, and Inclusion	3
EDTP/AP Content Course	3
EDTP/AP Content Course	3

Research (3 hours)

EDSP 639 Research Methods in Special Education (<i>Must be taken in last six hours</i>)	3
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Elective: Choose from one of the following courses (3 hours)

EDSP 537 Language Learning for Exceptional Children	3
EDSP 627 Applications of Assistive Technology	3
EDSP 670 Autism: Introduction and Understanding	3
EDSP 681 Early Childhood Education and Exceptional Children	3

Minimum total hours 42

Certification Assessment: Satisfactory dispositions assessment; no grade lower than "B-" in all coursework; passing scores on PRAXIS exams; positive recommendation from the Special Education Program Committee.

Degree Assessment: 3.0 cumulative GPA; Satisfactory Dispositions Assessment.

Degree Candidacy: If not enrolled during the semester in which you are graduating, you will need to register for a degree candidacy as outlined in the graduate catalog, [http://louisville.edu/graduatecatalog/toc#Academic Policies](http://louisville.edu/graduatecatalog/toc#Academic_Policies), under the section called academic policies and requirements.

Departmental Faculty

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Terry Scott
Professor
Thomas Simmons
Associate Professor

Master of Arts in Teaching in Special Education Specialization in Moderate/Severe Disabilities P-12

Major: SPE

Degree Awarded: MAT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/mat-se-msd>

Program Information

This program leads to Kentucky certification for Moderate and Severe Disabilities, grades P-12. Applicants to the program should have excellent academic credentials as well as successful experience working with children and/or adults with Moderate and Severe Disabilities (MSD). The Alternative Certification program requires that students become employed in an MSD classroom on a temporary provisional certificate. Classes start in the Summer each year, and admitted students must secure employment before the start of the Fall term. Those who are not employed may have the option to pursue the traditional version of the program, which requires field placements and student teaching. Completion of this degree/licensure program will lead to certification as an MSD teacher only (not an Elementary, Middle or Secondary content area teacher).

Curriculum

Initial Assessment: Admission to Teacher Education. Minimum undergraduate degree GPA 2.75, Minimum GRE scores [Verbal-150 (450), Quantitative 143 (490), Analytical Writing 4.0], three letters of recommendation, professional statement, bachelor's degree, "C" or higher in English 102 and oral communication.

Student Characteristics (6 hours)

EDSP 540 Introduction to Exceptional Children	3
EDSP 594 Foundational Concept in Intellectual and Physical Disabilities	3

Pedagogy (27 hours)

EDSP 609 MSD Curriculum and Methods I	3
EDSP 611 MSD Curriculum and Methods II	3
EDSP 644 Applied Behavior Analysis	3
EDSP 520 Assessment of Exceptional Learners	3
EDSP 614 Transition Programs and Services for Children and Youth with Disabilities	3

Mid-Point Assessment: Satisfactory dispositions assessment; grade no lower than "B-" in all coursework; satisfactory mid-point portfolio; positive recommendation from the Special Education Program Committee.

EDAP 647 Teaching Mathematics to Students with Disabilities	3
EDSP 646 Behavior Analytic Approach to Communication	3
EDSP 670 Autism: Introduction and Understanding	3
EDSP 608 Student Teaching in Moderate and Severe Disabilities OR	3
EDSP 635 Moderate and Severe Disabilities Practicum	3

Research (3 hours)

EDSP 639 Research Analysis in Special Education (Must be taken in last 6 hours)	3
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Elective: Choose from one of the following courses. (3 hours)

EDSP 627 Applications of Assistive Technology	3
EDSP 650 Advanced Applied Behavior Analysis	3
EDSP 671 Autism: Strategies and Techniques	3
EDSP 699 Single Subject Research Methods	3

Minimum total hours**39**

Degree Assessment: Cumulative GPA of 3.0 or higher; no grade lower than "B-" in all coursework; acceptable or target performance on all Hallmark Assessment Tasks; acceptable or target performance on the following rubrics: Ideas to Action Holistic Construct Rubric, Ideas to Action Dispositions Rubric (failure to receive acceptable on the dispositions assessment may result in remove from the program), Advanced Program Technology Rubric, Advanced Program Impact on P-12 Student Learning Rubric, Advanced Program Clinical Practice Rubric; positive recommendation from the Special Education Program Committee.

Certification Assessment: Satisfactory dispositions assessment (as noted above); no grade lower than "B-" in all coursework; passing scores on PRAXIS exams; positive recommendation from the Special Education Program Committee.

Degree Candidacy: If not enrolled during the semester in which you are graduating, you will need to register for a degree candidacy as outlined in the graduate catalog, http://louisville.edu/graduatecatalog/toc#Academic_Policies, under the section called academic policies and requirements.

Departmental Faculty

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Master of Science in Sport Administration

Major: SPAD

Degree Awarded: MS

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/ms-sa>

Program Information

The Master of Science in Sport Administration is accredited by the Commission on Sport Management Accreditation (COSMA).

The College of Education and Human Development's Sport Administration (SPAD) program at the University of Louisville prepares students for a variety of management positions in the sport industry. The goals of the faculty and the program are to create an active learning environment for each student and to encourage students to demonstrate a commitment to education, community involvement, and their fellow students. A strong foundation in education, community service, peer networks, and alumni networks is invaluable to students as they prepare to enter the sport industry. Exceptional theoretical and practical knowledge gained through the SPAD Program will also provide students with the foundation to become the next generation of leaders, decision makers, and managers in the sport industry.

Program admission procedure:

The recommendation to admit an applicant is made by an Admissions Committee made up of faculty in the Sport Administration Program. A preliminary decision is based on the following: U of L Graduate Application, all undergraduate and graduate transcripts, goal statement, current resume, GRE test scores, and at least two recommendations for the School of Interdisciplinary and Graduate Studies (Note: Applicants may submit up to three recommendations). Applicants are strongly encouraged to have at least one recommendation from a University faculty member who is familiar with the applicant's work as a student. A formal Statement of Goals should explain in 500 words or less why they want to be admitted into the program and what they plan to do with a Sport Administration degree. A minimum combined GRE test score of 293 (verbal and quantitative section) and 4.0 on the Analytical section and undergraduate GPA of 2.75 is desired.

Curriculum

Core

ELFH 600	Introduction to Research Methods and Statistics	3
HSS 604	Research Methods in HSS	3
SPAD 605	Sport Facility Management	3
SPAD 604	Financial Principles in Sport	3
SPAD 625	Organizational Behavior In Sports Administration	3
SPAD 683	Sport Marketing	3
SPAD 684	Current Trends and Issues in Sport Administration	3
SPAD 689	Legal Aspects in the Sport Industry	3
SPAD 692	Internship in Sport Administration	3
Electives (9 Hours)		
Minimum Total Hours		36

Exit Requirements - Students must complete one of the following: written examination, research project, or thesis

Departmental Faculty

Chris Greenwell, PhD
Professor, SPAD Program
Director
Marion Hambrick, PhD
Assistant Professor, M.S.
Program Coordinator

Mary A. Hums, PhD
Professor, PhD Program
Coordinator
Gary Bernstein, MS
Instructor

Meg Hancock, PhD
Instructor
Anita M. Moorman, J.D.
Professor, Interim Co-Chair
Regina (Gin) Presley, MS
Instructor
Megan Shreffler, PhD
Assistant Professor

Master of Education in Teacher Leadership

Major: LEADMED

Degree Awarded: MED

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-tl>

Program Information

The M.Ed. program is designed for certified teachers who plan to seek a masters degree. The program was designed in collaboration with P-12 classroom teachers, district specialists, and university faculty and school administrators for preparing teacher leaders. The program can lead to an endorsement for Teacher Leadership.

Specialization Areas

Students will work with a faculty mentor to develop a specialization unique to their professional needs. The Master of Education in Teacher Leadership has a number of specializations such as:

1. Interdisciplinary Early Childhood Education
2. Elementary Education
3. Middle Grades Education
4. Secondary Education
5. English as a Second Language
6. Content Area or Teaching Specialty (e.g. Humanities, Biology, Women & Gender Studies, etc.)
7. Special Education Core (For Teachers already certified in Special Education)
8. Autism
9. Assistive Technology
10. Learning and Behavior Disorders (For teachers already certified in Special Education)
11. Moderate and Severe Disabilities (For teachers already certified in Special Education)

Program Highlights

- individualized to meet professional goals
- based on three levels of leadership development
- many specialized courses specific to content area and grade level
- preparation pathway to National Board Application
- courses taught by nationally recognized faculty
- focused on meeting needs of diverse learners
- emphasizes coaching and mentoring
- places your classroom and school as the focus of course discussions and assessments

Curriculum

CARDS 4 (Entry Assessment): Admission to School of Interdisciplinary and Graduate Studies and to the Teacher Leader M.Ed. program; Self-Assessment on Kentucky Guide to Reflective Classroom Practice; Professional Growth Plan.

Teacher Leadership - Level I (9 hours)

EDAP 637 Using Assessment to Improve Student Achievement

3

EDAP 638 Instructional Strategies for Diverse Learners	3
EDAP/EDSP 639 Education Research in the P-12 Setting	3

CARDS 5 (Mid-point Assessment- after Level I Leadership and 9 hours of Level II coursework): Successful completion of all Level I work and 6-9 hours of Level II work; self-assessment on standards 1-4 of the Kentucky Guide to Reflective Practice, Diversity Field Experience Reflection. Scored acceptable or target on Rubrics for Advanced Candidates (by advisor); acceptable Dispositions assessment, minimum GPA of 3.0.

Teacher Leadership – Level II (12-15 hours)	12-15
Concentration	
Elective: (0-3)	0-3
Teacher Leadership – Level III (6 hours)	
EDAP 677 Teacher Leadership Through Coaching and Mentoring	3
EDAP 607 Teacher Leadership in Practice	3

CARDS 6 (Exit Assessment): Successful completion of all required coursework; adapted NBPTS Entry #4; updated and revised Professional Growth Plan; final self-assessment on all standards of the Kentucky Guide to Reflective Practice; scored Acceptable or Target on Rubrics for Advanced Candidates (by advisor).

Minimum Total Hours **30**

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree (upon approval of advisor).
4. All courses must be completed within 6 years of admission to the program.
5. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C".

Degree Candidacy: Students not enrolled during the semester in which they intend to graduate must register for degree candidacy as outlined in the Graduate Catalog, "Academic Policies, Procedures, and Requirements".

Departmental Faculty

Jennifer Bay-Williams
Professor
Chair of Middle/Secondary
Education Department
Debra Bauder
Associate Professor

Peggy Brooks
Instructor
Coordinator of the Kentucky
Teacher Internship Program
Sherri Brown
Associate Professor

Assistant Chair of Early
Childhood/Elementary
Education Department
William Bush
Professor

Director of Center for
Research in Mathematics and
Science Teacher Division

James Chisholm
Assistant Professor

Justin Cooper
Assistant Professor

Ginevra Courtade
Associate Professor

Tammy Davis
Instructor

Monica Delano
Associate Professor
Director Doctoral Program

John Finch
Instructor

Penny Howell
Associate Professor

Jill Jacobi-Vessels
Assistant Professor

Pam Jett
Instructor

Karen Karp
Professor

Diane Kyle

Professor
Chair of Early Childhood/
Elementary Education
Department

Timothy Landrum
Professor

Chair of Special Education

Ann Larson

Professor, Dean

Amy Lingo

Associate Professor

Maggie McGatha

Associate Professor

Lori Norton-Meier

Associate Professor

Robert Pennington

Assistant Professor

Susan Peters

Assistant Professor

Bob Ronau

Professor

Terry Scott

Professor

Caroline Sheffield

Assistant Professor

Melissa Shirley

Assistant Professor

Thomas Simmons

Associate Professor

Steve Swan

Instructor

Director of Instructional

Technology Program

Shelley Thomas

Associate Professor

Thomas Tretter

Professor

Director of Gheens Science

Hall and Rauch Planetarium

Ingrid Weiland

Assistant Professor

Kathryn Whitmore-Barten

Endowed Chair, Early

Childhood Education

Director, Early Childhood

Research Center

Jean Wolph

Instructor

Director of Louisville

Writing Project

Master of Arts in Interdisciplinary Studies with a concentration in Bioethics and Medical Humanities

Major: ISBMH

Degree Awarded: MA

Unit: IS

Program Webpage: <http://louisville.edu/bioethicsma>

Program Information

The Master of Arts in Bioethics and Medical Humanities is a special track within the Interdisciplinary M.A. awarded by the School of Interdisciplinary and Graduate Studies. As currently practiced, Bioethics is an inherently interdisciplinary field, located principally at the intersection of philosophy, the law, and the health care professions, such as clinical medicine and nursing, but drawing as well from social science disciplines as diverse as sociology, clinical psychology, and social work. The aim of the program is to provide students with the skills necessary to work in their chosen field from an enriched ethical knowledge base. Students will be exposed to the philosophical underpinnings of health care ethics as well as real-time clinical moral decision-making. This M.A. program will emphasize the need to examine concepts of race, gender, and culture as well as to learn to incorporate an ethically sound appreciation of difference and diversity.

The Interdisciplinary M.A. in Bioethics and Medical Humanities provides professional enhancement and resources for the following groups of students:

- Mid-Career Health Care Professionals - Current M.D.s, J.D.s, R.N.s and other health care professionals who wish to enhance their career prospects with increased expertise in ethics for educational purposes, and current faculty and staff serving on Hospital Ethics Committees.
- Dual-Degree students who wish to add an expertise in bioethics for their future professional, educational, and scholarly pursuits in medicine, dentistry, law, nursing, social work, or other professional fields.
- Post-Baccalaureate students who are in transition from a B.A. to a later professional degree and desire expertise in bioethics to enhance their admission to a later program and to expand their knowledge of bioethics.

For more information about this program, contact our Program Coordinator at (502)852-6501.

Curriculum

The Interdisciplinary Masters of Arts in Bioethics and Medical Humanities is a 33 credit-hour program, consisting of seven required core courses and four electives. The core courses provide essential grounding in ethical theory and the foundations of bioethics, current controversies in health care ethics, and the social and political context of health care decision-making; participation in hospital rounds emphasizes the practical realities of clinical ethics, and a capstone seminar integrates program courses with each other and with students' experience in the health care professions. Electives from the Schools of Law, Medicine, Public Health, and Social Work, as well as from the Arts and Sciences departments of History, Pan-African Studies, Philosophy, Political Science, Psychological and Brain Sciences, Sociology, and Women's and Gender Studies diversify and allow customization of the program.

- For more details about our courses or electives please refer to our posted curriculum at louisville.edu/bioethicsma/curriculum

Most students will complete the degree requirements after two years of full time course work. However, the program has the flexibility to allow for part time students to take up to six years to complete the degree.

We offer a rich classroom experience to all of our students - including distance learners. Through the KY-Telehealth network distance learners from anywhere in the world attend our core courses through video conferencing allowing real time interaction with professors and fellow students. Please contact our Program Coordinator for help identifying and gaining access to distance learning options.

Departmental Faculty

Core Program Faculty

David Doukas, M.D., Co-Director

Professor and Chief, Division of Medical Humanism & Ethics, Family & Geriatric Medicine William Ray Moore Endowed Chair in Family Medicine & Medical Humanism

Robert Kimball, Ph.D., Co-Director

Associate Professor of Philosophy;
Chair of Philosophy

Avery Kolers, Ph.D.

Associate Professor of Philosophy

Nancy Potter, Ph.D.

Associate Professor of Philosophy

Mark Rothstein, J.D.

Herbert F. Boehl Chair of Law & Medicine

Director, Institute for Bioethics, Health Policy and Law

Winsor Schmidt, J.D.,

LL.M

Endowed

Chair/Distinguished Scholar in Urban Health Policy

Professor, Psychiatry & Behavioral Sciences

Professor, Family & Geriatric Medicine

Professor, Health Management and Systems Sciences

Paul Simmons, Ph.D.

Clinical Professor, Department of Family & Geriatric Medicine

Osborne Wiggins, Ph.D.

Professor of Philosophy

Master of Arts in Interdisciplinary Studies

Major: IS

Degree Awarded: MA

Unit: GI

Program Webpage: <http://graduate.louisville.edu>

Program Information

The Master of Arts degree in Interdisciplinary Studies provides a mechanism for accommodating the interests of students and faculty in areas in which the faculty expertise is not confined to a

department or individual academic unit. It permits students to establish individualized programs and groups of faculty to establish interdisciplinary tracks.

Application and Admission

Applicants for individualized interdisciplinary master's programs must present complete admission credentials in order to be formally admitted by one of their constituent departments. Such formal admission must be recommended by at least one department or program offering degrees through the Graduate School before the student may register for course work. The required credentials are:

1. The application for admission, specifying which departments the student expects to comprise the program;
2. Transcripts showing all undergraduate and graduate course work and all degrees earned;
3. Scores on the Graduate Record Examination General Test;
4. Three letters of recommendation;
5. TOEFL score if the applicant's native language is not English and he/she has not earned a degree from a university or college in the U.S.;
6. A written statement of career objectives and rationale for the interdisciplinary research objective.

All these credentials must be sent to the Office of Graduate Admissions, University of Louisville, for distribution to the appropriate offices.

Only upon receipt of a letter of admission from the Office of Graduate Admissions may the applicant enroll for course work. There is no guarantee, however, that the desired degree program will be approved. Admission will be conditional until the program proposal has been submitted and approved by the Graduate School. During the initial semester, the curricular requirements of the program must be worked out with a supervisory committee of at least three faculty members. The chair, as well as the majority of the committee, must be members of the Graduate Faculty.

All departments or programs in which the student proposes to take more than 3 hours of graduate course work must offer degrees through the Graduate School; and, before submitting a program proposal, the student must have the permission of the department or program to take those courses.

Program Proposal

In addition to the above stipulations regarding constituent departments or programs, each interdisciplinary degree program must meet specific criteria as follows:

1. An overall minimum of 30 semester hours at 500 or 600 level.
2. A thesis (maximum of 6 hours for thesis in a 30-hour program) or six (6) additional hours of 600- level courses for non-thesis. Interdisciplinary students must enroll in GS 699 for thesis credit.

3. At least one-half of the non-thesis, non-practicum, non-internship credit hours must be at the 600 level.
4. A minimum of 6 hours of 600-level course work must be taken in each of at least two departments or programs offering degrees through the Graduate School.
5. No single department or program may offer more than half the total number of credit hours required by the program.
6. Exclusive of thesis credit, no more than 6 hours may be taken in courses of the independent-study or practicum type; such course work may not be counted toward criteria specified in 3 or 4.
7. Courses designated as fulfilling degree requirements must be offered with sufficient frequency to permit the student to complete degree requirements within a reasonable time (two years for a 30-hour program).
8. The proposed curriculum must be submitted on the appropriate form, with approval signatures of at least three graduate faculty members.
9. Requests for approval of substitutions or alternate courses must be submitted in writing to the Assistant Dean for Interdisciplinary Studies in the Graduate School.

Individually-Designed Programs of Study

An individual interested in exploring advanced studies in a field that transcends established academic/institutional boundaries may design a program of study in consultation with faculty and the Assistant Dean for Interdisciplinary Studies. A program for this degree must involve at least two academic departments/units and it must cross traditional disciplinary organizational structures and programmatic lines of study. An individual interested in this program will need to develop a general proposal that can be reviewed by faculty who, in turn, must agree that they will participate in the program if approved. Before agreeing to participate in the supervision of an interdisciplinary M.A. student, faculty must obtain the consent of their departmental chair or dean.

During the initial semester, the specific curricular requirements of the program must be worked out with a supervisory committee consisting of a chair and at least two additional faculty members representing at least two different departments or programs. Before the end of the first semester, the proposed program of study should be submitted to the Graduate School for review. Students will be admitted to the Graduate School on a conditional basis, allowing them to take courses as a non-degree student, until the proposed program of study receives full approval. Students will be fully admitted to the Graduate School after the interdisciplinary program proposal is approved.

Interdisciplinary Tracks of Study: Interdisciplinary M.A. Concentrations

Faculty may propose interdisciplinary tracks of study that will form the basis for suitable areas of concentration to train students. The track must meet the criteria outlined above in terms of minimum credit hours and the distribution of coursework across disciplinary lines. Proposed areas of concentration and interdisciplinary tracks of study will be subject to approval by the following academic bodies: 1) Unit Curriculum and Budget Committees; 2) Graduate Council; 3)

Faculty Senate; 4) Provost. The development of an interdisciplinary track is the responsibility of the faculty, but the Assistant Dean for Interdisciplinary Studies will provide assistance and guidance. Participating faculty must have the consent of their departmental chair or dean to participate in an Interdisciplinary Track.

Requests for further information or assistance should be addressed to:

Assistant Dean for Interdisciplinary Studies
Graduate School
Houchens Building, Suite 105
University of Louisville
Louisville, Kentucky 40292
Phone: (502) 852-6495
Email: *graduate@louisville.edu*

Curriculum

Curriculum will be determined during the development of each individual student's program proposal for the individually-designed programs. For an Interdisciplinary Track program, a core of faculty may propose a curriculum that will form the basis for an area of concentration.

Departmental Faculty

Faculty will be determined during the development of each individual student's program proposal.

Master of Science in Interdisciplinary Studies

Major: IS

Degree Awarded: MS

Unit: GI

Program Webpage: <http://graduate.louisville.edu>

Program Information

The Master of Science degree in Interdisciplinary Studies provides a mechanism for accommodating the interests of students and faculty in areas in which the faculty expertise is not

confined to a department or individual academic unit. It permits students to establish individualized programs and groups of faculty to establish interdisciplinary tracks.

Application and Admission

Applicants for individualized interdisciplinary master's programs must present complete admission credentials in order to be formally admitted by one of their constituent departments. Such formal admission must be recommended by at least one department or program offering degrees through the Graduate School before the student may register for course work. The required credentials are:

1. The application for admission, specifying which departments the student expects to comprise the program;
2. Transcripts showing all undergraduate and graduate course work and all degrees earned;
3. Scores on the Graduate Record Examination General Test;
4. Three letters of recommendation;
5. TOEFL score if the applicant's native language is not English and he/she has not earned a degree from a university or college in the U.S.;
6. A written statement of career objectives and rationale for the interdisciplinary research objective.

All these credentials must be sent to the Office of Graduate Admissions, University of Louisville, for distribution to the appropriate offices.

Only upon receipt of a letter of admission from the Office of Graduate Admissions may the applicant enroll for course work. There is no guarantee, however, that the desired degree program will be approved. Admission will be conditional until the program proposal has been submitted and approved by the Graduate School. During the initial semester, the curricular requirements of the program must be worked out with a supervisory committee of at least three faculty members. The chair, as well as the majority of the committee, must be members of the Graduate Faculty.

All departments or programs in which the student proposes to take more than 3 hours of graduate course work must offer degrees through the Graduate School; and, before submitting a program proposal, the student must have the permission of the department or program to take those courses.

Program Proposal

In addition to the above stipulations regarding constituent departments or programs, each interdisciplinary degree program must meet specific criteria as follows:

1. An overall minimum of 30 semester hours at 500 or 600 level.

2. A thesis (maximum of 6 hours for thesis in a 30-hour program) or six (6) additional hours of 600- level courses for non-thesis. Interdisciplinary students must enroll in GS 699 for thesis credit.
3. At least one-half of the non-thesis, non-practicum, non-internship credit hours must be at the 600 level.
4. A minimum of 6 hours of 600-level course work must be taken in each of at least two departments or programs offering degrees through the Graduate School.
5. No single department or program may offer more than half the total number of credit hours required by the program.
6. Exclusive of thesis credit, no more than 6 hours may be taken in courses of the independent-study or practicum type; such course work may not be counted toward criteria specified in 3 or 4.
7. Courses designated as fulfilling degree requirements must be offered with sufficient frequency to permit the student to complete degree requirements within a reasonable time (two years for a 30-hour program).
8. The proposed curriculum must be submitted on the appropriate form, with approval signatures of at least three graduate faculty members.
9. Requests for approval of substitutions or alternate courses must be submitted in writing to the Assistant Dean for Interdisciplinary Studies in the Graduate School.

Individually-Designed Programs of Study

An individual interested in exploring advanced studies in a field that transcends established academic/institutional boundaries may design a program of study in consultation with faculty and the Assistant Dean for Interdisciplinary Studies. A program for this degree must involve at least two academic departments/units and it must cross traditional disciplinary organizational structures and programmatic lines of study. An individual interested in this program will need to develop a general proposal that can be reviewed by faculty who, in turn, must agree that they will participate in the program if approved. Before agreeing to participate in the supervision of an interdisciplinary M.S. student, faculty must obtain the consent of their departmental chair or dean.

During the initial semester, the specific curricular requirements of the program must be worked out with a supervisory committee consisting of a chair and at least two additional faculty members representing at least two different departments or programs. Before the end of the first semester, the proposed program of study should be submitted to the Graduate School for review. Students will be admitted to the Graduate School on a conditional basis, allowing them to take courses as a non-degree student, until the proposed program of study receives full approval. Students will be fully admitted to the Graduate School after the interdisciplinary program proposal is approved.

Interdisciplinary Tracks of Study: Interdisciplinary M.S. Concentrations

Faculty may propose interdisciplinary tracks of study that will form the basis for suitable areas of concentration to train students. The track must meet the criteria outlined above in terms of

minimum credit hours and the distribution of coursework across disciplinary lines. Proposed areas of concentration and interdisciplinary tracks of study will be subject to approval by the following academic bodies: 1) Unit Curriculum and Budget Committees; 2) Graduate Council; 3) Faculty Senate; 4) Provost. The development of an interdisciplinary track is the responsibility of the faculty, but the Assistant Dean for Interdisciplinary Studies will provide assistance and guidance. Participating faculty must have the consent of their departmental chair or dean to participate in an Interdisciplinary Track.

Requests for further information or assistance should be addressed to:

Assistant Dean for Interdisciplinary Studies
Graduate School
Houchens Building, Suite 105
University of Louisville
Louisville, Kentucky 40292
Phone: (502) 852-6495
Email: graduate@louisville.edu

Curriculum

Curriculum will be determined during the development of each individual student's program proposal for the individually-designed programs. For an Interdisciplinary Track program, a core of faculty may propose a curriculum that will form the basis for an area of concentration.

Departmental Faculty

Faculty will be determined during the development of each individual student's program proposal.

Doctor of Philosophy in Interdisciplinary Studies

Major: IS

Degree Awarded: Ph.D.

Unit: IS

Program Webpage: <http://louisville.edu/graduate>

Program Information

The Interdisciplinary Ph.D. Program provides a mechanism for accommodating the interests of students and faculty in areas in which the faculty expertise is not confined to a department or individual academic unit. It permits students to establish individualized programs and groups of faculty to establish interdisciplinary tracks.

Requirements for Admission

Applicants for interdisciplinary doctoral programs must present complete admission credentials and have an approved program of study in order to be formally admitted by the School of Interdisciplinary and Graduate Studies. The required credentials are:

1. A 3.25 grade point average.
2. Scores at or above the 60th percentile on the Quantitative, Verbal, Critical Thinking and Analytical portions of the Graduate Record Exam.
3. Proof of a Baccalaureate Degree and official transcripts of all undergraduate and graduate course work.
4. International students for whom English is not their primary language must show English language proficiency by one of the following: a) TOEFL examination score at or above 550 (paper based test and a 5.0 on the TWE test), 213 (computer based test), 79 (internet based test); b) IELTS test score of 6.5 or higher; c) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville; d) demonstration of a degree award from an acceptable English language institution.
5. Three letters of recommendation from individuals who are able to comment on the student's academic abilities and potential for success in graduate school.

Design of Interdisciplinary Degrees

In addition to established Graduate School policies and requirements, each Interdisciplinary Ph.D. Program will be required to meet specific criteria as follows:

1. The curriculum must include coursework representing each of the disciplinary areas in the interdisciplinary degree program. An overall minimum of 36 semester hours of graduate level coursework is required, but may be higher to reflect the standards for doctoral study in the disciplines represented in the interdisciplinary degree program.
2. Each program must be designed so that it is not dominated by a single department's offerings. A minimum of six hours of 600-level course work must be taken in each of at least two different departments or programs offering graduate degrees.
3. The curriculum plan must include coursework that provides training in research methodology deemed suitable to the interdisciplinary nature of the program.
4. A dissertation involving original research that crosses established disciplinary lines is required.
5. Faculty serving on committees and as mentors in the Interdisciplinary Ph.D. Program must have a doctorate degree or substantial evidence of relevant experience and must hold membership in the Graduate Faculty of a unit.

6. A student's primary mentor must meet their unit's minimum guidelines for directing doctoral dissertations. If a student's mentor has not directed a dissertation in the past, the student must also have a co-mentor who has previous experience directing dissertations.

Individually-Designed Programs of Study

An individual interested in exploring advanced studies in a field that transcends established academic/institutional boundaries may design a program of study in consultation with a faculty steering committee and the Director of the Interdisciplinary Studies Program. A program proposal must involve course work and faculty from at least two academic departments or units and it must cross traditional disciplinary organizational structures and programmatic lines of study.

An individual interested in this program must first identify faculty willing to serve on a steering committee, which will be composed of the primary mentor and at least two additional faculty representing at least two different departments or units. Before agreeing to participate in the supervision of an interdisciplinary Ph.D. student, faculty must obtain the consent of their departmental chair or dean.

The student will work with the steering committee to develop an Interdisciplinary Program of Study which must be submitted to the Graduate Council for review and approval before the student is allowed to matriculate. The Program of Study must justify the need for an interdisciplinary program and address the potential for career placement upon degree completion. The proposal must contain a curriculum plan and a description of the qualifying exam required to advance to candidacy.

Interdisciplinary Tracks of Study: Interdisciplinary Ph.D. Concentrations

Faculty may propose interdisciplinary tracks of study that will form the basis for suitable areas of concentration to train students. The track must meet the criteria outlined above in terms of minimum credit hours and the distribution of coursework across disciplinary lines. Proposed areas of concentration and interdisciplinary tracks of study will be subject to approval by the following academic bodies: 1) Unit Curriculum and Budget Committees; 2) Graduate Council; 3) Faculty Senate; 4) Provost. The development of an interdisciplinary track is the responsibility of the faculty, but the Assistant Dean for Interdisciplinary Studies will provide assistance and guidance. Participating faculty must have the consent of their departmental chair or dean to participate in an Interdisciplinary Track. Students in a track of study must choose a primary mentor, but may have co-mentors.

Requests for further information or assistance should be addressed to:

Paul DeMarco, Ph.D.
School of Interdisciplinary and Graduate Studies
Houchens Building, Suite 105
University of Louisville
Louisville, Kentucky 40292

Phone: (502) 852-5110
Email: paul.demarco@louisville.edu

Curriculum

Curriculum will be determined by a student's steering committee during the development of each individual's program proposal (see details above). For an Interdisciplinary Track, a core of faculty may propose a curriculum that will form the basis for an area of concentration.

Departmental Faculty

Faculty participants will be determined during the development of each individual student's program proposal.

Doctor of Philosophy in Interdisciplinary Studies: Specialization in Bioinformatics

Major: IS_PHDINFO
Degree Awarded: Ph.D.
Unit: IS
Program Webpage: <http://bioinformatics.louisville.edu/>

Program Information

Program Executive Committee Chair
Dr. Eric C. Rouchka, (502) 852-3060, [Email Dr. Rouchka](mailto:Eric.Rouchka@louisville.edu)

General Information

The Interdisciplinary Ph.D. Program in Bioinformatics (the Bioinformatics Program) trains students in bioinformatics for careers in research, education, and industry.

Defined as “the field of science in which biology, computer science, and information technology merge to form a single discipline”, bioinformatics is a broad and diverse domain, ranging from management of biological research databases to computational approaches to biomedical modeling and data analysis.

The Bioinformatics Program focuses on those aspects of bioinformatics that reflect the research interests and experience of the Program’s faculty. These include basic research in biostatistical methodology, computer science and mathematical modeling with applications to biochemistry, cell biology and molecular biology. The following areas have been identified and named by the Bioinformatics Program faculty to represent the focus application areas of the Program:

- Biomedical and Natural Sciences
- Computational Sciences
- Mathematics and Statistics

Students in the Bioinformatics Program specialize in one of the three focus application areas and graduate with cutting-edge expertise in this area and working knowledge in the other two focus application areas.

Curriculum

Graduate Studies -- Ph.D.

To earn the Doctor of Philosophy in Interdisciplinary Studies: Concentration in Bioinformatics, a student is required to successfully complete the following:

- Core coursework in the focus application areas
- Required coursework in the student’s area of specialization
- Elective courses in the student’s area of specialization
- Qualifying examination
- Dissertation
- Presentation and defense of dissertation

Good standing requires that the student maintain a minimum 3.0 grade point average. Upon successful completion of the written and oral portions of the qualifying examination, the examination committee will recommend acceptance into Ph.D. candidacy. Successful completion of the dissertation and its presentation and defense is established by the approval of the student’s dissertation committee and the approval of the chair of the sponsoring department and the program chair.

Programs of Study

Course requirements for the Interdisciplinary Ph.D. Degree Program in Bioinformatics consist of 16 core credit hours (that will be conditional based upon focus area) and 21 credit hours derived from a combination of required courses from a chosen focus area and electives from each of the three focus areas. Students with an appropriate background in the biomedical and natural sciences may petition to substitute a course in either the Computational Sciences or Mathematics and Statistics focus for the core course BIOC 545 Biochemistry I, and a corresponding course in either the Computational Sciences or Mathematics and Statistics for MBIO 667 Graduate Cell Biology, thus maintaining 16 core credit hours. Following acceptance into a focus area, students will be required to complete three courses totaling at least nine hours from the declared focus area. At least four additional elective courses (12 credit hours) will be selected from available elective courses, with the provision that two elective courses must be selected in each of the other two focus areas. The Program of Study will be determined by the student and approved by both an advisor residing in a declared focus area department and the Executive Committee. The following tables list the required courses for the core as well as the required and elective courses in each of the focus areas. Students must accumulate at least nine credit hours of dissertation.

Core Course Work

Department	Course	Description	Credits
BIOC	545*†	Biochemistry I	3
BIOC	630*	Responsible Conduct of Research: Survival Skills and Research Ethics	1
MBIO	667*	Graduate Cell Biology	3
PSYCH	571/609#	Computational Cognitive Science I	3
CECS	660*	Introduction to Bioinformatics	3
PHBI	750*	Statistical Methods for Bioinformatics	3

*All courses are required. †CHEM 645 may be substituted. Students may take either the BIOC 545/BIOC547 or CHEM 645/647 sequence but are not allowed to take the sequence BIOC 545/CHEM647 or CHEM 645/BIOC547. #Cross-listed as CECS 590-02.

Courses in Mathematics and Statistics

Department	Course	Description	Credits
MATH	505	Introduction to Partial Differential Equations	3
MATH	507	Fourier Series	3
MATH	561#	Probability	3
PHYS	565	Computational Physics	3
MATH	566	Nonparametric Statistical Methods	3
PHYS	625	Statistical Mechanics	3

PHST	630	Applied Statistical Models	3
MATH	636	Mathematical Modeling II	3
MATH	660	Probability Theory	3
PHST	661#	Probability	3
PHST	662#	Mathematical Statistics	3
MATH	562/662#	Advanced Mathematical Statistics	3
MATH	665	Advanced Linear Statistical Models	3
MATH	667*	Methods of Classification	3
MATH	670	Introduction to Stochastic Calculus	3
MATH	681	Combinatorics and Graph Theory I	3
MATH	682	Combinatorics and Graph Theory I	3
PHST	682	Multivariate Statistical Analysis	3
PHST	691	Bayesian Inference and Decision	3
PHST	710	Advanced Statistical Computing	3
PHST	711	Advanced Statistical Computing	3
PHST	725	Design of Experiments	3
PHBI	751	High-throughput Data Analysis	3
PHBI	752	Statistical Genetics	3
PHST	762	Advanced Statistical Inference	3
PHST	780	Advanced Nonparametric Statistics	3
PHST	781	Advanced Linear Models	3
PHST	782	Generalized Linear Models	3

#Credit only for one: MATH 561/PHST 661; MATH 562/PHST 662

Courses in Biomedical and Natural Sciences

Department	Course	Description	Credits
BIOL	542	Gene Structure and Function	3
BIOL	569	Evolution	3
BIOC	680	Biomolecular Interactions	3
BIOC	611	Biochemical and Molecular Methods	4
ASNB	614	Molecular Neuroscience	4
BIOC	641	Advanced Eukaryotic Genetics	3
BIOC	647#	Advanced Biochemistry II	4
CHEM	647	Advanced Biochemistry II	4

CHEM	648	Systems Biochemistry Principles and Practices	3
CHEM	652	Practical Approaches to Metabolomics	3
BIOC	661	Molecular Mechanisms of Toxicology	3
BIOC	668	Molecular Biology	3
BIOC	670	Protein Structure and Function	4
CHEM	684	Biophysical Chemistry	3

#Credit only for one: CHEM 645/BIOC 645, CHEM 647/BIOC 647. Students may take either the BIOC 545/BIOC547 or CHEM 645/647 sequence but are not allowed to take the sequence BIOC 545/CHEM647 or CHEM 645/BIOC547.

Courses in Computational Sciences

Department	Course	Description	Credits
CECS	535	Introduction to Databases	3
CECS	546	Knowledge Engineering and Expert Systems	3
CECS	619	Design and Analysis of Computer Algorithms	3
CECS	622	Simulation and Modeling of Discrete Engineering Systems	3
CECS	624	Advanced Simulation	3
CECS	627	Digital Image Processing	3
CECS	628	Computer Graphics	3
CECS	629	Distributed System Design	3
CECS	630	Advanced Databases and Data Warehousing	3
CECS	632	Data Mining	3
CECS	641	Introduction to Medical Imaging	3
CECS	643	Introduction to Biomedical Computing	3
CECS	645	Advanced Artificial Intelligence	3
CECS	646	Intelligent Systems	3

Departmental Faculty

Participating Faculty for the Bioinformatics Program have primary appointments in various departments across the University, including:

- **College of Arts and Sciences:** Departments of Biology, Chemistry, Mathematics, and Psychological and Brain Sciences
- **J.B. Speed School of Engineering:** Department of Computer Engineering and Computer Science
- **School of Medicine:** Departments of Anatomical Sciences and Neurobiology and Biochemistry and Molecular Biology

- **School of Public Health and Information Sciences:** Departments of Bioinformatics and Biostatistics, Environmental Health and Occupational Health Sciences, and Epidemiology and Population Health

Eric C. Rouchka

Executive Committee Chair
*D.Sc., Washington University
in St. Louis*

Associate Professor,
Computer Engineering and
Computer Science

Theodore S. Kalbfleisch,

Executive Committee Vice-
Chair

Ph.D., Boston University

Assistant Professor,
Biochemistry and Molecular
Biology

Guy Brock

*Ph.D., University of New
Mexico*

Assistant Professor,
Bioinformatics and
Biostatistics

Nigel G.F. Cooper

*Ph.D., University of
Tennessee Health Sciences
Center*

Professor, Anatomical
Sciences and Neurobiology

Somnath Datta

*Ph.D., Michigan State
University*

Professor, Bioinformatics and
Biostatistics

Susmita Datta

Ph.D., University of Georgia
Professor, Bioinformatics and
Biostatistics

Ryan Gill

*Ph.D., The University of
Texas at Dallas*

Associate Professor,
Mathematics

Gary Hoyle

Ph.D., Duke University

Professor, Environmental and
Occupational Health Sciences

Richard Kerber

*Ph.D., Northwestern
University*

Associate Professor,
Epidemiology and Population
Health

Seongho Kim

*Ph.D., Korea Advanced
Institute of Science and
Technology*

Assistant Professor,
Bioinformatics and
Biostatistics

Jiaxu Li

*Ph.D., Arizona State
University*

Assistant Professor,
Mathematics

Hunter Moseley

*Ph.D., University of Alabama
at Birmingham*

Assistant Professor,
Chemistry

Rachel Neal

*Ph.D., University of
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Doctor of Philosophy in Interdisciplinary Studies: Specialization in Translational Neuroscience

Major: IS_PHDSTN

Degree Awarded: Ph.D.

Unit: IS

Program Webpage: <http://louisville.edu/medicine/departments/neurosurgery/>

Program Information

The Interdisciplinary Program in Translational Neuroscience (IPTN) is a PhD program designed to provide broad training in neuroscience to prepare students for careers in academic, clinical and

translational research involving the nervous system including disease, trauma and developmental disorders.

Students will be assigned advisors initially to help them with course selection, choosing laboratories to rotate in and finding research mentors. Committee members will be assembled from the participating professors/lecturers representing a broad range of both basic and clinical Neuroscience. Individualized curricula will emphasize basic genetic, molecular, cellular, and/or systems mechanisms that underlie a wide range of neurological and neuropsychiatric diseases and disorders.

Students who successfully complete the program will gain a strong academic background in the neurosciences and intellectual mastery of relevant scientific literature with a major emphasis either in the system/cognitive or cellular/molecular areas. They will gain a good understanding of the ethical issues involved in conducting translational research and receive outstanding training in how to conduct basic science research and/or clinical research with patients.

Areas of focus include:

- Spinal cord injury, motor systems and rehabilitation.
- Vision, retina and visual pathways
- Sensory systems, autonomic nervous system and pain
- Developmental neurobiology
- Behavioral & cognitive neuroscience
- Neuropharmacology and neurochemistry

Curriculum

Graduate Studies – PhD

To earn the Doctor of Philosophy in Interdisciplinary Studies: Concentration in Translational Neuroscience, a student is required to successfully complete the following:

- Core Courses
- Other required and elective courses as approved
- Qualifying examination
- Laboratory Rotations
- Original Investigation
- Dissertation and defense

Core Courses:

Fundamentals of Neuroscience: ASNB XYZ Fall semester. 3 credit hours. A survey of processes underlying the functioning of neurons and neural systems.

Translational Neuroscience: NSCI 601 Spring semester. 3 credit hours. This interdisciplinary course combines the basic genetic, molecular, and cellular mechanisms that underlie a wide

range of neurological and neuropsychiatric diseases and disorders with their clinical manifestations. The goal is to foster an understanding of the links between basic science, disease-oriented research, and translational research, building an interdisciplinary foundation of knowledge in basic and clinical neuroscience. Classes will be taught by experts in basic and clinical neuroscience. For each thematic area, there will be one discussion session/journal club that will be led by a student and will focus on the topic being covered.

Advanced Biostatistics (BIOL 650); 4 credit hours. Application of statistical methods commonly used in life sciences, with emphasis on interpretation of experimental data. Alternate statistics classes (e.g., PSYC 610/611; others) can be substituted with student committee approval. A minimum of 4 credit hours total is required.

Research Ethics (BIOC 630). Spring semester. 1 credit hour. Topics include ethical conduct in research; data acquisition, management, sharing and ownership; mentor/trainee responsibilities; publication practices; peer review; conflict of interest; as well as career guidance and opportunities.

Neuroscience Seminar Series Journal Club (ASNB 606). 1 credit hour/ semester (total = 4 hours). Students present their review/critique of published journal articles from the laboratories of neuroscientists speaking in the Neuroscience Series. The host faculty for each seminar speaker facilitates the discussion. The goals of this course are to 1) provide students with background information needed to understand Neuroscience Seminars 2) increase student participation and enhance their interactions with Neuroscience Seminar speakers during the seminar and student-speaker lunches 3) teach critical thinking and evaluation of Neuroscience literature.

Example Electives: Customized to each student (many more available).

PSYC 642 Behavioral Neuroscience
MBIO 667 Cell Biology
PSYC 645 Cognitive Neuroscience
PSYC 621 Cognitive Processes
ASNB 677 Current Topics in Sensory Systems
ASNB 617 Developmental Neurobiology

Laboratory Rotations and Original Investigation: Students must work in a laboratory during every semester of their graduate training. Before choosing a laboratory for their dissertation research, students must take rotation hours through at least one laboratory in the interdisciplinary program. These and subsequent research hours (until the student has entered candidacy) will be taken under GS 699 Independent Research.

Mentor and Advisory Committee: Once a student selects a mentor, he or she will form an Advisory Committee consisting of the mentor plus 4 additional members of the Translational Neuroscience Program faculty. The faculty members composing the Advisory Committee will have primary appointments in a minimum of three separate departments. The Advisory

Committee may be reformulated, with the permission of the Executive Committee, as the student progresses towards completion of the degree.

QUALIFYING EXAMINATION: (Completion by the end of the second year).

Part 1: The student's committee will prepare two questions designed to assess the student's ability to integrate course material, to demonstrate critical thinking, and to evaluate neuroscience literature related to the student's area of interest. These two questions will be submitted to the chair of the Neuroscience Steering Committee, who will select one question for distribution to the student. The exam is "open-book" and the student will have one month to complete the exam. The exam must be written in the student's own words, and represent the student's unaided efforts. Prior to submission, it should not be edited or critiqued in any form by the mentor or by the student's committee. The answer for Part 1 should be no less than 25 pages and no more than 35 pages in length, double-spaced, not including references. The use of books and review articles is acceptable; however, a significant portion of the paper must be based on recent, primary sources in scientific journals. The answer will be evaluated on a mastery of basic background and conceptual material, familiarity with the literature in the field of study and critical thinking about the cited works and the scientific question. Part 2 of the exam will consist of an oral defense of the student's answer before the program faculty. Faculty may also ask general neuroscience questions using a current graduate-level neuroscience text as a source and/or a set of classic papers.

Other Programmatic Activities (students are also required to participate in the following programmatic activities):

Student Research Presentations: Students in their second through fourth years of study are required to present their research progress to the Neuroscience Program faculty.

Neuroscience Research Day: Students are expected to participate in this annual event sponsored by the Louisville Chapter of the Society for Neuroscience

The Neuroscience Seminar Series: (Fall and Spring semesters) All students are required to attend neuroscience research seminars. Two researchers are brought in each month during the academic year whose technique or research focus areas are of broad interest to the university's diverse neuroscience research community.

Departmental Faculty

Faculty participants will be determined during the development of each individual student's program proposal.

Master of Science in Social Work

Major: SW

Degree Awarded: MSSW

Unit: GK

Program Webpage: <http://louisville.edu/kent>

Program Information

Accreditation of the M.S.S.W.

The Master of Science in Social Work program is accredited by the Council on Social Work Education. The Master of Science in Social Work with a Specialization in Marriage and Family

Therapy Program and the Post Masters Certificate in Marriage and Family Therapy Program is accredited by the Commission on Accreditation for Marriage and Family Education.

General Information

The Kent School of Social work seeks to prepare well-qualified social workers who practice from a strong professional value- base to serve the metropolitan mission of the university. Our graduates promote social justice through their practices with diverse client systems. In the context of a research institution, the Kent School is committed to knowledge development that informs social work practice, recognizing the importance of interdisciplinary collaboration to solve complex social problems.

Social work is a profession concerned with the prevention and amelioration of social problems and the enhancement of the quality of human life. Social workers achieve these goals through direct practice with individuals, families, groups, and community organizations; advocacy; social planning; social policy analysis and formulation; research; and administration. Social work practice helps people mobilize their resources to deal with present circumstances and to enlarge their prospects for the future. Since problems of the individual cannot be seen in any meaningful way in isolation from the broad social and community context in which they occur, social work also takes a leadership role in bringing about institutional and social change.

Admission Procedure

Persons interested in admission to the Kent School should visit louisville.edu/kent; contact the Coordinator of Admissions, Kent School of Social Work, Oppenheimer Hall, University of Louisville, Louisville, Kentucky 40292 (502) 852-0414; or attend a prospective student session. Please consult the Kent School website for a list of scheduled prospective student sessions.

Kent School seeks mature students with a demonstrated ability to work with people, emotional stability, good interpersonal skills, good health, and the ability to perform well academically. To ensure that entering students meet these standards, the faculty has set the following requirements:

- A bachelor's degree from a regionally accredited institution of higher learning;
- A minimum of 27 credit hours in the social sciences, i.e. communications (6), natural sciences (3), humanities (9), and social sciences (9);
- A minimum of three credit hours in each of the following courses: statistics, research methodology, and human biology.

Additionally, an undergraduate GPA of 3.00 is recommended to be considered for admission to Kent School. While we consider applicants whose undergraduate GPA does not meet this standard, applicants with GPAs less than 2.75 must take the Miller Analogies Test or the Graduate Record Exam.

The application file is complete when all of the following are received by Graduate Admissions, University of Louisville, Louisville, Kentucky 40292:

1. **Completed Graduate Admission application.** It is recommended that the application be typed. Application forms are available on-line at <http://louisville.edu/graduate/apply> **\$60 non-refundable application processing fee.** It is suggested that you apply online at the above website and pay your application with a credit card or electronic check. If you submit a hard copy application, attach a personal check, money order or cashier's check payable to University of Louisville. Note: Paying your application fee with a check will delay the process for 8 days.
2. An **official academic transcript** is required from each college/university you have attended, including those at which you were enrolled for academic credit as a non-degree student and/or credits which you transferred to another college. All transcripts must bear the official seal and signature of the institution attended. You must request these transcripts directly from the Registrar or appropriate officer of each institution and ask that they send them directly to Graduate Admissions, University of Louisville, Louisville, KY 40292. If you are a University of Louisville graduate, your U of L transcript will be provided automatically, with no request needed from you. Applicants with a cumulative grade point average less than 2.75 are required to submit an acceptable Miller Analogies Test (MAT) score or an acceptable Graduate Record Exam (GRE) score with their application. Dates of M.A.T. tests and test links to the GRE are available at <http://louisville.edu/testing>.
3. **Advanced Standing Admissions:** Applicants who obtained a BSW within the last 7 years from an undergraduate social work program accredited or in candidacy by CSWE with a cumulative GPA of 3.00 and a social work GPA of 3.25 may be eligible to apply to the Advanced Standing 30-hour program. BSW applicants with less than a cumulative 3.0 GPA and a social work GPA of less than 3.25 will rarely be considered for the 30-hour program and will rarely be allowed to transfer social work coursework from their undergraduate degree toward their MSSW degree. Additionally, if an Advanced Standing applicant received a grade of "C" or lower in any social work foundation courses as a BSW, they may be asked to re-take these courses by the Admissions Committee as a condition of admission. Applicants who wish to be considered for 30 hour Advanced Standing program must submit their BSW Practicum Field Evaluation and 1 of their 3 letters of recommendation must be from their Director of Field Education.
4. Personal statement - This statement must be submitted with the application for admission. Submit a carefully written personal statement of approximately 700-1000 words that addresses the following four topics:
 - Describe a social problem or problem strategy that is of greatest interest to you.
 - Describe your commitment to engage in social work roles that involve social welfare institutions and systems most likely to have an effect on major social problems.
 - Describe in detail how you would insure that your work is relevant to the most economically and socially disadvantaged groups in our society.
 - Describe the intellectual and personal qualifications that will enable you to practice social work successfully.

Note: If there are gaps or deficiencies in your academic record, please address these in an addendum to your statement. The personal statement may be emailed to gradadm@louisville.edu after you have submitted your online application (recommended).

5. Required Statements in Personal Statement (5)

1. Statement of authenticity - Each applicant is required to add the following statement to the beginning of their personal statement accompanied by the applicant's signature and date of signature: *"Academic dishonesty is prohibited at the University of Louisville. In keeping with this policy, I certify the material contained in this application is solely my work and that I have neither cheated nor plagiarized in its creation"*.
2. **Release and Waiver** - Applicants are required to submit the following release and waiver which authorizes the release of academic records. *Please add this completed Release and Waiver to the **bottom of your Personal Statement**.
*RELEASE and WAIVER for Admission to the Kent School of Social Work: I, (print name) _____, having made application for admission to the University of Louisville Kent School of Social Work (hereinafter University), hereby authorize the University to obtain any information and records available pertaining to, and in any manner related to, my enrollment at (list prior colleges) _____ (hereinafter Institution). This release includes copies of any education records including, but not limited to, academic, attendance, personal history and disciplinary records. I further authorize the University to contact any employees of the Institution to obtain verbal and written information concerning me. I hereby release the University and the Institution including any of their officers, directors, trustees or employees, individually and collectively, from any and all liability for damage of any nature whatsoever and of whatever kind which may at any time result to me, my heirs or assigns because of compliance with this authorization. A copy of this RELEASE and WAIVER shall be honored as an original. _____
Signature
(list prior college ID's) _____ Student ID# at Institution
_____ Date _____
3. **Ethical Standards of Behavior Agreement:** Please review, complete and sign the Kent School's ethical standards of behavior agreement at this link and submit to Graduate Admissions with your personal statement: <http://louisville.edu/kent/PROSPECTIVE%20STUDENTS/ethicalstandards.docx>
4. **Two Technology admissions documents**--a) Technology Agreement and b) Personal Commitment Contract--these agreements must be completed and signed and can be found on the Application Checklist at <http://www.louisville.edu/kent> They can be emailed to gradadm@louisville.edu after completing an online application.

6. **Resume:** Please include current/past employment as well as volunteer and service roles served. This can be emailed to gradadm@louisville.edu after you have submitted your online application.
7. **Addendum to Personal Statement:** Submit an Addendum if you fulfill any of the following categories:
8. **All applicants:** If there are gaps or deficiencies in your academic record or if you have ever had an academic review, please explain (recommended for all applicants with a GPA of 3.0 or less)
 1. **MSSW ONLINE applicants only:** Rationale for Online Learning Essay--please submit a separate essay describing the factors that played a significant role in your decision to apply to the MSSW Online program in approximately 500 words. In your description, please include 1) a discussion of the most appealing aspects of the Online program, 2) concerns you have related to participation in the Online program, and 3) any personal attributes that will help you succeed in an online learning environment. Email all to gradadm@louisville.edu
9. **Three recommendations** - each submitted on a University of Louisville Recommendation of School of Interdisciplinary and Graduate Studies Form in a sealed, signed envelope or by selecting the "online" option when completing the online graduate admission application. Applicants are encouraged to submit at least one academic recommendation. If the applicant has not enrolled in classes within the past 5 years, this requirement may be waived and an additional work reference substituted. Evaluations should be submitted from persons who have been directly responsible for assessing and supervising your human service related work/volunteer experience and academic performance. Avoid personal references (co-workers, mentors, advisors, friends, clergy, personal therapists, etc.). The Kent School requires three recommendation forms, however letters accompanying the forms are welcomed and strongly encouraged. Applicants who wish to be considered for the 30-hour Advanced Standing program must submit their BSW Practicum Evaluation and one of their three letters of recommendation must be from their Director of Field Education, on-site Practicum Supervisor, or Practicum/Practice Instructor. The school reserves the right to request additional supportive material from persons acquainted with the applicant's academic and/or practice capabilities.
10. **Pre-Admission Practicum Application:** In an effort to expedite the process of obtaining a practicum site IF ADMITTED, please complete the application here: <https://cwte.louisville.edu/limesurvey/index.php/267771/lang-en> . For questions pertaining to this document, please contact the Director of Field Education, Martha Fuller, at martha.a.fuller@louisville.edu
11. **Specializations:** If you wish to be considered for the MFT, SSW, GER, MH, ADCS, PSO, or MIL specializations, please check the prospective students link at our website louisville.edu/kent/ for any additional admission procedures, documents and deadlines necessary for consideration for admission to a particular specialization. Admission to these programs follows admission to Kent School but is not automatic. The deadline for all specializations is 1/15. Students accepted into the ONLINE MSSW program are not eligible for the MFT or SSW specializations.

12. **Dual Degrees:** If you wish to be considered for any of the **dual degree programs**, you must also complete the other unit's application process. Students accepted into the ONLINE MSSW program are not eligible for dual degrees.
13. **International students** for whom English is not their primary language must show English proficiency by demonstration of a specified level of proficiency on the TOEFL exam or by successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at UofL or by demonstration of a degree award from an acceptable English language institution. A score of 550 on the paper-based TOEFL or a score of 213 on the computer-based TOEFL or a score of 79-80 on Internet-based TOEFL is required. Scores must be submitted before a decision will be made on an application. More information at <http://louisville.edu/graduate/futurestudents/international-applicants/international-students>. A minimum score of 6.5 is required if taking the International English Language Testing System (IELTS). More information at www.ielts.org and www.ets.org/toefl
14. **International students** may be required to have their transcripts evaluated by a credential evaluation service in the U.S. Two possible services include: World Education Services, Inc., at www.wes.org and Educational Credential Evaluators at www.ece.org. Students may be required to participate in a brief telephone interview as part of the admissions process. When completing the I-20, students should note that they will be placed in a practicum as part of their education. Admitted students should contact UL's International Center to determine if any other immigration documentation is necessary to begin practicum at <http://louisville.edu/internationalcenter>.
15. **MSSW Online US Citizens Living Abroad & Outside of Kentucky:** Applicants who live outside of the US will need to consult with Kent's Director of Field Education, Martha Fuller, in advance of applying to the MSSW program to ensure the feasibility of meeting the practicum placement requirements in accordance with CSWE policies at martha.a.fuller@louisville.edu. A qualified practicum supervisor must be readily available (eg, the supervisor has an MSSW/MSW degree from a CSWE accredited institution or similar CSWE type accreditation) and/or the applicant must participate in identifying a qualified practicum supervisor with the support of the Field Education Office. Both applicants outside of the US and outside of KY must be willing to participate in the process of identifying a qualified practicum supervisor with the support of the Field Education Office. MSSW Online applicants in rural areas must consider that they may be required to travel to their practicum placements if no qualifying practicums are available in their local area.

All of the above materials must be received in Graduate Admissions by one of the deadlines listed below in the year in which you hope to begin coursework.

M.S.S.W. Entry Date

New 60 hour program students enroll in the fall semester only. New 30 hour program students may enroll in the fall or summer semester only.

M.S.S.W. Admission Application Date

Consideration of applications begins in November. The final deadline varies as explained below, but because entry into the program is highly competitive, applicants are encouraged to submit their applications early to ensure a space. All admissions materials must be received in Graduate Admissions by the listed date in order for an applicant to be considered for admission by a particular deadline. Earlier applicants have more options and enjoy clear advantages. Kent School deadlines for admission are classified as follows:

January 30th Special Circumstances Deadline

Applicants who must meet this deadline:

- 74-hr MSSW-MFT specialization applicants (not available to online students)
- 30-hr applicants who wish to apply to a specialization (MFT and School social work are not available to online students)
- All applicants who want a practicum placement the first year that is not already established on Kent's Agency Roster

February 15 Early Bird Admission

Applicants who must meet this deadline:

- 30-hr applicants who wish to start in the Summer

May 15 Traditional Deadline***EXCEPTIONS TO DEADLINES**

- Applications after January 30th for 30-hr Specializations (on campus and online) and the 74-hr MSSW-MFT specialization (on campus only) will only be considered if space in the specialization is available AND if an appropriate practicum site is readily available.
- Applications submitted after May 30th will be considered on a case by case basis if space allows and ONLY if the applicant is willing to choose a curriculum plan that delays practicum until the following year. (Plans C-F for 60-hr, and Plans EE/FF for 30-hr; 30-hr applicants at this stage must also be working at a social service agency to be eligible for these plans in order to execute the year-long research project.

*Complete means all materials are received in Graduate Admissions by deadline date.

M.S.S.W. Admission Status

The graduate curriculum is organized into a four (4) semester, sixty (60) hour sequence of classroom courses and field education over a 16 month period, progressing from a generalist base to advanced practice. Students who are admitted and do not have a Council on Social Work Education accredited Bachelor of Social Work degree enter the REGULAR PROGRAM [sixty

(60) hour program]. Students who have graduated within the previous five years from an undergraduate social work program accredited or in candidacy by CSWE with a cumulative grade point average of 3.00 and who have demonstrated good academic performance in their social work courses may be enrolled in ADVANCED STANDING and complete the thirty (30) hour advanced portion of the program. No academic credit is given for life or work experience.

The Weekend Program offers, particularly for working students or commuters from other geographic areas, an opportunity to earn an M.S.S.W. degree by attending classes on Friday evenings and Saturday. Part-time students must enroll for a minimum of six credit hours each semester. All part-time students enrolled in Kent School must complete the program within four years. For more information about all of the possible curriculum plans, please refer to the Kent School's Catalog online at the *future students* link of the Kent School website, louisville.edu/kent.

M.S.S.W. Dual Degree Programs

The Kent School also offers joint degrees with the Brandeis School of Law at the University of Louisville (M.S.S.W. /J.D.), the Louisville Presbyterian Seminary (M.S.S.W./M.Div), the Department of Pan-African Studies at the University of Louisville (M.S.S.W./M.A.) and the Department of Women's and Gender Studies at the University of Louisville (M.S.S.W./M.A.). Applications must be submitted independently to each academic unit/institution. Additionally, the Kent School offers the opportunity to earn a specialization in Marriage and Family Therapy (MFT), School Social Work (SSW), Alcohol and Drug Counseling (ADCS), or Gerontology (GER) while obtaining the M.S.S.W. degree. In general, all of these programs require the student take electives in a particular concentration and take a targeted advanced practicum. Dual degree programs require additional coursework, while the specializations may or may not require additional coursework. For more complete descriptions of these programs, please refer to the *prospective students* link at the Kent School website, louisville.edu/kent.

M.S.S.W./Master in Divinity

The joint M.S.S.W./M.Div program recognizes the value of professional education in two interrelated fields and encourages students who have an interest in both ministry and social work to pursue these degrees simultaneously. A student may enter the dual degree program from social work or theology.

M.S.S.W./Juris Doctor

The dual M.S.S.W. /J.D. program recognizes the value of interdisciplinary study and encourages students having an interest in both social work and law to pursue these degrees simultaneously. Social workers and lawyers often seek to address identical or related societal concerns, albeit from different perspectives; understanding both disciplines enhances one's effectiveness in both professional capacities. Law courses strengthen the social worker's understanding of legal doctrine and structures that have an impact on social institutions and human conditions; social

work courses help lawyers to better understand human behavior, conflict resolution and social welfare institutions.

M.S.S.W. /M.A. in Pan-African Studies

The dual M.S.S.W./PAS program recognizes the value of professional education in two interrelated fields and encourages students who have an interest in both Pan-African Studies and Social Work to pursue these degrees simultaneously. Social workers and Pan-African studies scholars often seek to address identical or related societal concerns, albeit from different perspectives; understanding both disciplines enhances one's effectiveness in both the analysis of and engagement with contemporary social and cultural issues. Pan-African Studies courses strengthen the social worker's understanding of the historical foundations for policies and structures that have an impact on social institutions and human conditions; social work courses help Pan-African scholars or activists to better understand human behavior, conflict resolution and social welfare institutions. A Pan African Studies and Social Work combination provides the tools of social change for an historic problem of racial injustice.

M.S.S.W. /M.A. in Women's and Gender Studies

The dual M.S.S.W. / WGST program recognizes the value of professional education in two interrelated fields and encourages students who have an interest in both Women's and Gender Studies and Social Work to pursue these degrees simultaneously. Social workers and Women's and Gender Studies scholars often seek to address identical or related societal concerns, albeit from different perspectives; understanding both disciplines enhances one's effectiveness in both the analysis of and engagement with contemporary social and cultural issues. Women's and Gender Studies courses strengthen the social worker's understanding of the historical foundations for policies and structures that have an impact on social institutions and human conditions; social work courses help Women's and Gender Studies scholars or activists to better understand human behavior, conflict resolution and social welfare institutions. A Women's and Gender Studies and Social Work combination provides the tools of social change for an historic problem of gender inequality and injustice.

M.S.S.W./M.A. in Bioethics and Medical Humanities

The dual MSSW/BETH degree program focuses on providing our social work graduates a contextual experience within the interdisciplinary fields that comprise bioethics in addition to the development of social work skills. Bioethics is an inherently interdisciplinary field, located principally at the intersection of philosophy, the law, and the health care professions, such as clinical medicine and nursing, but drawing as well from social science disciplines as diverse as sociology, clinical psychology, and social work. In addition to any career options presented by the MSSW, degree holders may then participate in hospital ethics committees, teach medical ethics and humanities, or be prepared for future doctoral-level work in medical ethics and humanities.

M.S.S.W. Specializations

For more complete descriptions of the following specializations, please refer to the prospective students link at the Kent School website: <http://www.louisville.edu/kent>

Marriage and Family Therapy Specialization (MFT)--not available to online students

Students may complete the Specialization in Marriage and Family Therapy program as part of the M.S.S.W. degree. The program prepares students for clinical practice with families in the context of their communities, particularly those families who are disadvantaged and/or typically underserved. Completion of the program prepares students for licensure as a marriage and family therapist in Kentucky and for clinical membership in the American Association for Marriage and Family Therapy. The M.S.S.W./MFT specialization requires 14 graduate credit hours in addition to the 60 hours required for the M.S.S.W.. Only a limited amount of students can be admitted to this specialization; for more information on application specifics, prospective students should access the program's website at

www.louisville.edu/kent/PROSPECTIVE%20STUDENTS/mssw-specializations

School Social Work Specialization (SSW)--not available to online students

M.S.S.W. students who want to practice social work in a school setting can earn a school social work specialization within the Kent School master's curriculum. Students who select this specialization learn how to help children and families overcome barriers to learning through home intervention. Those who complete the specialization meet the Kentucky Council on Teacher Education's requirements for certification as a school social worker.

Alcohol and Drug Counselor Specialization (ADCS)

Substance abuse is widely recognized as one of the top health problems in the USA and is attracting increasing attention and funding. However, there is an identified shortage of qualified addiction counselors--and students who prepare themselves for a career in chemical dependency can hope to gain immediate employment after graduation, and possibly before. In this regard, students should be aware of a professional certification, the Certified Alcohol and Drug Counselor (CADC) certification that is valued by addiction treatment agencies with comparable respect and compensation as the Licensed Clinical Social Work (LCSW) qualification. For those who are interested in initiating their careers in a clinical substance abuse treatment setting, they can begin to fulfill specialized requirements of the CADC certification while completing normal requirements of the M.S.S.W. program. The Kent School's ADCS program will (1) satisfy many of the requirements of the CADC program; (2) teach specialized knowledge and skills; (3) provide formal recognition of students' specialized knowledge; (4) position students for employment and advancement in a broad array of specialized substance abuse roles; and (5) include specialized faculty mentoring and suggestions on finding employment.

Gerontology Specialization (GER)

The nation's burgeoning aging population is increasing the demand for well-trained and competent social workers to respond to the needs of older adults and their families. The U.S. Department of Labor reports that geriatric social work is one of the most rapidly growing occupations, with the promise of job security. Start-up funding for this specialization was provided by the John A. Harford Foundation, the New York Academy of Medicine and Social Work Leadership Institute, through a nationally known Practicum Partnership Program centered on competency-focused leadership education and rotation field practicums with community experts. Kent School was one of a handful of programs nationwide selected to be a part of this exciting initiative.

Mental Health Specialization (MH)

The mental health specialization (MH) prepares students to enter into the mental health field by focusing on theoretical perspectives regarding the course and etiology of mental illness, diagnostic and assessment skills, evidence-based approaches, knowledge of mental health services, policies, and programs in the context of social work practice and values. Students complete their advance practicum rotation in a mental health setting providing the opportunity to build collaborative and interdisciplinary skills and professional identity by integrating knowledge with an intricate understanding of mental health practice, policy and service delivery.

Psychosocial Oncology Specialization (PSO)

The Kent School of Social Work offers the first specialization in psychosocial oncology in the nation. The high rate of cancer on local, national, and global levels and the potential shortage of oncology social workers are creating the demand for skilled practitioners. Responding to the growing need for social workers who are trained in cancer care, this program will prepare students with the knowledge and skills for meeting the psychosocial health needs of persons with cancer and their families. Students will learn how to apply skills such as assessment, counseling, palliative care, program planning and evaluation in cancer care settings. Our students work in a variety of health settings in the full range of care for cancer patients.

Military Specialization (MIL)

The Master of Science in Social Work –Military Social Work Specialization program is designed to prepare students to provide services to persons who have served or are serving in the military and their families. The specialization focuses on theoretical perspectives, and policy implications concerning problems facing service members and their families as well as programs and application of interventions to ameliorate them. It is recognized that those seeking assistance from problems associated with military service may be seen in a myriad of programs both inside and outside the frame of the more traditionally recognized military service delivery systems. Thus students can complete an advanced practicum rotation from one of the many settings which provide the opportunity to work with military members their families or retirees. During their

practicum students will be able to hone their skills and collaborate with other professions in the provision of services for this population by integrating knowledge learned with practice.

Curriculum

For a complete description of possible 30 and 60 hour curriculum plans, please refer to the Kent School website: louisville.edu/kent.

Cognitive Flexibility Theory as developed by Spiro (1990) guides the underlying curriculum philosophy. The main premise of the curriculum is to provide students strategies to learn challenging materials, to encourage flexibility in the use of knowledge, and to change the underlying ways of thinking. At the end of their studies students will achieve a deeper, more complex understanding of social work, they will be able to critically evaluate and contemplate the material while experimenting with the flexible application of the knowledge in a variety of contexts. This higher order of thinking that will be developed and promoted with the curriculum is referred to as critical thinking.

This curriculum philosophy responds well to social work as an ever changing and evolving profession which responds to the radically changing needs and demands of society. It is impossible for any curriculum to address each problem or case example social work graduates may face in their practice. Cognitive flexibility theory provides avenues and tools for students to integrate their learning experiences in such a way as to maximize their potential to meet the demands of the profession upon graduation. The curriculum is designed to enhance students' ability to enable the diverse client systems they work with to make decisions that contribute to the quality and health of these clients systems. The focus will also be on decisions that promote social justice. The curriculum is designed to deliver graduate social workers who think critically about what they do, why they do it, and what outcomes they hope will results from the social work practice they do.

Critical thinking is defined as "the intellectual disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief or action" (Scriven & Paul, 2004). Critical thinking includes specific skills such as problem-solving and the ability to integrate knowledge from multiple disciplines and theories of human behavior. Throughout the curriculum, there is an emphasis on critical reflection, or appraisal of various points of view no matter what the source. The curriculum draws heavily on social science knowledge and integrates this with problem-solving phases such as assessment, intervention, and evaluation. In this respect, the curriculum is designed to teach students to access, integrate, and assess practice and policy related research to solve social problems and to work towards social justice. When critical thinking skills are used effectively, it leads to transparency and promotes social change, particularly with and on behalf of vulnerable and oppressed individuals and groups of people.

Bruner's spiral curriculum format (1991) is used to implement the above mentioned cognitive flexibility philosophy in the development of higher order critical thinking skills. With this

format, topics are revisited throughout the curriculum, while increasing the level of difficulty, complexity and depth of the area and linking new knowledge or information to previous levels of learning on the same topic to increase the competency of the students. Students will be introduced in the foundation curriculum to different strategies on how to develop critical thinking. In the advanced curriculum, students will move towards a higher level of complexity in their thinking because they will be required to analyze problems from multiple perspectives, evaluate multiple sources of evidence, and address complex issues and problems incorporating multiple level forces on client systems.

M.S.S.W. Foundation Curriculum

The foundation curriculum promotes a generalist perspective in which the simultaneous impact of many systemic levels (individuals, families, groups, organizations, and communities) on clients' lives is critically analyzed and recognized. The foundation builds upon a liberal arts base that fosters an understanding of society as a complex organization of diverse people and ideas. Social problems are understood as occurring within the nexus of culture, conflict, development, ecology, and systems and as such, efforts to help or intervene must include consideration of these forces. Students will be able to critically identify and assess social problems, specifically attending to 1) how such problems are maintained, 2) how they impact the quality of people's life, 3) cultural sensitivity and appreciation of marginalized people, and 4) how to actively promote social and economic justice. In the foundation year, the focus is on the development of critical thinking skills in all the areas mentioned.

M.S.S.W. Advanced Curriculum - Advanced Social Work Practice

The advanced curriculum seeks to develop the utilization and application of critical thinking on all levels - in reading professional writing and research, in students' practica, in the classroom, and in the students' own thinking. Consistently monitoring practice ethically, evaluating theoretical principles and epistemologies, and utilizing technological advances become basic practice patterns. Specific skill sets developed include: 1) Creating, organizing and integrating ideas and action on engaging diverse client systems effectively in change; 2) Assessing, conceptualizing and analyzing theoretical, practice and research problems from multiple perspectives and utilize critical thinking skills to formulate impressions based upon the data; 3) Analyzing, synthesizing and evaluating the evidence available to guide advanced social work practice; 4) Synthesizing, formulating and implementing a plan of action for social work practice that addresses complex issues and problems, builds consensus and incorporates multiple-level forces on client systems; 5) Analyzing and evaluating data of client progress and outcomes and assess implications and consequences of this progress and outcomes; 6) Synthesizing, creating, and organizing ideas from theory, research and practice for social justice; and 7) Demonstrating the ability to integrate culturally competent skills into all aspects of social work practice.

These skills will be used to actively pursue social change, particularly with and on behalf of vulnerable and oppressed client systems. Students will learn how to become leaders in social change efforts focused primarily on issues of poverty, discrimination, and other forms of social injustice.

To assist graduates in their future professional careers, these skills are organized around three practice foci: 1) children and families, 2) health and mental health, and 3) community and international practice. These domains give opportunity for students to focus on clustered learning within the context of these fields of practice. Recognizing that the employment of students after graduation is often a function of geography and personal circumstance, the school allows students the programmatic option of combining interests among focus areas.

While curricular options do exist for students to develop a certain subject-matter expertise, the recognition of the School that it needs to prepare students more broadly places the principal focus of the concentration work on a high-level critical thinking about social work engagement and also on the translational knowledge and skills that support the graduates' movement from one field of practice to another. Once students learn how to learn and how to think about social work practices, and they understand the components of ethical practice and the responsibility to increase specific field-of-practice expertise, they will be better equipped to practice in a world where knowledge changes and transforms what we do on a rapidly accelerating curve.

M.S.S.W. Practicum Education

For additional information, please go to: <http://www.louisville.edu/kent>. All students admitted to the 60 credit-hour program are required to satisfactorily complete SW 670, SW 671, SW 672 and SW 673 (900 clock hours) in approved practicum sites. Students admitted to the 30 credit-hour program are required to satisfactorily complete SW 672 and SW 673 (450 clock hours) practicum in an approved site. A growing number of students face the necessity of having to be employed full-time while undertaking their M.S.S.W. degree requirements. The Kent School faculty understands this and tries to address such circumstances through both the evening and weekend classroom course schedules, but it is important to note there are no evening and weekend practicum options. The school's present policies about on-job field placements are explained below and in The Field Education Handbook which can be found at the *prospective students* link at the Kent School website, <http://www.louisville.edu/kent>. If employed in a human services agency meeting the Kent school's criteria as a placement site, the student may apply to undertake the practicum at her/his place of employment. This may be accomplished when the agency is willing to shift the student's work role and supervision in such a manner as necessary to meet the school's educational objectives for practicum instruction. Practicum education is offered in a concurrent format so that students enrolled in a practicum course must simultaneously be enrolled in a practice course, i.e.; SW 670 with SW 604 (Foundation Practice I), SW 671 with SW 605 (Foundation Practice II), SW 672 with SW 640 (Adv Prac II), and SW 673 with SW 677 (Adv Prac III).

M.S.S.W. Electives

The Kent School of Social Work provides electives as enrichment to the specialized learning in the concentration year. Social work jobs call for skills and knowledge that are broader than any narrowly defined specialization. For example, mental health workers are asked to know psychopathology, substance abuse, managed care, AIDS, and a range of other substantive areas. Many school social workers share the need for the same content. In addition, it is noted that

social workers frequently change jobs, often to another field of practice. Social work education seeks to teach students to think critically, analyze systematically, and know where to find information and resources within the context of social work history, development and values. It is this type of education that best prepares students to function in a rapidly changing society.

In this curriculum paradigm, electives are considered enrichment. Some of this enrichment is in the form of very specific course content that aligns with a specific focus area or specialization. For example, a person interested in the health and mental health focus area, may elect to take a course in psychopathology to prepare for work in private practice or a mental health center. In another case, the enrichment may take the form of a complementary course such as a student focused on children and families taking a management course to prepare for career possibilities or the student interested in community and international practice, taking a course in family intervention to understand the complexities of family practice. Or, the enrichment may take the form of exploration as in the case of the student taking an aging or child welfare course to better understand those fields of practice and to prepare for various job prospects. Finally, the enrichment may include a course of general interest such as a women's issues course which crosses numerous focus areas, but may not correspond specifically to the direct focus of the student.

Students are eligible to take electives anytime following completion of the foundation curriculum, or at a minimum, after completing 2 human behavior courses, 2 social policy courses and the human diversity course. This coursework forms the basis of understanding social work concepts sufficiently to generate enrichment interest. Students are discouraged from taking practice-focused electives until completing generalist practice courses or at least taking such coursework concurrently. The program leading to the degree of Master of Science in Social Work focuses on developing professional leaders in social work practice. The program connects an intensive academic component with a practicum, allowing the student to learn and immediately apply theory.

M.S.S.W. 60-hour Regular Program

Students who are admitted and do not have a Council on Social Work Education accredited Bachelor of Social Work degree enter the 60-hour REGULAR PROGRAM. This program can be completed in different ways of which the shortest period is 2 years and the longest period is 4 years. Specific plans are outlined under Curriculum Plans in the Kent School online catalog found at the *future students* link at the Kent School website, <http://www.louisville.edu/kent>. The next listing provides a basic description of the courses needed to complete this program (all courses are 3 credit hours each):

Foundation Coursework

Name and Number of Course - Semesters offered

- 601 Human Behavior in the Social Environment I (HBSE) - Fall
- 619 Human Behavior in the Social Environment II (HBSE) - Spring
- 602 Social Welfare Institutions, Policies and Services - Fall
- 622 Issues in Policy & Service Delivery - Spring
- 603 Human Diversity - Fall and Summer
- 604 Social Work Practice I - Fall
- 605 Social Work Practice II - Spring
- 670 Practicum I (16 clock hours per week) - Fall
- 671 Practicum II (16 clock hours per week) - Spring
- 626 Research Methodology - Spring (only weekdays) and Summer

Advanced Coursework

(Pre-requisite: all Foundation Courses)

Name and Number of Course - Semesters offered

- 641 Advanced Social Work Practice I (must be taken in the same semester or in the Summer before 640) - Summer and Fall
- 640 Advanced Social Work Practice II - Fall
- 677 Advanced Social Work Practice III - Spring
- 668 Adv Research Practice I - Fall
- 669 Adv Research Practice II -Spring
- 672 Adv Practicum I (16 clock hours per week) - Fall
- 673 Adv Practicum II (16 clock hours per week) - Spring
- Electives (3 electives are required - 9 credit hours) - Fall, Summer and Spring

M.S.S.W. 30-hour Advanced Standing Program

Students holding a CSWE accredited Bachelor of Social Work degree with a cumulative grade point average of 3.00 who have demonstrated good academic performance in their social work courses may be enrolled in the 30-hour ADVANCED STANDING Program. This program equates to completing the 30- hour advanced portion of the 60-hour program. No academic credit is given for life or work experience. Advanced Standing is limited to applicants who have earned BSW degrees within the last 5 years, at the time of enrollment in the Kent School. This program can be completed in different ways of which the shortest period is 1 year and the longest period is 2 years. Specific plans are outlined under Curriculum Plans in the Kent School online catalog found at the *future students* link at the Kent School website, <http://www.louisville.edu/kent>. The next listing provides a basic description of the courses needed to complete this program (all courses are 3 credit hours each);

Advanced Coursework

(Pre-requisite: BSW)

Name and Number of Course - Semesters offered

- 641 Advanced Social Work Practice I (must be taken in the same semester or in the Summer before 640) - Summer and Fall
- 640 Advanced Social Work Practice II - Fall
- 677 Advanced Social Work Practice III - Spring
- 668 Adv Research Practice I - Fall
- 669 Adv Research Practice II - Spring
- 672 Adv Practicum I (16 clock hours per week) - Fall
- 673 Adv Practicum II (16 clock hours per week) - Spring
- Electives (3 electives are required - 9 credit hours) - Fall, Summer and Spring

MSSW Online Program

There are two options for earning a Master of Social Work degree online:

1. Standard 60-hr MSSW--starting every fall (one start per year). Current and future social work professionals who have a bachelor's degree in any area of study other than Social Work can complete a 60 credit hour program and earn a Master in Social Work degree online, from the comfort of their home or office while working and/or taking care of the family.
2. Advanced Standing 30-hr MSSW--starts summer and fall (two starts per year). Social Work professional who have already earned a Bachelor of Social Work within the last seven years may enroll in the MSSW online degree and complete a 30 credit hour program. Applicants must have a minimum undergraduate coursework GPA of 3.0, and a minimum Social Work coursework GPA of 3.25.

Students enrolled in the Master of Science in Social Work Online program may choose to specialize in the areas of: Psychosocial Oncology, Gerontology, Mental Health, Alcohol and Drug Counseling, or Military Social Work and must meet the Early 1/15 Special Consideration Deadline.

The online program's structure, quality and rigorous coursework mirror those in the on-campus program. The combination of online learning and real-world practicum (hands-on supervised field instruction, completed in the community of choice) helps our students gain valuable field-related knowledge as well as critical thinking, self-discipline and time management skills.

Departmental Faculty

Terry L. Singer
Professor
Dean
Becky Antle

Associate Professor
Adrian Archuleta
Assistant Professor

Coordinator, Mental Health
Specialization
Anita P. Barbee
Professor

Lisa Barrett

Instructor

Richard Cloud

Associate Professor

Coordinator, Alcohol and
Drug Counseling
Specialization

Crystal Collins-Camargo

Associate Professor

Wanda Lott Collins

Professor

Director of BSW Program

Annatjie Faul

Professor

Associate Dean, Academic
Affairs

Andy Frey

Professor

Coordinator, School Social
Work Specialization

Martha Fuller

Instructor

Director, Field Education

Seana Golder

Associate Professor

Martin Hall

Assistant Professor

Barbara Head

Associate Professor

Eli Karam

Associate Professor

Karen Kayser

Professor

Coordinator of Psychosocial
Oncology Specialization

Tom Lawson

Professor

Coordinator of Military
Specialization

Jon Lee

Instructor

Lynetta Mathis

Instructor

Assistant Director, Field
Education

Larry Michalczyk

Instructor

Sharon Moore

Professor

Armon Perry

Associate Professor

Bibhuti Sar

Professor

Director of Doctoral program

Emma Sterrett

Assistant Professor

Coordinator, Marriage &
Family Therapy
Specialization

Riaan Van Zyl

Professor

Associate Dean, Research

Kim Wadlington

Instructor

Pamela Yankeelov

Professor

Associate Dean, Student
Services

Doctor of Philosophy in Social Work

Major: SW

Degree Awarded: Ph.D.

Unit: GK

Program Webpage: <http://louisville.edu/kent/doctoral/>

Program Information

The Commonwealth's first doctoral program in social work offers the opportunity for academically motivated master's level social workers to continue their studies at the doctoral level.

Application to the Doctoral Program

To apply to the doctoral program in social work send the following materials by February 1 to:

Graduate Admissions
University of Louisville
Louisville, KY 40292

1. Completed Graduate Admission Application
2. Application for Admission to the UL Ph.D. in Social Work Program
3. Official transcripts from each college/university attended, and documentation of the receipt of a Master's Degree in Social Work, e.g. MSW, MSSW, from a CSWE accredited program or international equivalent.
4. Official report of GRE scores
5. Three recommendations (at least two from academicians)
6. Application fee of \$60.00
7. A current resume
8. A sample of scholarly writing
9. A personal statement of career goals, research interests, and reasons for pursuing doctoral studies (no more than 3 pages).

The admission process involves the following:

- Review of application materials by the doctoral admissions committee
- Admission committee interviews with those recommended
- Recommendation to the School of Interdisciplinary and Graduate Studies

Doctoral Admission Requirements

Students are expected to hold master's degrees in Social Work, i.e. MSW, MSSW, from programs accredited by the Council on Social Work Education (CSWE), or international equivalents. Two years of full time post-master's experience is advised.

Academic Policies

Four-year policy: Doctoral students are expected to have taken their qualifying exams by the time they are in the program four years, and complete the program in four additional years.

Data Analysis and Writing Policy: Doctoral students in the Kent School of Social Work may not arrange for anyone to analyze their data or write parts of their dissertations; rather, they should consult with their committee members if assistance is needed. Students may ask professional editors or others to edit their writing for grammar and other canons of writing.

Curriculum

Core Courses	Semester Hours	Cumulative Total Hours
Advanced Research Design & Analysis I	6	6
Advanced Research Design & Analysis II	6	12
Advanced Research Design & Analysis III	3	15
Professional Seminar I	1	16
Professional Seminar II	1	17
Teaching in Social Work	3	20
Theory I: Change Theories in Social Work	3	23
Ethics, Social Work, and Society	3	26
Theory II: Theory Development	3	29
Theory III: Advanced Analysis of Social Welfare Problems	3	32
Advanced Measurement in Social Work Research	3	35
Advanced Qualitative Research	3	38
Research Practicum	3	41
Individualized Studies and Dissertation Hours		
Individualized Studies	9	50
Dissertation	6	56

Doctoral Qualifying Examination

The purpose of the qualifying examination is to provide a format in which students can demonstrate their abilities to apply and integrate the whole of their educational experiences by adequately addressing complex questions pertinent to social work's current and developing knowledge base, and their individual research areas. A student is eligible to take the qualifying examinations upon successful completion of 50 credits of core and individualized course work. Students are expected to provide answers that integrate knowledge from all required courses. Following the passage of the qualifying examination, students are admitted to candidacy status.

Doctoral Dissertation

After admission to candidacy, students proceed to propose, complete, and defend their dissertations. The dissertation must represent independent research and should be based on

original research questions or hypotheses. This process includes (a) a concept paper, (b) a formal proposal, and (c) conducting the research and writing the dissertation. Dissertation committees have at least five members, one of whom is from the University of Kentucky.

Departmental Faculty

Anita Barbee, Ph.D.

Professor

**Crystal Collins-Camargo,
Ph.D.**

Associate Professor

Anna C. Faul, Ph.D.

Professor

Associate Dean for Academic
Affairs

Andy Frey, Ph.D.

Professor

Karen Kayser, Ph.D.

Endowed Chair, SW

Oncology

Thomas R. Lawson, Ph.D.

Professor

Bibhuti K. Sar, Ph.D.

Director, Ph.D. Program in

Social Work

Terry L. Singer, Ph.D.

Professor

Dean

Riaan van Zyl, Ph.D.

Professor

Associate Dean for Research

Master of Science in Anatomical Science and Neurobiology

Major: ASNB

Degree Awarded: MS

Unit: GM

Program Webpage: <http://louisville.edu/medschool/anatomy/>

Program Information

The thesis M.S. program is available to qualified individuals possessing a bachelor's degree from an accredited college or university. No specific undergraduate major is required, although some science background is required.

The thesis M.S. degree is offered to students who want to continue their education in Anatomy and Neurobiology and offers the student the opportunity to improve his/her background for career development (e.g., to prepare for a career in teaching, or to prepare for further higher education programs such as a Ph.D. program, Dental or Medical School).

All degree programs require full-time study and it is expected that while participating in these programs, students will devote full-time effort toward completion of the degree requirements.

Program Admission Procedure

All students who wish to apply must submit an application to the Office of Graduate Admissions with the following documents:

1. A formal application submitted to the University of Louisville Office of Graduate Admissions (see website: <http://louisville.edu/graduate/apply> for forms and directions).
2. Application fee.
3. A minimum of two letters of recommendation.
4. Official transcripts of all college work.
5. Official scores on the Graduate Record Examination (GRE) General Test.
6. A brief statement of purpose describing your interests and career goals.
7. All international applicants whose native language is not English must submit Test of English as a Foreign Language (TOEFL) scores. Students holding a bachelor's or advanced degree from an accredited institution in the United States are exempt from this requirement.

Program candidates are only admitted in the fall semester (orientation begins the first Monday in August). Review of applications begins mid-January and continues until all positions are filled. Admission into the program is competitive, and applicants are encouraged to submit their applications early.

Curriculum

Requirements for the thesis M.S. Degree

Students should familiarize themselves with the general requirements for the master's degree as stated in the current UofL Graduate Catalog. Briefly, a minimum of 30 semester hours is required for the master's degree, of which 15 semester hours must be in courses of the major subject area. At least one-half of the credits counted toward the degree must be 600 level courses or above. This does not include research credit hours. The department imposes the following additional requirements:

Students will successfully complete at least two of the following courses within the department:

Gross Anatomy (ASNB 601) 6.5 credit hours
Microscopic Anatomy (ASNB 603) 5.0 credit hours
Fundamentals of Neuroscience (TBD) 4.0 credit hours
Human Embryology (ASNB 605) 3.0 credit hours
*Developmental Neurobiology (ASNB 617) 3.0 credit hours
*Molecular Neurobiology (ASNB 614) 4.0 credit hours
*Synaptic Organization of the Brain (ASNB 666) 3.0 credit hours
Survey of Dental Gross and Neuroanatomy (ASNB 672) 7.0 credit hours
Dental Microscopic Anatomy (ASNB 671) 5.0 credit hours

* Offered on a rotational basis

Seminar: Anatomy Seminar (ASNB 606, 1 credit hr) must be taken for credit each semester prior to candidacy.

Electives: Additional courses (electives) within ASNB or graduate level courses in other departments may be taken to achieve the minimum requirement of 30 credit hours. The student should consult with his/her advisor on the selection of the appropriate electives.

Research Hours: Research credit hours may be taken as Laboratory Rotation (ASNB 618), which is graded on a pass/fail basis, prior to choosing a mentor. Once a mentor is chosen, research hours are taken as Original Investigation (ASNB 619), in which students earn a letter grade.

Candidacy: After completion of all requirements (as outlined above), students enter Master's Candidacy and must register for and maintain candidacy (MAST 600) until the successful defense of his/her thesis. This registration must be maintained year round (fall, spring and summer semesters) until the degree is awarded. Once a student registers for MAST 600, he/she may not register for additional courses. The statute of limitation for obtaining a Master's degree is six years from the beginning of the program of study.

The minimum number of hours which must be taken is nine (9) in the fall or spring semester and six (6) in the summer semester. The maximum number of hours that may be taken in the fall or spring semester is 12 (or 15 hours if three or more are research hours). 12 credit hours (including research hours) is the maximum allowed for summer sessions.

Original Research

Students will conduct this required research under the direction of a member or joint/associate member of the departmental faculty (hereafter known as the thesis advisor) who is also a member of the graduate faculty. Faculty reserve the right to decline accepting a student.

During the first year of enrollment, students are required to visit the laboratories of potential advisors to become acquainted with the faculty and the research opportunities available. Selection of an advisor and the initiation of a research project should be concluded prior to the end of the first year, at which time a written agreement, signed by both the student and thesis advisor, will be filed with the Graduate Program Director.

A thesis master of science degree requires more than the completion of a prescribed curriculum of course work, a written thesis based on original research, and a successful oral defense. By its nature, original research does not always achieve positive results within a specific period of time. Therefore, no specific time can be given for the successful completion of this degree. Note that students are advised to complete the majority of their course work in the first year so that adequate time is allotted in the second year to complete their research and thesis. Specifically, students will be required to engage full-time in research for the equivalent of two academic semesters and maintain steady and satisfactory progress. Faculty advisors submit Graduate Student Progress Reports biannually to the ASNB Graduate Program Committee for review.

Thesis Committee

The composition requirements of, and specific deadlines related to, the thesis committee appear in the Graduate Catalog. Briefly, the thesis committee is composed of the student's advisor and two other faculty, one of which is from a different department. All three must be members of the graduate faculty. This committee should be established shortly after the student and her/his advisor agree on a specific research project. To avoid unnecessary delays the student should regularly consult with her/his thesis advisor and committee members concerning the direction and progress of the research project. Once in Master's candidacy, the student should meet with their committee at least once per semester.

Thesis Defense

The M.S. candidate will focus exclusively on completing their research projects and writing a thesis describing the results of their experiments. It is expected that the thesis should contain data sufficient for approximately one publishable manuscript. Upon completion of the thesis, the student will distribute a copy to each committee member. The committee will have two weeks to read the thesis and give approval to schedule a defense date or recommend changes that must be completed prior to scheduling a defense date. Once the thesis is approved by the committee, the student will schedule a thesis defense. SIGS requires that an announcement of the defense be posted at least two weeks prior to the scheduled date. The defense will consist of an oral presentation (approximately 30 minutes in length) of the research completed during the student's graduate training. Non-committee members in the audience will then ask questions. The general audience will then be dismissed and the student will defend his/her thesis before the committee. Completion of the M.S. degree will be determined by majority vote of the committee.

Electronic Format of Thesis

Deadlines for the submission are published in the schedule of classes. Students must follow The School of Interdisciplinary and Graduate Studies (SIGS) requirements for the format of their Master's thesis. The published [*Guidelines for the Preparation and Processing of Theses/Dissertations \[pdf\]*](#) are available for reference. Any thesis received by SIGS that does not reasonably adhere to their guidelines will be returned to the student or committee chairperson.

SIGS requires the submission of a digital thesis. The digital document must be submitted in Adobe PDF format. The electronic version should not include signatures from the thesis advisory committee. It should list the committee members' names only. Students must submit a hard copy of their signature page on white paper, with original signatures, to SIGS. If students wish to use material that has been previously published under their names in their thesis, they will need to contact the original publisher for permission. ASNB requires a bound copy of each student's thesis. For archival purposes, it is recommended that the document be printed on 25% cotton paper.

Academic Policies

Satisfactory Progress

All graduate students are expected to make steady and satisfactory progress toward the completion of degree. Unsatisfactory performance may result in immediate dismissal or in academic probation, at the discretion of the Graduate Education Committee of the department.

A student may not remain on academic probation for more than one semester, after which his/her performance must meet or exceed the minimum requirements. If a probationary student does not achieve the minimum performance level, the Education Committee will consider their dismissal from the program. In all cases, students receiving financial aid must maintain satisfactory progress in order to be eligible for continued financial support.

Satisfactory progress is assessed by a number of factors. While taking courses, students are required to maintain a minimum average grade of "B", i.e., a cumulative grade point of 3.0 on a 4.0 value scale. Deficiencies in the cumulative average grade generated through course work cannot be overcome using research credits (i.e. ASNB 616, 619 or 620). Unsatisfactory performance (i.e., GPA < 3.0) may result in immediate dismissal or in academic probation.

For degree candidates, satisfactory progress also involves maintaining steady progress in laboratory research, analysis, or the documentation of research results. The Reading or Thesis Committees will evaluate the student's progress and unsatisfactory progress will be reported to the Graduate Committee.

Satisfactory progress also involves maintaining the standards of academic and professional integrity. Plagiarism or other failures to maintain appropriate academic standards will result in immediate dismissal from the program.

Administration

For administrative purposes, an interim advisor will be assigned to each incoming student until he/she has selected a Thesis Advisor.

Guideline Changes

The Department reserves the right to change requirements at any time. When requirements change, the student may have the option of satisfying either the requirements in effect when he/she entered the program or the new requirements, depending on circumstances.

Departmental Faculty

William Guido

Professor - Chairman

Martha E. Bickford

*Professor - Course Director,
Synaptic Organization of the
Brain*

Jennifer Brueckner-Collins

Professor

Nigel G.F. Cooper

Professor
Director, Molecular
Neurobiology Core
Laboratory

Charles H. Hubscher

*Professor - Vice Chair and
Director of Graduate Studies*
Course Director,
Fundamentals of
Neuroscience

Robin F. Krimm

*Professor - Vice Chair for
Research*
Course Director,
Developmental Neurobiology

Ashok Kumar

Professor

Matthew Qiu

Professor
Director, Neurochemistry
Shared Instrumentation
Laboratory

Guillermo W. Rougier

Professor

Michael T. Tseng

Professor

Course Director, Dental
Microscopic Anatomy

Rita M. Colella

Associate Professor
Course Director, Medical
Microscopic Anatomy

Nobuyuki Kuwabara

Associate Professor
Course Director, Medical
Gross Anatomy
Facilitator for Guest Clinical
Gross Anatomy Instructors

Robert F. Lundy, Jr.

Associate Professor
Course Director, Medical
Neurosciences

J. Patrick Moore

Associate Professor
Director of Graduate
Admissions

Jeffrey C. Petruska

Associate Professor

Richard Benton

Assistant Professor

Bart Borghuis

Assistant Professor

Nicole R. Herring

Assistant Professor
Course Director, Advanced
Head and Neck Anatomy and
Survey of Dental Gross &
Neuroanatomy

Director, Fresh Tissue
Laboratory and Bequeathal
Program

Joint/Associate

Appointments

Susan Harkema

*Professor - Neurological
Surgery*
Research Director, Frazier
Rehab Institute

David Magnuson

*Professor - Neurological
Surgery*

Maureen McCall

*Professor - Ophthalmology
and Visual Sciences*

Scott Whittemore

*Professor - Neurological
Surgery*
Scientific Director, Kentucky
Spinal Cord Injury Research
Center

Maxwell Boakye

*Associate Professor -
Neurological Surgery*

Dena Howland

*Associate Professor -
Neurological Surgery*

Patrick Scott
*Assistant Professor -
Ophthalmology and Visual
Sciences*

Emeritus/Emerita
Kunwar P. Bhatnagar,
Ph.D.
Richard Rink, Ph.D.
Kathleen M. Klueber, Ph.D.

Doctor of Philosophy in Anatomical Science and Neurobiology

Major: ASNB

Degree Awarded: Ph.D.

Unit: GM

Program Webpage: <http://louisville.edu/medschool/anatomy/>

Program Information

Our philosophy is to encourage academic excellence in the neurosciences within a framework of structure-function relationships at the molecular, cellular, and systemic levels. We strive to prepare students with sufficient background depth to excel in high tech cutting-edge translational (applied) research environments and the more traditional multidisciplinary academic setting. We provide students with innovative approaches to important issues in neuroscience research including development, organization and plasticity. Our research interests range from sensory and motor systems to therapeutic strategies for spinal cord injuries. In all approaches we strive to integrate the latest teaching modalities while maintaining the time-honored advantages of hands-on, laboratory-based instruction.

The degree program is available to qualified individuals possessing a bachelor's degree from an accredited college or university. No specific undergraduate major is required, although some science background is required.

The Ph.D. degree is offered to students who plan to pursue a career in research and/or teaching, in an academic institution or within industry.

All degree programs require full-time study, and it is expected that while participating in these programs students will devote full-time effort toward completion of the degree requirements.

Program Admission Procedure

All students wishing to apply must submit an application to the Office of Graduate Admissions with the following documents:

- A formal application submitted to the Office of Graduate Admissions (see website: <http://louisville.edu/graduate/apply> for forms and directions).
- Application fee.
- A minimum of two letters of recommendation.
- Official transcripts of all college work.
- Official scores on the Graduate Record Examination (GRE) General Test.
- A brief statement of purpose describing your interests and career goals.
- All international applicants whose native language is not English must submit Test of English as a Foreign Language (TOEFL) scores. Students holding a bachelor's or advanced degree from an accredited institution in the United States are exempt from this requirement.

Program candidates are only admitted in the fall semester (orientation begins the first Monday in August). Review of applications begins mid-January and continues until all positions are filled. Admission into the program is competitive, and applicants are encouraged to submit their applications early. All applications are automatically considered for a fellowship, which provides a stipend and covers tuition and health insurance.

Curriculum

All Ph.D. students must complete the requirements for the non-thesis M.S. degree, after which they will be considered a Ph.D. candidate. A minimum of 30 semester hours is required for the Master's degree of which 15 semester hours must be in courses of the major subject area. At least one-half of the credits counted toward the degree must be 600 level courses or above, excluding research credit hours. Courses with numbers from 500 to 599, open to both advanced undergraduate and graduate students, can be taken by graduate students for graduate credit (additional course requirements must be completed). In addition, up to 6 credits of earned graduate semester hours can be transferred upon request from other accredited institutions, as long as the course work was taken within the past three years and a grade of B or better was earned (transferred grades do not get calculated in the student's GPA).

Required coursework

Integrated Programs in Biomedical Sciences (IPIBS) Course Requirements:

- Students must successfully complete all of the following IPIBS courses within the School of Medicine:

Biochemistry I (Bioch/Che545) or equivalent - 3.0 credit hours

Cell Biology (BIOC 667) or equivalent - 3.0 credit hours

Methods & Analysis in the Biomedical Sciences (ASNB 610) - 2.0 credit hours

Research Ethics (BIOC 630) - 1.0 credit hours

- 1 of the following required IPIBS Graduate electives:

Introductory Immunology (MBIO 602) - 2.0 credit hours

Biochemistry II (Bioch/Che547) - 3.0 credit hours

Cellular and Molecular Immunology (MBIO 658) - 3.0 credit hours

Fundamentals of Neuroscience (TBD) - 4.0 credit hours

Physiology I (PHY 605) - 3.0 credit hours

Physiology II (PHY 606) - 3.0 credit hours

ASNB Course Requirements:

- Students must earn at least 9 additional credits by successfully completing any of the following Departmental core courses:

Gross Anatomy (ASNB 601) - 6.5 credit hours

Microscopic Anatomy (ASNB 603) - 5.0 credit hours

Human Embryology (ASNB 605) - 3.0 credit hours

Fundamentals of Neuroscience (TBD) - 4.0 credit hours

*Developmental Neurobiology (ASNB 617) - 3.0 credit hours

*Molecular Neurobiology (ASNB 614) - 4.0 credit hours

*Synaptic Organization of the Brain (ASNB 666) - 3.0 credit hours

Dental Microscopic Anatomy (ASNB 671) - 5.0 credit hours

Survey of Dental Gross & Neuroanatomy (ASNB 672) - 7.0 credit hours

* Offered on a rotational basis

In addition, 2 lab rotations (ASNB 618): see description below - 6.0 credit hours

Seminar: Anatomy Seminar (ASNB 606, 1 credit hour) must be taken for credit each semester prior to Master's candidacy.

Electives: Additional courses (electives) within ASNB or graduate level courses in other departments may be taken to achieve the minimum requirement of 30 credit hours. The student should consult with his/her advisor on the selection of the appropriate electives. A course in statistics is highly recommended.

Laboratory Rotations and Research Hours

Lab Rotations: Each student will complete two rotations in different laboratories prior to start of their third semester. Exceptions or the addition of a third rotation require approval from the ASNB Graduate Committee. The objectives of rotations in 2 labs are to expose the student to different approaches and areas of research, and to assist the student in choosing a laboratory for dissertation research. For each rotation, the student will register for the 3 credit course Laboratory Rotation (ASNB 618) which is graded on a pass/fail basis. Once a student has completed a semester rotation in a given laboratory, an ASNB Rotation Report must be completed and submitted to the Graduate Program Director.

Research Hours: Once a mentor is chosen, research hours are taken as Original Investigation (ASNB 619), in which students earn a letter grade.

The purpose of the advisory committee is to act as the primary guiding and assessment body for the student in a course of study and training through which they will acquire the knowledge and skills required to earn the degree of Doctor of Philosophy. The course of study and training will have components that are common for all students, but may have others that are tailored to the particular needs and/or desires of individual students.

The committee must have a minimum of five members. The Principal Advisor serves as chair. The majority of committee members must have a primary, joint or associate appointment in ASNB. At least one member must have a primary appointment in a department outside ASNB (this outside committee member must not have a joint appointment in ASNB) and can include a Graduate Faculty from another University. The student, in conjunction with the advisor, should form a committee prior to the start of the second year. Once the committee is formed, the student will meet with the committee at least twice per year. A Graduate Student Progress Report, completed by the Advisor, must be filed semi-annually (at the end of the fall and spring semesters) with the ASNB Graduate Program Director. Registration for courses is contingent on this filing.

Masters Candidacy

After completion of all course requirements, students must register for and maintain candidacy (MAST 600) until the successful completion of his/her qualifying exam. This registration must be maintained year round (fall, spring and summer). Once a student registers for MAST 600, he/she may not register for additional courses.

Qualifying Exam

The purpose of the qualifying exam is to assure that the student has sufficient knowledge and skills to begin a research project. The exam will be taken within two terms (Fall, Spring or Summer terms) after the completion of required coursework. The exam consists of an oral presentation and defense of a research proposal (described below).

Prior to writing the Research Proposal, the student will develop an outline of the proposed experiments in coordination with their advisor and then present this outline to their committee. It is at this point, prior to writing the Research Proposal that the committee should recommend any changes in the research plan, regarding, for example, too many or too few experiments, experiments that are too difficult, or experiments that may be more appropriate for addressing the research question. Once the committee is satisfied with the proposed experiments, the student will write a Research Proposal in the following general format.*

Literature Review and Significance

Section one will be an extensive literature review (similar to an expanded Background and Significance section of a National Institutes of Health grant proposal). This review should provide evidence that the student has a sufficient command of the background information relevant to the proposed research.

Specific Aims, Hypotheses and Experiments

This section will consist of a list of the proposed specific aims. Each aim should include hypotheses to be tested and a brief description of the experiments that will be used to test these hypotheses.

Experimental Design and General Methods

This section will consist of a detailed description of the experimental design as well as the methods that will be used to carry out the proposed experiments.

Expected Outcomes

This section will describe the expected results and how they will be interpreted.

Potential Problems

This section will describe any potential problems that could occur, how they might affect interpretation of their research results, and how the student will address any potential problems.

****All eligible students are encouraged to submit (in coordination with their advisor) an application for a National Institutes of Health Predoctoral National Research Service Award (F31) or a National Science Foundation Predoctoral Award. Therefore, the Research***

Proposal may be submitted in the format of a relevant application with the exception that the background and significance section should be expanded to include a more extensive literature review than permitted by the NIH or NSF page limitations.

Upon completion of the research proposal, the student will distribute a copy to each committee member, who will have two weeks to read the proposal. *Students must consider this two week reading period when preparing the document and scheduling the exam.* The qualifying exam itself will be chaired by the student's advisor. The exam will begin with an oral presentation, open to the public, in which the student will present an overview (approximately 40 min) of the research plan. The presentation will be followed by an oral defense to assess the student's readiness to conduct the proposed research, and their knowledge of background information relevant to the proposed research. Non-committee members in the audience will have an opportunity to ask questions first. The general audience will then be dismissed and the student will defend his/her proposal before the committee. Success or failure will be determined by majority vote of the committee. A student who fails the exam will have 2 months to retake the exam. Failure on the second attempt will result in dismissal from the program.

Upon successful completion of the exam, a Proposal Defense Evaluation Form stating the outcome of the exam will be completed and signed by each committee member and will become a permanent part of the student's record. A passing vote indicates that the student has completed the requirements for a M.S. degree. At this point the student becomes a doctoral candidate and must register for and maintain candidacy (DOCT 600) until the successful completion of his/her dissertation. This registration must be maintained year round (Fall, Spring and Summer). The statute of limitation for obtaining a Ph.D. degree is four years from the beginning of Doctoral Candidacy. University wide official maximums for fellowships and Graduate Assistantships are typically 6 years.

Annual presentation of research progress

Ph.D. students who have completed their class work (M.S. and Ph.D. candidates) must present their research accomplishments annually. This presentation should be 30-50 minutes in length, and the time and location of the presentation should be formally announced to the department faculty, staff and students at least 1 week prior to the planned presentation. Presentations at journal clubs are encouraged, but cannot be used as a substitute for the annual presentation requirement.

Teaching requirements

Each Ph.D. student must serve as a teaching assistant (T.A.) in at least one ASNBS core course. The specific course will be chosen by the student and his/her advisory committee.

Dissertation Defense

With the exception of their training in teaching, the Ph.D. candidate will focus exclusively on completing their research projects and writing a dissertation describing the results of their

experiments. The candidate must complete all requirements for the degree of Doctor of Philosophy within four calendar years after passing the qualifying examination. It is expected that the dissertation should contain data sufficient for approximately three publishable manuscripts. Upon completion of a near final draft of their dissertation and prior to scheduling of their defense, the student must distribute a copy to each Dissertation Committee member. The committee will have two weeks to read the dissertation and give approval to schedule a defense date or recommend changes that must be completed prior to scheduling a defense date.

Once the dissertation is approved by the committee, the student will schedule a Dissertation Defense and distribute a final copy to each committee member. SIGS requires that an announcement of the defense be made at least two weeks prior to the scheduled date. The defense will consist of a public oral presentation (approximately 45 minutes in length) of the research completed during the student's graduate training. Non-committee members in the audience will be allowed to ask questions. The general audience will then be dismissed and the student will defend his/her dissertation before the committee. Upon completion, a written report stating the outcome of the defense will be completed by each committee member and will become a permanent part of the student's record. Approval by the majority of Dissertation Committee members will signify completion of the Ph.D. degree.

Electronic Format of Dissertation

Deadlines for the submission are published online in the schedule of classes. Students must follow The School of Interdisciplinary and Graduate Studies (SIGS) requirements for the format of their Doctoral Dissertation. The published *[Guidelines for the Preparation and Processing of Theses/Dissertations \[pdf\]](#)* are available for reference any dissertation received by SIGS that does not adhere to their guidelines will be returned to the student or committee chairperson.

SIGS requires the submission of a digital dissertation. The digital document must be submitted in Adobe PDF format. The electronic version should not include signatures from the dissertation advisory committee. It should list the committee members' names only. Students must submit a hard copy of their signature page on white paper, with original signatures, to SIGS. If students wish to use material that has been previously published under their names in their dissertation, they will need to contact the original publisher for permission. ASNB requires a bound copy of each student's dissertation. For archival purposes, it is required that the document be printed on 25% cotton paper.

Academic policies

General Program Requirements

Students should familiarize themselves with the general requirements for the Master's and Ph.D. Degrees as stated in the current University of Louisville Graduate Catalog (<http://louisville.edu/graduate>). The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research, including the ability to think critically. The doctoral degree is not awarded

solely upon completion of a curriculum of courses, even though the student has done superior work in them; rather, it is awarded in recognition of creative scholarship in the candidate's chosen field.

All Ph.D. students receiving financial support from the University of Louisville, including University Fellows and Graduate Assistants, must be enrolled as full-time students during the period for which they are receiving support. The minimum and maximum number of credit hours for full time study is 9 and 12, respectively, in the fall and spring semesters (6 and 12 for the summer). To be considered in good standing, a grade average of 3.0 or better must be maintained. The program faculty and unit dean monitor the GPA of every graduate student. A student must be in good standing to receive a degree. Students must be enrolled during the semester in which they wish to graduate.

Academic Probation

Any student with a point standing below 3.0 will be placed on academic probation until the student regains a 3.0 average or is dismissed. Students are ordinarily not permitted to continue on academic probation for more than one semester. Upon request of the student's graduate program, the unit dean may approve continuation beyond a single semester. A student who has received the grade of "C" (in a course that is a degree requirement), "D" or "F" may repeat that course upon the approval of the graduate program director and the unit dean. When a student repeats a course, the grade point average will be calculated on the basis of the last grade earned, although all previous grades will remain on the transcript.

Administration

For administrative purposes, an interim Ph.D. Advisor will be assigned to each incoming student until he/she has selected a Dissertation Mentor.

Guideline Changes

The Department reserves the right to change requirements at any time. When requirements change, the student may have the option of satisfying either the requirements in effect when he/she entered the program or the new requirements, depending on circumstances.

Departmental Faculty

William Guido
Professor - Chairman
Martha E. Bickford

*Professor - Course Director,
Synaptic Organization of the
Brain*
Jennifer Brueckner-Collins

Professor
Nigel G.F. Cooper
Professor

Director, Molecular
Neurobiology Core
Laboratory

Charles H. Hubscher
*Professor - Vice Chair and
Director of Graduate Studies*

Course Director,
Fundamentals of
Neuroscience

Robin F. Krimm
*Professor - Vice Chair for
Research*

Course Director,
Developmental Neurobiology

Ashok Kumar
Professor

Matthew Qiu
Professor

Director, Neurochemistry
Shared Instrumentation
Laboratory

Guillermo W. Rougier
Professor

Michael T. Tseng
Professor

Course Director, Dental
Microscopic Anatomy

Rita M. Colella
Associate Professor

Course Director, Medical
Microscopic Anatomy

Nobuyuki Kuwabara
Associate Professor

Course Director, Medical
Gross Anatomy

Facilitator for Guest Clinical
Gross Anatomy Instructors

Robert F. Lundy, Jr.
Associate Professor

Course Director, Medical
Neurosciences

J. Patrick Moore
Associate Professor

Director of Graduate
Admissions

Jeffrey C. Petruska
Associate Professor

Richard Benton
Assistant Professor

Bart Borghuis
Assistant Professor

Nicole R. Herring
Assistant Professor

Course Director, Advanced
Head and Neck Anatomy and
Survey of Dental Gross &
Neuroanatomy

Director, Fresh Tissue
Laboratory and Bequeathal
Program

**Joint/Associate
Appointments**

Susan Harkema

*Professor - Neurological
Surgery*

Research Director, Frazier
Rehab Institute

David Magnuson

*Professor - Neurological
Surgery*

Maureen McCall

*Professor - Ophthalmology
and Visual Sciences*

Scott Whittemore

*Professor - Neurological
Surgery*

Scientific Director, Kentucky
Spinal Cord Injury Research
Center

Maxwell Boakye

*Associate Professor -
Neurological Surgery*

Dena Howland

*Associate Professor -
Neurological Surgery*

Patrick Scott

*Assistant Professor -
Ophthalmology and Visual
Sciences*

Emeritus/Emerita

Kunwar P. Bhatnagar,
Ph.D.

Richard Rink, Ph.D.

Kathleen M. Klueber, Ph.D.

Doctor of Audiology

Major: AUDI

Degree Awarded: Au.D.

Unit: GM

Program Webpage: <http://louisville.edu/medschool/audiology/>

Program Information

The Doctor of Audiology Degree (Au.D.) is a four-year post-bachelor's degree program leading to a professional degree conferred by the Graduate School. The program is physically located within the Louisville Medical Center and the University of Louisville Health Sciences Campus and administratively located in the Division of Communicative Disorders in the Department of Surgery. The faculty are committed to the clinical focus of the Au.D. degree and endeavor to bring real-world experiences to bear on the teaching environment. The faculty and staff of the Audiology Section actively participate in the provision of clinical services in both hospital and private practice arenas.

Students benefit by working side by side with the faculty and staff in an active and dynamic medical environment. Students will be able to interact with faculty, residents and medical students from other disciplines such as otolaryngology, speech pathology and pediatrics, not only in the provision of clinical services, but also in teaching and research endeavors.

Program Admission Procedure

Admission to the program will be for Fall term only, and applications must be received by January 1 of the application year. Applicants should submit:

- all undergraduate transcripts
- GRE scores
- 3 letters of recommendation

Applicants must have a minimum GPA of 3.0 and minimum cumulative GRE score of 300 to apply. Admission to the program is based on a favorable review of application material and an interview with the admissions committee.

Curriculum

The Doctor of Audiology degree program has been designed to meet the content and experience guidelines developed over the past decade by numerous professional organizations and associations. Curricular content areas and competencies are outlined as follows.

The curriculum begins with the student spending a significant amount of time in the classroom with a minimum amount of time in the clinical environment. Over the course of the four years, the ratio of classroom to clinic time reverses, so that the last year consists of virtually full-time clinical experience. During the fourth year, students will be given options for practical experiences in a variety of sites around the country.

This is a typical 4-year curriculum. This is subject to change.

Year	Semester	Course#	Title	Credits
1	Fall	AUDI 600	Anatomy & Physiology for Communication Sciences	4
		AUDI 604	Essential Techniques in Audiometry	3

		AUDI 606	Acoustics	3
		AUDI 614	Clinical Techniques I	1
		AUDI 610	Clinical Clerkship I	1
			Total Credits	12
Spring		PSYC 646	Hearing Science I	3
		AUDI 624	Amplification Technology	3
		AUDI 622	Electrophysiologic Techniques in Audiology	3
		AUDI 615	Clinical Techniques II	2
		AUDI 610	Clinical Clerkship I	1
			Total Credits	12
Summer		AUDI 636	Pediatric Audiology	3
		AUDI 630	Amplification Selection & Fitting	3
		AUDI 616	Genetics	2
		AUDI 608	Anatomy & Physiology II	2
		AUDI 620	Clinical Clerkship II	2
			Total Credits	12
2	Fall	AUDI 650	Research Methods	3
		AUDI 629	Cochlear Implants & Implantable Devices	3
		AUDI 626	Assessment & Management of Vestibular Disorders	3
		AUDI 620	Clinical Clerkship II	2
			Total Credits	12
	Spring	AUDI 623	Audiologic Electrophysiology II	3
		AUDI 652	Prevention of Hearing Loss	2
		AUDI 642	Gerontologic Audiology	3
		AUDI 620	Clinical Clerkship II	2
		AUDI 660	Investigation in Audiologic Practice	1-3
		AUDI 612	Pathology of the Auditory & Vestibular Systems	3
			Total Credits	12
	Summer	AUDI 625	Audiologic Counseling	1
		AUDI 632	Professional Issues in Audiology	2
		AUDI 621	Audiologic Rehabilitation	2
		AUDI 635	Audiology Internship	4
		AUDI 660	Investigation in Audiologic Practice	1-3
			Total Credits	10
3	Fall	AUDI 656	Practice Management in Audiology	3
		AUDI 626	Assessment & Management of Vestibular Disorders	3
		AUDI 635	Internship	4
		AUDI 660	Investigation in Audiologic Practice	1
			Total Credits	11

	Spring	AUDI 612	Pathology of the Auditory-Vestibular System	3
		AUDI 642	Gerontologic Audiology	3
		AUDI 635	Internship	4
		AUDI 660	Investigation in Audiologic Practice	1
		Total Credits		11
	Summer	DOCT 600	(externship)	1**
4	Fall	DOCT 600	(externship)	1**
	Spring	DOCT 600	(externship)	1**

** Full Time Status

Departmental Faculty

Dr. Lynzee Alworth, Ph.D.
Assistant Professor

**Dr. David R. Cunningham,
Ph.D.**
Professor and Director
Dr. Jill Preminger, Ph.D.
Associate Professor Term

Dr. George Purvis, Ph.D.
Associate Professor, Clinical
Dr. Jeffrey Weihing, Ph.D.
Assistant Professor

Master of Science in Biochemistry and Molecular Biology

Major: BIOC

Degree Awarded: MS

Unit: GM

Program Webpage: <http://louisville.edu/medschool/biochemistry/>

Program Information

As teachers and scientists, the faculty of the Department of Biochemistry and Molecular Biology subscribe to the following missions:

- Provide up-to-date and high-quality classroom and laboratory instruction in the discipline of biochemistry and molecular biology to students at the University.
- Conduct and publish research or other scholarship in areas that advance knowledge within the discipline, contribute to improving the human condition, and contribute to teaching.
- Train students and post-doctoral fellows in biochemical research.
- Encourage and enhance the professional development of faculty colleagues, especially junior faculty.
- Serve as a resource for information on biochemistry and molecular biology for the University and the community at large.
- Contribute to the orderly and smooth functioning of the University by serving on committees, and participating in advising, policy-making and administrative activities.
- Serve as role models for students, fellows, staff and colleagues with regard to integrity, fairness, collegiality, and civility.
- Perform service that advances and enhances the discipline of biochemistry and molecular biology.
- Advocate the benefits of science and the scientific method to society.
- Speak out when ideals of honesty and integrity within the academic workplace are violated.

Procedure for Application

To be considered for admission into the Biochemistry and Molecular Biology graduate program, we will need the following completed documents:

1. Completed application form (application fee applies)
2. A copy of your official transcripts
3. Two letters of recommendation
4. Your official GRE scores

These completed documents should be submitted to the Office of Graduate Admissions.

Requirements for the MS Degree in Biochemistry and Molecular Biology

The Department of Biochemistry and Molecular Biology offers both a thesis option and non-thesis option for the MS degree

MS Degree in Biochemistry and Molecular Biology thesis option

1. MS students entering the program should have received a grade of “B” or better in 2 semesters of organic chemistry
2. Course work will consist of BIOC 611, 645, and 647. In addition, the MS student must take six hours of classroom instruction of which at least four be in BIOC courses; and obtain 30 total credits which may include hours in seminar (BIOC 606), Biochemistry lab (BIOC 613), or Research (BIOC 619)
3. One semester of BIOC 606 (1 credit - seminar) is required during the second year
4. Students are required to attend seminars and research conferences
5. Students are expected to maintain a 3.0 average in their course work. Students who do not will be subject to dismissal from the program
6. Students must present a 1-2 page research proposal for their thesis committee and orally defend that proposal
7. All students will receive mandatory training in ethics as mandated by the NIH and the University of Louisville

Thesis

An MS research thesis is required for the thesis option. Students, with the consent of their committee, may choose between a traditional research thesis format or a thesis in which the methods and results sections are replaced by manuscripts ready for submission for publication in a refereed journal. In either case, the thesis must conform to the School of Interdisciplinary and Graduate Studies' Standards for Preparation of Theses and Dissertations. The Thesis Committee will consist of the preceptor, two other faculty of the Department of Biochemistry and Molecular Biology (at least two of the Committee members must be primary faculty in the Department), and one member outside of the Department, and must be approved by the Graduate Executive Committee.

MS Degree in Biochemistry and Molecular Biology non-thesis option

1. MS students entering the program should have received a grade of “B” or better in 2 semesters of organic chemistry
2. Course requirements for students interested primarily in a course work MS include BIOC 645 and 647, and 22 credit hours of electives, 8 hours of which must be in BIOC courses.

3. For students interested in a laboratory based MS with a non-thesis option, course requirements include BIOC 645 and 647 (or their equivalent), BIOC 611, and the remaining hours (up to 18 credit hours) as BIOC 613 Biochemistry Laboratory (rotations)
4. One semester of BIOC 606 (1 credit - seminar) is required
5. Students are required to attend seminars and research conferences
6. Students are expected to maintain a 3.0 average in their course work. Students who do not will be subject to dismissal from the program
7. A professional paper based on laboratory rotations or literature research and a final exam will be accepted in lieu of a traditional research thesis
8. All students will receive mandatory training in ethics as mandated by the NIH and the University of Louisville

Curriculum

Fall Semester

Course #	Title	Hours
606	Seminar	1
611	Biochemical Molecular Methods	4
613	Biochemistry Lab (Rotation)	2-4
619	Research	1-15
641	Eukaryotic Genetics	4
645	Biochemistry I	4
668	Molecular Biology	4

Spring Semester

Course #	Title	Hours
680	Biomolecular Interactions	2
660	Molecular Endocrinology	2
612	Advanced Laboratory Techniques	2
675	Biochemistry of Cancer	2
630	Laboratory Ethics	1
606	Biochemistry Seminar	1
613	Biochemistry Lab (Rotation)	2-4
619	Research	1-15
647	Biochemistry II	4
661/PHTX 661	Molecular Toxicology	3

Departmental Faculty

Ronald G. Gregg, Ph.D.

Professor and Chair

Alan Cheng, Ph.D.

Assistant Professor

Barbara J. Clark, Ph.D.

Associate Professor

Marsha Cole, Ph.D.

Assistant Professor

William L. Dean, Ph.D.

Professor

Jaydev N. Dholakia, Ph.D.

Associate Professor

Steven R. Ellis, Ph.D.

Professor

Richard C. Feldhoff, Ph.D.

Professor

Pamela W. Feldhoff, Ph.D.

Associate Professor

Thomas E. Geoghegan, Ph.D.

Associate Professor

Chuan Hu, Ph.D.

Assistant Professor

Ted Kalbfleisch, Ph.D.

Assistant Professor

Carolyn M. Klinge, Ph.D.

Professor

Yong Li, Ph.D.

Associate Professor

Russell A. Prough, Ph.D.

Professor

Kenneth S. Ramos, Ph.D.

Professor

David Samuelson, Ph.D.

Assistant Professor

Christine Schaner-Tooley, Ph.D.

Assistant Professor

Vilius Stribinskis, Ph.D.

Assistant Professor

Eugenia Wang, Ph.D.

Professor

James L. Wittliff, Ph.D.

Professor

Joint Faculty

Paula J. Bates, Ph.D.

*Assistant Professor of
Medicine*

*Assistant Professor of
Biochemistry & Molecular
Biology*

Aruni Bhatnagar, Ph.D.

*Professor of Medicine
Professor of Biochemistry
and Molecular Biology*

Jonathan Chaires, Ph.D.

*Professor of Medicine, JGB
Endowed Chair in Cancer
Biophysics*

*Professor of Biochemistry &
Molecular Biology*

Jason Chesney, Ph.D., M.D.

*Associate Professor of
Medicine*

*Associate Professor of
Biochemistry & Molecular
Biology*

Geoffrey Clark, Ph.D.

*Professor of Medicine
Professor of Biochemistry &
Molecular Biology*

Douglas S. Darling, Ph.D.

*Professor of Dental-Perio.
Endo & Dental Hygiene
Professor of Biochemistry &
Molecular Biology*

Jon B. Klein, Ph.D.

*Professor of Medicine
Professor of Biochemistry &
Molecular Biology*

Andrew N. Lane, Ph.D.

*Professor of Medicine
Professor of Biochemistry &
Molecular Biology
Endowed Chair in
Biochemistry and Structural
Biology*

Donald H. Miller, Ph.D.

*Professor of Medicine
Professor of Biochemistry &
Molecular Biology*

*Director of James Graham
Brown Cancer Center*

Robert A. Mitchell, Ph.D.

*Associate Professor of
Medicine*

*Associate Professor of
Biochemistry & Molecular
Biology*

*James Graham Brown Cancer
Center*

David W. Powell, Ph.D.

*Assistant Professor of
Medicine*

*Assistant Professor of
Biochemistry & Molecular
Biology*

Madhavi Rane, Ph.D.

*Assistant Professor of
Medicine*

*Assistant Professor of
Biochemistry & Molecular
Biology*

Shigeo Tamiya, Ph.D.

*Assistant Professor of
Ophthalmology & Visual
Sciences*

*Assistant Professor of
Biochemistry & Molecular
Biology*

John O. Trent, Ph.D.

*Associate Professor of
Medicine*

*Associate Professor of
Biochemistry & Molecular
Biology*

Roland Valdes Jr., Ph.D.

*Professor of Pathology
Professor of Biochemistry &
Molecular Biology*

Brian W. Wattenberg, Ph.D.
*Associate Professor of
Medicine*
*Associate Professor of
Biochemistry & Molecular
Biology*
James Graham Brown Cancer
Center

Stephen J. Winters, M.D.
Professor of Medicine
*Professor of Biochemistry &
Molecular Biology*

Associate Faculty

Oleg Barski, Ph.D.
*Assistant Professor of
Medicine (Cardiology)*

Douglas Borchman, Ph.D.
*Professor of Ophthalmology
& Visual Sciences*

Brian F. Clem, Ph.D.
*Assistant Professor of
Medicine (Cancer Center)*

Daniel J. Conklin, Ph.D.
*Assistant Professor of
Medicine (Cardiology)*

Sham Kakar, Ph.D.
*Professor of Medicine
(Endocrinology)*

Cicek Gercel-Taylor, Ph.D.
*Associate Professor of
Obstetrics & Gynecology*

Bradford Hill, Ph.D.
*Assistant Professor of
Medicine (Cardiology)*

Gary W. Hoyle, Ph.D.
*Professor of Environmental
& Occupational Health
Sciences*

Zhenmin Lei, Ph.D., M.D.
*Professor of Obstetrics &
Gynecology*

Qiutang Li, Ph.D.
*Assistant Professor of
Ophthalmology & Visual
Sciences*

Mark Linder, Ph.D.
*Associate Professor of
Pathology*

Qingxian Lu, Ph.D.
*Assistant Professor of
Ophthalmology & Visual
Sciences*

Kenneth R. McLeish, M.D.
*Professor of Medicine
(Nephrology)*

Timothy O'Toole, Ph.D.
*Assistant Professor of
Medicine (Cardiology)*

Joseph Steffen, Ph.D.
Professor of Biology

Sucheta Telang, M.B.B.S.
*Assistant Professor of
Medicine (Med Oncology)*

Hong Ye, Ph.D.
*Assistant Professor of
Medicine (Med Oncology)*

Igor Zelko, Ph.D.
*Assistant Professor of
Medicine (Pulmonary)*

Doctor of Philosophy in Biochemistry and Molecular Biology

Major: BIOC

Degree Awarded: Ph.D.

Unit: GM

Program Webpage: <http://louisville.edu/medschool/biochemistry/>

Program Information

As teachers and scientists, the faculty of the Department of Biochemistry and Molecular Biology subscribe to the following missions:

- Provide up-to-date and high-quality classroom and laboratory instruction in the discipline of biochemistry and molecular biology to students at the University.
- Conduct and publish research or other scholarship in areas that advance knowledge within the discipline, contribute to improving the human condition, and contribute to teaching.
- Train students and post-doctoral fellows in biochemical research.
- Encourage and enhance the professional development of faculty colleagues, especially junior faculty.
- Serve as a resource for information on biochemistry and molecular biology for the University and the community at large.
- Contribute to the orderly and smooth functioning of the University by serving on committees, and participating in advising, policy-making and administrative activities.
- Serve as role models for students, fellows, staff and colleagues with regard to integrity, fairness, collegiality, and civility.
- Perform service that advances and enhances the discipline of biochemistry and molecular biology.
- Advocate the benefits of science and the scientific method to society.
- Speak out when ideals of honesty and integrity within the academic workplace are violated.

Student Support

Every applicant will be considered for IPIBS Fellowship support. Support after the first 23 months is the responsibility of the individual student's dissertation advisor. Students are also encouraged to seek extramural support.

Guidance for the Student

The Director of the Biochemistry and Molecular Biology Graduate Program will serve as the first year advisor to all incoming graduate students until a dissertation advisor is selected. During the first year, all students will meet with all available faculty to discuss research projects. After

completion of lab rotations and before beginning the second year, the student will select a preceptor, subject to the approval of the Graduate Executive Committee and the Chairman.

After a preceptor is approved, the preceptor must approve of the student's registration each semester before the Director of the Biochemistry and Molecular Biology Graduate Program releases the student to register.

Drop/add of courses must be approved by the student's advisor and the Director of the Biochemistry and Molecular Biology Graduate Program in consultation with the instructor.

At the end of the first year, a Dissertation Committee will be formed which will serve as the Reading Committee and Examining Committee. This Committee will consist of the preceptor, three other faculty of the Department of Biochemistry and Molecular Biology (at least three of the Committee members must be primary faculty in the Department), and one member outside of the Department, and must be approved by the Graduate Executive Committee.

Each student must meet regularly with his/her Dissertation Committee. There must be at least one formal meeting per year. This meeting may occur immediately after the student presents his or her annual research conference. After each meeting, the advisor will complete the "Student Meeting Form" and provide copies to the Committee members, the student and the Director of the Biochemistry and Molecular Biology Graduate Program. If deficiencies are identified at the annual meeting, a second meeting of the student and committee will be held that year to determine whether the student has remediated the deficiencies. The first formal meeting of a Ph.D. student with the committee will probably be to present the Preliminary Proposal.

Students who do not have at least one committee meeting per year (every 12 months) will be given an incomplete in Research. This will become an F if the deficiency is not made up within one semester.

Program Admission Procedure **Criteria and Mechanism for Selection**

In addition to the Graduate School requirements, the following criteria will be used as the basis for formal acceptance of students to the Ph.D. program in Biochemistry and Molecular Biology. Acceptance of each student requires approval unanimously by the Graduate Executive Committee or by a majority of the Graduate Committee.

1. Transcript of course work. A two-semester course in organic chemistry is required.
2. Grade point average: The Department requires an overall 3.0 grade point average (4.0 system) with an average of 3.0 in science courses.
3. The Graduate Record Examination general test.
4. At least two letters of recommendation, preferably from faculty in biology and/or chemistry.

5. A personal or phone interview with members of the Department of Biochemistry and Molecular Biology is encouraged for all applicants.

6. A personal statement of interest.

Curriculum

Fall Semester

Course #	Title	Hours
606	Seminar	1
611	Biochemical Molecular Methods	4
613	Biochemistry Lab (Rotation)	2-4
619	Research	1-15
641	Eukaryotic Genetics	4
645	Biochemistry I	4
668	Molecular Biology	4

Spring Semester

Course #	Title	Hours
680	Biomolecular Interactions	2
660	Molecular Endocrinology	2
612	Advanced Laboratory Techniques	2
675	Biochemistry of Cancer	2
630	Laboratory Ethics	1
606	Biochemistry Seminar	1
613	Biochemistry Lab (Rotation)	2-4
619	Research	1-15
647	Biochemistry II	4
661/PHTX 661	Molecular Toxicology	3

Departmental Faculty

Ronald G. Gregg, Ph.D.

Professor and Chair

Alan Cheng, Ph.D.

Assistant Professor

Barbara J. Clark, Ph.D.

Associate Professor

Marsha Cole, Ph.D.

Assistant Professor

William L. Dean, Ph.D.

Professor

Jaydev N. Dholakia, Ph.D.

Associate Professor

Steven R. Ellis, Ph.D.

Professor

Richard C. Feldhoff, Ph.D.

Professor

Pamela W. Feldhoff, Ph.D.

Associate Professor

**Thomas E. Geoghegan,
Ph.D.**

Associate Professor

Chuan Hu, Ph.D.

Assistant Professor

Ted Kalbfleisch, Ph.D.
Assistant Professor

Carolyn M. Klinge, Ph.D.
Professor

Yong Li, Ph.D.
Associate Professor

Russell A. Prough, Ph.D.
Professor

Kenneth S. Ramos, Ph.D.
Professor

David Samuelson, Ph.D.
Assistant Professor

Christine Schaner-Tooley,
Ph.D.

Assistant Professor

Vilius Stribinskis, Ph.D.
Assistant Professor

Eugenia Wang, Ph.D.
Professor

James L. Wittliff, Ph.D.
Professor

Joint Faculty

Paula J. Bates, Ph.D.
Assistant Professor of
Medicine

Assistant Professor of
Biochemistry & Molecular
Biology

Aruni Bhatnagar, Ph.D.
Professor of Medicine
Professor of Biochemistry
and Molecular Biology

Jonathan Chaires, Ph.D.
Professor of Medicine, JGB
Endowed Chair in Cancer
Biophysics

Professor of Biochemistry &
Molecular Biology

Jason Chesney, Ph.D., M.D.
Associate Professor of
Medicine

Associate Professor of
Biochemistry & Molecular
Biology

Geoffrey Clark, Ph.D.
Professor of Medicine
Professor of Biochemistry &
Molecular Biology

Douglas S. Darling, Ph.D.
Professor of Dental-Perio.

Endo & Dental Hygiene
Professor of Biochemistry &
Molecular Biology

Jon B. Klein, Ph.D.
Professor of Medicine
Professor of Biochemistry &
Molecular Biology

Andrew N. Lane, Ph.D.
Professor of Medicine
Professor of Biochemistry &
Molecular Biology
Endowed Chair in
Biochemistry and Structural
Biology

Donald H. Miller, Ph.D.
Professor of Medicine
Professor of Biochemistry &
Molecular Biology
Director of James Graham
Brown Cancer Center

Robert A. Mitchell, Ph.D.
Associate Professor of
Medicine

Associate Professor of
Biochemistry & Molecular
Biology
James Graham Brown Cancer
Center

David W. Powell, Ph.D.
Assistant Professor of
Medicine

Assistant Professor of
Biochemistry & Molecular
Biology

Madhavi Rane, Ph.D.
Assistant Professor of
Medicine

Assistant Professor of
Biochemistry & Molecular
Biology

Shigeo Tamiya, Ph.D.
Assistant Professor of
Ophthalmology & Visual
Sciences

Assistant Professor of
Biochemistry & Molecular
Biology

John O. Trent, Ph.D.
Associate Professor of
Medicine

Associate Professor of
Biochemistry & Molecular
Biology

Roland Valdes Jr., Ph.D.
Professor of Pathology
Professor of Biochemistry &
Molecular Biology

Brian W. Wattenberg,
Ph.D.
Associate Professor of
Medicine

Associate Professor of
Biochemistry & Molecular
Biology

James Graham Brown Cancer
Center

Stephen J. Winters, M.D.
Professor of Medicine
Professor of Biochemistry &
Molecular Biology

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*Assistant Professor of
Medicine (Med Oncology)*

Hong Ye, Ph.D.

*Assistant Professor of
Medicine (Med Oncology)*

Igor Zelko, Ph.D.

*Assistant Professor of
Medicine (Pulmonary)*

Master of Science in Communicative Disorders

Major: CMDS

Degree Awarded: MS

Unit: GM

Program Webpage: <http://www.louisville.edu/medschool/surgery/com-disorders/slp>

Program Information

The Division of Speech-Language Pathology, Department of Surgery, School of Medicine offers a Master of Science in Communicative Disorders for speech-language pathology majors. The Program offers a unique opportunity to pursue a Master of Science degree to students *with* and *without* an undergraduate degree in speech-language pathology. The program includes two phases. Applications from students without a background in speech-language pathology will be submitted automatically to the *Preparatory* phase of the program. Applications from students *who currently hold a Bachelors' degree in speech-language pathology* will be submitted automatically to the core phase of the program. The program leading to a Master of Science degree for Speech Pathology undergraduate degree majors is a full time five-semester sequence beginning each year in the fall semester.

The Council on Academic Accreditation (CAA) of the American Speech Language Hearing Association (ASHA) accredits the Speech-Language Pathology Program. Graduating students will be eligible to apply for the Certificate of Clinical Competence by ASHA if all requirements are fulfilled. Students may also be eligible for Kentucky State Teaching Certification in speech-language pathology. The Teacher Certification Program by which speech pathology students prepare for school therapy positions is certified by the National Council for Accreditation for Teacher Education. Additional coursework may be required to be eligible for ASHA or teaching certification.

The program has cooperative arrangements with more than thirty schools, agencies, hospitals, and practice groups in the Kentuckiana region.

Admission Procedures

Speech Pathology: Applicants should have a cumulative undergraduate grade point average of at least 3.0 on a 4.0 scale and combined Verbal and Quantitative scores on the Graduate Record Examination of at least 300. At least three letters of recommendation should accompany the application. A formal interview may be required. The applicant should read and meet the general requirements for admission to the School of Interdisciplinary and Graduate Studies.

Degree Requirements

Candidates for the Master of Science degree in speech pathology must complete at least 54 credit hours at the graduate level, exclusive of credits related to the completion of a (optional) master's

thesis, courses required to complete ASHA certification requirements, and/or course work related to Kentucky State Teacher Certification.

Please refer to the section on Academic Standing in this catalog entitled "academic probation" concerning dismissal/retention in the program.

Pass/Fail Option

In general, students in Speech Pathology may not choose the pass/fail option. Certain courses may be offered with this option at the discretion of the faculty.

Comprehensive Examinations

Students in Speech-Language Pathology will take an eight-hour written comprehensive examination followed by a forty-five minute oral comprehensive examination during their last semester of study. The completion of a master's thesis is encouraged, but is optional. Thesis students will take at least one statistics course above the introductory level. Thesis students will take a comprehensive oral examination that will focus primarily, but not exclusively, on the thesis work itself.

These examinations must be completed at least five weeks prior to the completion of the student's graduate program. The student is responsible for becoming familiar with the consequences of failure on the written or oral examinations. This information is available in the student academic policy manual.

Clinical Practicum

The American Speech Language Hearing Association requires a minimum of 400 clock hours of supervised clinical practicum in speech pathology to be eligible for certification. Twenty clock hours must be in the student's minor area and 325 of the 400 hours must be at the graduate level. All students must have had 25 hours of observation. If they were obtained at the undergraduate level, they are not repeated. The student may spend the last 8 weeks of the program at a clinical site outside the Louisville area.

Certain prerequisites and standards apply to the clinical practicum component of the program, including minimum course work requirements, mandatory readings, observations, case report formats, and grading criteria. This information is available in the program office and it is the student's responsibility to become acquainted with these requirements prior to enrolling in clinical practicum.

Falling below a 3.0 average in practicum for two consecutive semesters will result in dismissal from the program. Practicum assignments are made at the faculty's discretion and with the service needs of the clinic in mind. All practicum work done outside of the main program must be given prior approval by the clinical director.

Curriculum

Speech Language Pathology M.S. Degree - CORE PROGRAM

Year	Semester	Course#	Title	Credits
1	Fall	CMDS 572	Anatomy & Physiology for Communication Sciences	4
		CMDS 661	Assessment of Childhood Language Disorders	3
		CMDS 620	Neurological Disorders of Speech Production	3
		CMDS 602	Articulation/Phonology	3
			Total Credits	13
	Spring	CMDS 696	Augmentative/Alternative Communication	3
		CMDS 667	Aphasia	3
		CMDS 612	Preschool Language Intervention	3
		CMDS 669	Cognitive Disorders	3
		CMDS 695	Special Topics (0) 2-Day Seminar TBA	0
		CMDS 652	School Age Language and Phonology Intervention	3
		CMDS 611	Practicum: Speech Pathology	1
			Total Credits	16
	Summer	CMDS 671	Clinical Methods in Speech Language Pathology	2
		CMDS 690	Dysphagia	3
		CMDS 663	Voice Disorders	3
		CMDS 611	Practicum: Speech Pathology	2
		EDSP 637	Transdisciplinary Collaboration for Inclusion	3
			Total Credits	13
2	Fall	CMDS 668	Professional Issues in Audiology and Speech Pathology	3
		CMDS 611	Practicum: Speech Pathology	3
		CMDS 665	Fluency Disorders	3
		AUDI 605	Intro to Audiological Techniques and Rehab	3
		CMDS 699	Project	1-3
		CDMS 595	Special Topics: Statistical Techniques	3
	OBIO 501	Biomedical Data Analysis: Experimental Design and Statistics	3	
		Total Credits	9	
	Spring	CMDS 695	Special Topics 3-Day Seminar TBA	3
		CMDS 611	Practicum: Speech Pathology	5
		CMDS 610	Practicum: Audiology	1
		CMDS 699	Project	1-3
EDSP 540		Introduction to Exceptional Children	3	
		Total Credits	8-9	

Speech Language Pathology M.S. Degree Program - PREPARATORY PROGRAM

Semester	Course#	Title	Credits
Fall	CMDS 572	Anatomy & Physiology for Communication Sciences	4
	CMDS 605	Intro to Audiological Techniques and Rehab	3
	CMDS 563	Clinical Phonetics	3
Total Credits			10
Spring	CMDS 570	Clinical Observation in Speech Pathology and Audiology	1
	CMDS 564	Normal Speech & Language Development	3
	CMDS 545	Survey of Communication Processes and Disorders	3
	LING 522	OR	
	ENG 522	Structure of Modern American English	3
	EDSP 540	Intro to Exceptional Children	3
	EDSP 637	Transdisciplinary Collaboration	3
	Total Spring Semesters		
Total Credits (Required)			10
Summer	EDSP 540	Intro to Exceptional Children	2
	EDSP 637	Transdisciplinary Collaboration	3

*If necessary

**Teacher Certification Program (optional)

Departmental Faculty

Barbara M. Baker, Ph.D.
Director and Professor
Rhonda Mattingly, Ed.D.
*Lecturer and Clinical
Coordinator*

M. Gay Masters, Ph.D.
Assistant Professor
Alan F. Smith, Ph.D.
Lecturer

Elizabeth A. Katzman,
Ed.D.
Clinical Supervisor

Master of Science in Microbiology and Immunology

Major: MBIO

Degree Awarded: MS

Unit: GM

Program Webpage: <http://louisville.edu/medschool/microbiology/>

Program Information

The Department of Microbiology and Immunology, in the School of Medicine, offers a program of study leading to the degree of Master of Science. The M.S. program includes training in a broad range of research areas using state-of-the-art immunological, microbiological, and molecular technologies.

Program Admission Procedure

For admission to the M.S. program, the applicant must have attained a B.S or B.A. degree with a minimum grade-point average of 3.0 (on a 4.0 point scale). All applicants accepted into the Master's Program must be self-supporting, as financial assistance is not available. In addition, the following should be submitted online directly to Graduate Admissions:

<http://louisville.edu/graduate/apply>

- A completed application form and \$60 application fee
- Official scores of the General Test Section of the Graduate Record Examination and the TOEFL (when applicable)
- Three letters of recommendation
- A brief statement of purpose describing interests and career goals
- A current resume or curriculum vitae
- A letter of scientific support from a Department of Microbiology and Immunology faculty member (faculty agreement to mentor student in lab)
- Official transcripts of all undergraduate and graduate course work (mailed to Graduate Admissions)

The applicant must meet the other general requirements of the School of Interdisciplinary and Graduate Studies as outlined in the General Information section of this catalog. The application deadline is March 1st each year. Submission prior to March 1 is strongly encouraged in order to ensure that all required materials (especially letters of reference) are received by the deadline. The applicant is expected to have completed the following undergraduate courses prior to admission to the graduate program: One year of introductory biology, one year of organic chemistry, one year of physics, one semester (or equivalent) of introductory calculus, and one semester of biochemistry.

Prospective students may be invited for a personal interview with members of the admissions committee and departmental faculty as part of the application process.

Curriculum

Required Courses:

Required Courses			
	course title	credit hours	semester
BIOC 645	Biochemistry I	4	Fall
either - MBIO 601	Molecular Microbiology	2	Fall
-or- MBIO 602	Immunology	3	Fall
MBIO 606	Seminar/ Journal Club	1(x2)	Fall & Spring
MBIO 690	Research Methods in Microbiology & immunology	2	Fall
BIOC 606- 03	Survival Skills and Research Ethics	1	Spring
MBIO 619	Research	1-12	Fall, Spring & Summer
MBIO 620	Thesis(optional)	1-6	Fall, Spring & Summer

Electives:

Select two courses from the list of suggested electives			
	course title	credit hours	semester
MBIO 618	Topics in Advanced Microbiology	1-3	Fall & Spring
	Advanced Immunology : Innate and Adaptive Immunity	2	Spring
	Advanced Immunology: Autoimmunity, Cancer, and Transplantation	2	Fall
	Microbiota in Health & Disease	2	Fall
	Cell Biology of Viruses	1	Spring
MBIO 687	Microbial Pathogenesis	2	Spring
BIOC 667	Cell Biology	3	Spring
PHTX 619- 01	Introduction to Biostatistics	2	Summer

If the student has satisfactorily completed the required courses and total credit hour requirements with an overall and program GPA of 3.0, then the student may register as an M.S. candidate.

Program of Study

Students admitted to the M.S. Degree Program should select a research advisor, form a thesis

committee, and decide upon an area of research in the first semester. The student and advisor should form a committee of three (3), composed of the advisor, one other graduate faculty member of the department, and a third member with graduate faculty status in another department. The second committee member will serve as co-advisor if the advisor does not have primary appointment in the Department of Microbiology and Immunology. The department chair may serve as an ex-officio member of the thesis committees.

Students in the M.S. program are required to submit and defend a thesis. The thesis must conform to the School of Interdisciplinary and Graduate Studies' guidelines. Students, with the consent of the departmental graduate faculty committee, may elect to substitute a written research proposal instead of a traditional thesis, based on laboratory research performed by the student, describing successive research to be pursued. The final oral defense will be preceded by a research seminar open to everyone. The oral examination will be administered by the thesis committee, and will be open to any other interested graduate faculty members. Evaluation of student competence and thesis acceptability, together with departmental recommendations for graduation, will be forwarded to the Dean of the School of Interdisciplinary and Graduate Studies.

Departmental Faculty

Primary Faculty

Nejat Egilmez

Professor and Chair

Yousef Abu Kwaik

Professor

Pascale Alard

Associate Professor

Haribabu Bodduluri

Professor

Paula Chilton

Assistant Professor

Donghoon Chung

Assistant Professor

James E. Graham

Associate Professor

Lawrence A. Hunt

Associate Professor

Venkatakrishna R. Jala

Assistant Professor

Colleen Johnson

Professor

Michele M. Kosiewicz

Associate Professor

Matthew Lawrenz

Assistant Professor

Richard D. Miller

Associate Professor

Thomas C. Mitchell

Professor

Haval Shirwan

Professor

Uldis N. Streips

Professor

Jill Suttles

Professor

Jonathan Warawa

Assistant Professor

Esma Yolcu

Associate Professor

Huang-Ge Zhang

Professor

Joint Faculty

David Dunn

Professor

Associate Faculty

William G. Cheadle

Professor

Donald R. Demuth

Professor

G. Rafael Fernandez-Botran

Associate Professor

Suzanne Ildstad

Professor

Henry Kaplan

Professor

Deepa Kolaseri

Assistant Professor

Richard J. Lamont

Professor

Ken Lucas

Professor

Igor Lukashevich

Professor

Gary S. Marshall

Professor

Kenneth McLeish

Professor

Robert Mitchell

Associate Professor

David Powell

Assistant Professor

Julio Ramirez

Professor

Mariusz Ratajczak

Professor

Susanna K. Remold

Associate Professor

David Scott

Associate Professor

Hui Shao

Professor

James W. Snyder

Professor

Matthew Spite

Assistant Professor

Robert H. Staat

Professor

David Stirling

Assistant Professor

James T. Summersgill

Professor

Silvia M. Uriarte

Assistant Professor

Huizhi Wang

Assistant Professor

Micah Worley

Associate Professor

Kavitha Yaddanapudi

Assistant Professor

Jun Yan

Professor

Debbie Yoder-Himes

Assistant Professor

Adjunct Faculty

Mawadda Al-Naeeli

Assistant Professor

Ohio University Zanesville

Carl Bruder

Karolinska Institute

Stockholm, Sweden

Anthony J. Janckila

Associate Professor

Department of Veteran's

Affairs Medical Center

Emeritus Faculty

Pinghui Liu

Professor

Doctor of Philosophy in Microbiology and Immunology

Major: MBIO

Degree Awarded: Ph.D.

Unit: GM

Program Webpage: <http://louisville.edu/medschool/microbiology/>

Program Information

The Department of Microbiology and Immunology, in the School of Medicine, offers a program of study leading to the degree of Doctor of Philosophy. The Ph.D. program includes training in a broad range of research areas using state-of-the-art immunological, microbiological, and molecular technologies. A competitive stipend, health care benefits, a full waiver of tuition and fees are provided to all applicants accepted into the Ph.D. Program.

Program Admission Procedure

For admission to the Ph.D. program, the applicant must have attained a B.S or B.A. degree with a minimum grade-point average of 3.0 (on a 4.0 point scale). In addition, the following should be submitted online directly to Graduate Admissions:

<http://louisville.edu/graduate/apply>

- A completed application form and \$60 application fee
- Official scores of the General Test Section of the Graduate Record Examination and the TOEFL (when applicable)
- Three letters of recommendation
- A brief statement of purpose describing interests and career goals
- A current resume or curriculum vitae
- Official transcripts of all undergraduate and graduate course work (mailed to Graduate Admissions)

The applicant must meet the other general requirements of the School of Interdisciplinary and Graduate Studies as outlined in the General Information section of this catalog. The application deadline is March 1st each year. Submission prior to March 1 is strongly encouraged in order to ensure that all required materials (especially letters of reference) are received by the deadline. The applicant is expected to have completed the following undergraduate courses prior to admission to the Ph.D. program: One year of introductory biology, one year of organic chemistry, one year of physics, one semester (or equivalent) of introductory calculus, and one semester of biochemistry.

Prospective students may be invited for a personal interview with members of the admissions committee and departmental faculty as part of the application process.

Curriculum

Required Courses:

Required Courses			
	course title	credit hours	semester
MBIO 601	Molecular Microbiology	2	Fall
MBIO 602	Immunology	3	Fall
MBIO 667	Cell Biology	3	Spring
BIOC 645	Biochemistry I	4	Fall
MBIO 606	Seminar/ Journal Club	1(x2)	Fall & Spring
MBIO 600	Lab Rotations in Microbiology and Immunology	1(x2)	Fall & Spring
MBIO 610	Methods and Analysis in Biomedical Sciences	2	Fall
MBIO 618	Topics in Advanced Microbiology		
	Cell Biology of Viruses	1	Spring
BIOC 606-03	Survival Skills and Research Ethics	1	Spring
PHTX 619-01	Introduction to Biostatistics	2	Summer
MBIO 619	Research	1-12	Fall, Spring & Summer

Elective Courses:

Select three courses from the list of suggested electives			
	course title	credit hours	semester
MBIO 618	Topics in Advanced Microbiology	1-3	Fall & Spring
	Advanced Immunology : Innate and Adaptive Immunity	2	Spring
	Advanced Immunology: Autoimmunity, Cancer, and Transplantation	2	Fall
MBIO 687	Microbial Pathogenesis	2	Spring
Other Approved Graduate Courses:			
BIOC 668	Molecular Biology	4	Fall
BIOC 675	Cancer Biology	4	Spring
BIOC 647	Adv. Biochemistry II	4	Spring
at least 1 elective must be in the Department MBIO			

Note:

** Students enrolled in the M.D./Ph.D. Joint Degree Program, who have completed step I of

NBME, will have satisfied all of the required course requirements except seminar, Research Ethics, Research Methods and research. Three electives will be required. They will be required to satisfactorily complete the Qualifying Exam and successfully defend a dissertation research project, in addition to attending all journal club sessions and seminars.

Program of Study

Upon successful completion of the required course work, maintaining a minimum 3.0 GPA, and upon the recommendation of the advisor or chair, the student may take the Ph.D. Qualifying Examination. The Qualifying Examination will consist of a written research proposal outside of his/her area of primary research and oral defense of the project. Three to five faculty with expertise in the area of the proposal will be selected by the chair to serve as the Examining Committee. The student may enter degree candidacy upon receipt of satisfactory judgment from the Examining Committee and successful completion of the final semester of coursework.

Selection of a Research Advisor, Dissertation Committee and Research Proposal

Selection of the Research Advisor and specific research area is one of the most important decisions of the student's entire graduate training program, and is a joint decision by the student and faculty member. Students must select a Research Advisor for their dissertation research by the end of their first year. Selection of the Research Advisor and formation of the Dissertation Committee must be approved by the Department Chair and the Dean of the School of Medicine (or their designees). The potential advisor must agree, in writing, to provide stipend and candidacy fee support from his/her research funds, following fellowship support. Upon approval of the Research Advisor, the student will formally decide upon a dissertation research project. The student and Research Advisor will form a Dissertation Committee with five (5) graduate faculty members. The committee will be composed of the advisor, three faculty members of the Department of Microbiology and Immunology, and one additional graduate faculty member from another department. If the advisor does not have a primary appointment in the Department of Microbiology and Immunology, one of the three other departmental members with a primary appointment in the department must serve as Co-Advisor. The Chairman of the Department may serve as an ex-officio member of the committee.

The committee will meet regularly to evaluate progress of the research (at least once per year). The student will also be required to present a research seminar to the department annually on this progress. When the dissertation research is completed, the committee will conduct the final oral examination in accordance with the guidelines in the General Information section of this catalog.

Departmental Faculty

Primary Faculty

Nejat Egilmez
Professor and Chair
Yousef Abu Kwaik
Professor

Pascale Alard
Associate Professor
Haribabu Bodduluri
Professor

Paula Chilton
Assistant Professor
Donghoon Chung
Assistant Professor

James E. Graham
Associate Professor

Lawrence A. Hunt
Associate Professor

Venkatakrishna R. Jala
Assistant Professor

Colleen Johnson
Professor

Michele M. Kosiewicz
Associate Professor

Matthew Lawrenz
Assistant Professor

Richard D. Miller
Associate Professor

Thomas C. Mitchell
Professor

Haval Shirwan
Professor

Uldis N. Streips
Professor

Jill Suttles
Professor

Jonathan Warawa
Assistant Professor

Esma Yolcu
Associate Professor

Huang-Ge Zhang
Professor

Joint Faculty

David Dunn
Professor

Associate Faculty

William G. Cheadle
Professor

Donald R. Demuth
Professor

G. Rafael Fernandez-Botran
Associate Professor

Suzanne Ildstad
Professor

Henry Kaplan
Professor

Deepa Kolaseri
Assistant Professor

Richard J. Lamont
Professor

Ken Lucas
Professor

Igor Lukashevich
Professor

Gary S. Marshall
Professor

Kenneth McLeish
Professor

Robert Mitchell
Associate Professor

David Powell
Assistant Professor

Julio Ramirez
Professor

Mariusz Ratajczak
Professor

Susanna K. Remold
Associate Professor

David Scott
Associate Professor

Hui Shao
Professor

James W. Snyder
Professor

Matthew Spite
Assistant Professor

Robert H. Staat
Professor

David Stirling
Assistant Professor

James T. Summersgill
Professor

Silvia M. Uriarte
Assistant Professor

Huizhi Wang
Assistant Professor

Micah Worley
Associate Professor

Kavitha Yaddanapudi
Assistant Professor

Jun Yan
Professor

Debbie Yoder-Himes
Assistant Professor

Adjunct Faculty

Mawadda Al-Naeeli
Assistant Professor
Ohio University Zanesville

Carl Bruder
Karolinska Institute
Stockholm, Sweden

Anthony J. Janckila
Associate Professor
Department of Veteran's
Affairs Medical Center

Emeritus Faculty

Pinghui Liu
Professor

Master of Science in Pharmacology and Toxicology

Major: PHTX

Degree Awarded: MS

Unit: GM

Program Webpage: <http://www.louisville.edu/medschool/pharmacology>

Program Information

The Department of Pharmacology & Toxicology is committed to academic excellence and to the attainment of regional, national, and international recognition for the quality of its educational, research, and service activities. The Department Strategic Plan includes five broad objectives:

- Provide instruction in pharmacology and toxicology of the highest quality for the education and preparation of medical, dental, nursing, and other health care professional students. Emphasis will be placed on the fundamental principles necessary for life-long learning and the essential knowledge required for rational, effective, and safe use of drug therapy.
- Advance biomedical knowledge through active contribution to high quality research and other scholarly activities, particularly in pharmacology and toxicology and other areas of focus within the University of Louisville Strategic Plan.
- Provide high quality research and educational experiences in pharmacology and toxicology for the education and training of future biomedical scientists who can provide and advance biomedical education, research, and service.
- Provide instruction of the highest quality in pharmacology and toxicology that is appropriate for students at the undergraduate, graduate, and postgraduate levels.
- Provide high quality service to the School of Medicine, the Health Sciences Center, the University, the people of Louisville and the surrounding region, the Commonwealth of Kentucky, professional organizations, the nation, and the world.

Goals of the Program

The Department of Pharmacology and Toxicology is dedicated to advancing biomedical knowledge through active contribution to high quality research in pharmacology and toxicology and to providing high quality research and educational experiences for the education and training of future biomedical scientists who advance biomedical education, research, and service.

Program Admission Procedure

For the Department of Pharmacology and Toxicology complete guidelines are given below.

1. **Application forms.** All candidates for admission to graduate programs at the University of Louisville must complete the application form found at <http://louisville.edu/graduate/apply>. This may be completed online or may be submitted via mail to:

**Office of Graduate Admissions
Suite 105, Houchens Bldg
University of Louisville
Louisville, KY 40292
United States of America**

Applications are received at any time for starting dates of approximately August 1. All credentials and/or communications should be submitted to the Office of Graduate Admissions and should contain the student's full name and Social Security Number or UofL-issued Student ID. Lack of Social Security Number may cause processing to be delayed. Applications received by January 1 are assured of full consideration for that year. Admission on a conditional basis is a possibility in rare, special cases, even though application materials are incomplete. Please [contact the department](#) for additional information.

2. **Application Fee.** A \$60.00 US currency non-refundable application fee is required with the application form. An application will not be forwarded to the department until this fee is paid. A check or money order should be made payable to the "University of Louisville."

3. **Transcripts.** Applicants for admission to a degree program must submit an official transcript from each college attended. All University of Louisville transcripts will automatically be submitted with completion of an application. All applications are considered on an individual basis. Normally, a successful applicant will have an undergraduate GPA of 3.00 or higher and will have successfully completed sufficient coursework in basic biology, chemistry and mathematics.

4. **Test Scores.** Applicants normally must take the general section of the Graduate Record Examination (GRE). There is no absolute cutoff score for acceptance. Each case is decided on the totality of its merits. At the discretion of the department, MCAT or other entrance examination scores may be accepted in place of the GRE. Information can be obtained from:

- University of Louisville Testing Center, or
- Graduate Record Examination Educational Testing Service Box 955 Princeton, NJ 08541, or
- <http://www.gre.org/>

The GRE Advanced Test in a discipline is not required, but if available will be used in admissions and placement decisions.

NOTE: GRE Institution Code is R1838-University of Louisville. The GRE major codes are 0216 – Pharmacology or 0219 – Toxicology.

5. **Statement of Experience and Professional Goals.** At the time of application, a two to three page typed statement should be sent to introduce the student to the faculty of the Department, describing past educational, laboratory and relevant life experiences, as well as outlining

professional goals after the degree program. This statement can be sent electronically to gradadm@louisville.edu or via mail to:

Office of Graduate Admissions
Suite 105, Houchens Bldg
University of Louisville
Louisville, KY 40292
United States of America

6. English Proficiency. All applicants *for whom English is a second language* must also submit official TOEFL scores of 79 or higher on the internet-based test or 550 or higher on the paper-based test for verification of English proficiency. Students holding a bachelor's or advanced degree from an accredited institution in the United States are exempt from this requirement. Information concerning the TOEFL exam can be obtained from: University Testing Center, or Test of English as a Foreign Language PO Box 6151 Princeton, NJ 08541 USA or <http://www.toefl.org> The institutional code of UofL for TOEFL is 1838. The TOEFL department code is 30 (other biological sciences.)

7. Personal Interview. Whenever possible, a personal interview, either in person or via telephone will be held before final offer and acceptance of a position in the M.S. program.

8. Letters of Recommendation. Three letters of recommendation from persons familiar with the applicant's research and/or academic work are required. These recommendations will ideally include a letter attached to the recommendation form ([pdf form](#)), or may be completed electronically via the [online application](#).

9. International Student Applicants. In addition to satisfying the appropriate credential requirements, applicants may be required to provide the following documents.

- Applicants who attended college outside the US must submit verbatim notarized English translations of all academic records and credentials.

10. Financial Aid the Department normally provides no funds for such support of Masters' students.

11. Residency Policy: Residency status for students is determined in the Office of Graduate Admissions. The status is determined according to the policy on classification of students for fee assessment purposes at state-supported institutions of higher education. Except as provided in the guidelines, it is presumed that a resident has remained in the state in a non-student status for the twelve months immediately preceding the last date for enrollment in the institution.

The domicile of an un-emancipated person, as defined in the guidelines, is that of his/her parent. The domicile of a married person is determined by the provisions of the guidelines independent of the residence of the spouse. Copies of the guidelines and appropriate forms for requesting change of residence classification may be obtained from the Office of Student Services.

Indiana Tuition Reciprocity: The University of Louisville is participating in an Indiana Tuition Reciprocity Program for residents of Clark, Crawford, Floyd, Harrison or Scott Counties who have been admitted directly into an approved graduate program. Eligible participants are required to notify the Admissions Office prior to their first enrollment and the Registrar's Office after their first enrollment of any changes in residency status. [e.g. if they no longer live in one of the eligible counties, or are no longer in an eligible program.] The University reserves the right to further investigate and require documentation of eligibility for tuition reciprocity.

For Military Personnel: If an applicant, spouse or parent (if dependent) is currently stationed in Kentucky on military active duty for one or more years, please attach a copy of the military orders, a lease or mortgage showing Kentucky address and a military dependent identification card if appropriate. If the applicant is a Kentucky resident but has been in the military and has been recently discharged, please send a copy of the military discharge papers (DD-214).

International Students on Immigrant/ Permanent Resident Status: If currently on an immigrant/ permanent resident status, it will be necessary to submit a copy of an immigration/ permanent resident card, both sides, for review of possible residency classification for tuition purposes.

The University of Louisville reserves the right to change programs of study, academic requirements, fees, schedules of courses, the announced academic calendar and deadlines without prior notice.

- Transcripts must be evaluated by a credential evaluation service such as World Education Services (www.wes.org) or Educational Credential Evaluators (www.ece.org) for admission.
- If on a Visa that requires an I-20 or IAP-66, the applicant is required to complete an Application Supplement/Financial Declaration form (<https://louisville.edu/graduate/futurestudents/international-applicants/international-students>) and submit appropriate financial documentation.

Curriculum

The Masters Program in Pharmacology and Toxicology is a 1.5+ year course of study culminating in the presentation and defense of a masters thesis. The masters thesis may be based on laboratory research, a “dry” library-based research project, or a combination of the two. The M.S. curriculum is designed for:

- (a) individuals interested in a terminal masters degree who do not require extensive research experience or credentials, e.g. pharmaceutical representatives, medical insurance providers, medico-legal professionals;
- (b) for pairing with other programs to form hybrid or dual science/business or public health degrees, such as an M.S./M.B.A. or M.S./M.P.H. programs;

(c) for individuals interested in progressing through management ranks in Pharma or biotech businesses;

(d) when coupled with extensive scientific writing experience or electives as the basis for a scientific writing career;

(e) when combined with theoretical and practical training in laboratory analysis as the basis for a career in biotechnology.

M.S. Curriculum

First Year - Fall Semester

Courses	Title	Hours
PHTX 660	Principles of Drug and Chemical Action	4
BIOC 645	Biochemistry I	4
PHTX 610	Methods and Analysis in the Biomedical Sciences	2
PHTX 616	Special Topics in Physiology	2
Co-curricular		
PHTX 606	Seminar	1
PHTX 619	Research	1

First Year - Spring Semester

PHTX 655	Neuropharmacology	2
PHTX 674/675	Research Methods in Pharmacology and Toxicology	2
Co-curricular		
PHTX 619	Research	3-4
PHTX 606	Seminar	1
BIOC 603	Research Ethics	1

Summer After First Year

PHTX 619	Research	9
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Second Year - Fall Semester

PHTX 656	Cardiovascular and Renal Pharmacology	2
PHTX 657	Endocrine and Metabolic Pharmacology	2
PHTX 658	Selective Toxicity and Chemotherapeutics	1
PHTX 625	Scientific Writing	2

Co-curricular

PHTX 619	Research	2-4
PHTX 606	Seminar	1

Second Year - Spring Semester (if required)

Masters Candidacy		
Preparation, presentation, and defense of MS thesis Award of M.S. degree.		2

Departmental Faculty

Faculty with Primary Appointments

Arteel, Gavin E.
Professor

Arteel, Juliane I.
Assistant Professor

Ceresa, Brian P.
Associate Professor

Clark, Geoffrey J.
Associate Professor

Gupta, Ramesh
Professor

Hein, David W.
Professor and Chair

Kang, Y. James
Professor

Kidd, La Creis R.
Associate Professor

Lukashevich, Igor S.
Professor

Matoba, Nobuyuki
Associate Professor

Myers, Steven R.
Associate Professor

Nerland, Donald E.
Professor

Palmer, Kenneth E.
Professor

Pierce, William M.
Professor

Siskind, Leah J.
Associate Professor

Song, Zhao-Hui
Professor

States, J. Christopher
Professor

Faculty with Secondary Appointments

Aronoff, George R.
Professor

Barve, Shirish
Professor

Beverly, Levi J.
Assistant Professor

Bhatnagar, Aruni
Professor

Bodduluri, Haribabu
Professor

Brier, Michael E.
Professor

Brock, Guy N.
Associate Professor

Cai, Jian
Assistant Professor

Cai, Lu
Professor

Cave, Matthew C.
Associate Professor

Chesney, Jason A.
Professor

Conklin, Daniel
Associate Professor

Cunningham, Albert R.
Associate Professor

Damoradan, Chendil
Associate Professor

Eaton, John W.
Professor

Epstein, Paul N.
Professor

Feng, Wenke
Associate Professor

Frieboes, Hermann B.
Assistant Professor

Gobejishvili, Leila
Assistant Professor

Gozal, Evelynne
Associate Professor

Guo, Yiru
Professor

Hetman, Michal
Professor

Jenson, A. Bennett
Professor

Jones, Steven P.
Associate Professor

Jonsson, Colleen B.
Professor

Joshi-Barve, Swati
Assistant Professor

Keller, Brad B.
Professor

Kirpich, Irina
Assistant Professor

Li, Chi
Assistant Professor

Martin, Robert C.G.
Professor

McClain, Craig
Professor

McMasters, Kelly M.
Professor

McNally, Lacey R.
Assistant Professor

Merchant, Michael L.
Associate Professor

Miller, Donald M.
Professor

Ng, Chin K.
Associate Professor

O'Toole, Timothy E.
Assistant Professor

Pisano, M. Michele
Professor

Rai, Shesh N.
Professor

Rodgers, George C.
Professor

Roman, Jesse
Professor

Scott, David A.
Professor

Srivastava, Sanjay
Professor

Steinbach, Jill M.
Assistant Professor

Sullivan, Janice E.
Professor

Tan, Yi
Assistant Professor

Watson, Walter (Bert)
Assistant Professor

Wattenberg, Brian (Binks)
Associate Professor

Yan, Jun
Professor

Ye, Hong
Associate Professor

Zacharias, Wolfgang
Professor

Zhang, Xiang
Professor

Doctor of Philosophy in Pharmacology and Toxicology

Major: PHTX

Degree Awarded: Ph.D.

Unit: GE

Program Webpage: <http://louisville.edu/medschool/pharmacology>

Program Information

The Department of Pharmacology & Toxicology is committed to academic excellence and to the attainment of regional, national, and international recognition for the quality of its educational, research, and service activities. Guided by the University of Louisville 2020 Strategic Plan to become a preeminent metropolitan research university, the Department Strategic Plan will focus on accomplishment of five broad objectives:

- Provide instruction in pharmacology and toxicology of the highest quality for the education and preparation of medical, dental, nursing, and other health care professional students. Emphasis will be placed on the fundamental principles necessary for life-long learning and the essential knowledge required for rational, effective, and safe use of drug therapy.
- Advance biomedical knowledge through active contribution to high quality research and other scholarly activities, particularly in pharmacology and toxicology and other areas of focus within the University of Louisville 2020 Strategic Plan.
- Provide high quality research and educational experiences in pharmacology and toxicology for the education and training of future biomedical scientists who can provide and advance biomedical education, research, and service.
- Provide instruction of the highest quality in pharmacology and toxicology that is appropriate for students at the undergraduate, graduate, and postgraduate levels.
- Provide high quality service to the School of Medicine, the Health Sciences Center, the University, the people of Louisville and the surrounding region, the Commonwealth of Kentucky, professional organizations, the nation, and the world.

Goals of the Program

The Department of Pharmacology and Toxicology is dedicated to advancing biomedical knowledge through active contribution to high quality research in pharmacology and toxicology and to providing high quality research and educational experiences for the education and training of future biomedical scientists who advance biomedical education, research, and service.

Student Financial Support

Students accepted into the Ph.D. program will be considered for financial aid. This aid would include tuition remission, and student health insurance. The Department houses a [NIEHS Predoctoral Training Program in Environmental Health Sciences](#) which provides stipend support

for selected students. Since all Ph.D. students and candidates are considered to be full-time students, they generally are not permitted to seek outside employment while enrolled in the doctoral program. In cases where financial aid is limited and additional support is essential, students needing outside employment must apply in writing for departmental faculty approval. The faculty must also approve any change in employment, as well as approving continued outside employment on an annual basis.

Program Admission Procedure

For the Department of Pharmacology and Toxicology complete guidelines are given below.

1. **Application forms.** All candidates for admission to graduate programs at the University of Louisville must complete the application form found at <http://louisville.edu/graduate/apply>. This may be completed online or may be submitted via mail to:

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Suite 105, Houchens Bldg
University of Louisville
Louisville, KY 40292
United States of America**

Applications are received at any time for starting dates of approximately August 1. All credentials and/or communications should be submitted to the Office of Graduate Admissions and should contain the student's full name and Social Security Number or UofL-issued Student ID. Lack of Social Security Number may cause processing to be delayed. Applications received by January 1 are assured of full consideration for that year. Admission on a conditional basis is a possibility in rare, special cases, even though application materials are incomplete. Please [contact](#) the department for additional information.

2. **Application Fee.** A \$60.00 US currency non-refundable application fee is required with the application form. An application will not be forwarded to the department until this fee is paid. A check or money order should be made payable to the "University of Louisville."

3. **Transcripts.** Applicants for admission to a degree program must submit an official transcript from each college attended. All University of Louisville transcripts will automatically be submitted with completion of an application. All applications are considered on an individual basis. Normally, a successful applicant will have an undergraduate GPA of 3.00 or higher and will have successfully completed sufficient coursework in basic biology, chemistry and mathematics.

4. **Test Scores.** Applicants normally must take the general section of the Graduate Record Examination (GRE). There is no absolute cutoff score for acceptance. Each case is decided on the totality of its merits. At the discretion of the department, MCAT or other entrance examination scores may be accepted in place of the GRE. Information can be obtained from:

- University of Louisville Testing Center, or
- Graduate Record Examination Educational Testing Service Box 955 Princeton, NJ 08541, or
- <http://www.gre.org/>

The GRE Advanced Test in a discipline is not required, but if available will be used in admissions and placement decisions. NOTE: GRE Institution Code is R1838-University of Louisville. The GRE major codes are 0216 – Pharmacology or 0219 – Toxicology.

5. Statement of Experience and Professional Goals. At the time of application, a two to three page typed statement should be sent to introduce the student to the faculty of the Department, describing past educational, laboratory and relevant life experiences, as well as outlining professional goals after the degree program. This statement can be sent electronically to gradadm@louisville.edu or via mail to:

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Suite 105, Houchens Bldg
University of Louisville
Louisville, KY 40292
United States of America**

6. English Proficiency. All applicants *for whom English is a second language* must also submit official TOEFL scores of 79 or higher on the internet-based test or 550 or higher on the paper-based test for verification of English proficiency. Students holding a bachelor's or advanced degree from an accredited institution in the United States are exempt from this requirement. Information concerning the TOEFL exam can be obtained from: University Testing Center, or Test of English as a Foreign Language PO Box 6151 Princeton, NJ 08541 USA or <http://www.toefl.org> The institutional code of UofL for TOEFL is 1838. The TOEFL department code is 30 (other biological sciences.)

7. Personal Interview. Whenever possible, a personal interview, either in person or via telephone will be held before final offer and acceptance of a position in the Ph.D. program.

8. Letters of Recommendation. Three letters of recommendation from persons familiar with the applicant's research and/or academic work are required. These recommendations will ideally include a letter attached to the recommendation form or may be completed electronically via the [online application](#).

9. International Student Applicants. In addition to satisfying the appropriate credential requirements, applicants may be required to provide the following documents.

- Applicants who attended college outside the US must submit verbatim notarized English translations of all academic records and credentials.

- Transcripts must be evaluated by a credential evaluation service such as World Education Services (www.wes.org) or Educational Credential Evaluators (www.ece.org) for admission.
- If on a Visa that requires an I-20 or IAP-66, the applicant is required to complete an Application Supplement/Financial Declaration form (<https://louisville.edu/graduate/futurestudents/international-applicants/international-students>) and submit appropriate financial documentation.

10. Financial Aid. All applicants to the Ph.D. program of the Department of Pharmacology and Toxicology are automatically considered for financial aid upon admission. Typically, such aid consists of a stipend, tuition remission and a health insurance benefit.

11. Residency Policy. Residency status for students is determined in the Office of Graduate Admissions. The status is determined according to the policy on classification of students for fee assessment purposes at state-supported institutions of higher education. Except as provided in the guidelines, it is presumed that a resident has remained in the state in a non-student status for the twelve months immediately preceding the last date for enrollment in the institution.

The domicile of an un-emancipated person, as defined in the guidelines, is that of his/her parent. The domicile of a married person is determined by the provisions of the guidelines independent of the residence of the spouse. Copies of the guidelines and appropriate forms for requesting change of residence classification may be obtained from the Office of Student Services.

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For Military Personnel: If an applicant, spouse or parent (if dependent) is currently stationed in Kentucky on military active duty for one or more years, please attach a copy of the military orders, a lease or mortgage showing Kentucky address and a military dependent identification card if appropriate. If the applicant is a Kentucky resident but has been in the military and has been recently discharged, please send a copy of the military discharge papers (DD-214).

International Students on Immigrant/ Permanent Resident Status: If currently on an immigrant/ permanent resident status, it will be necessary to submit a copy of an immigration/ permanent resident card, both sides, for review of possible residency classification for tuition purposes.

The University of Louisville reserves the right to change programs of study, academic requirements, fees, schedules of courses, the announced academic calendar and deadlines without prior notice.

Curriculum

Ph.D. in Pharmacology & Toxicology Curriculum

Courses	Title	Hours
<i>First Year - Fall Semester</i>		
PHTX 660	Principles of Drug and Chemical Action	2
BIOC 645	Biochemistry I	4
PHZB 616	Selected Topics in Physiology	2
PHTX 610	Methods and Analysis in the Biomedical Sciences	2
Co-curricular		
PHTX 619	Research (Lab rotations 1 & 2)	2
Written qualifying exam 1 (end of semester)		
<i>First Year - Spring Semester</i>		
PHTX 655	Neuropharmacology	2
BIOC 647	Biochemistry II	4
MBIO 667	Cell Biology	3
PHTX 674/675	Research Methods in Pharmacology and Toxicology	2
Co-curricular		
PHTX 619	Research	1
PHTX 606	Seminar	1
BIOC 603	Research Ethics	1
Written qualifying exam 2 (end of semester)		
Summer After First Year		
PHTX 618	Topics (Statistics)	2
PHTX 619	Research	4
<i>Second Year - Fall Semester</i>		
PHTX 656	Cardiovascular and Renal Pharmacology	2
PHTX 657	Endocrine and Metabolic Pharmacology	2
PHTX 658	Selective Toxicity and Chemotherapeutics	1
PHTX 625	Scientific Writing	2
Co-curricular		
PHTX 619	Research	4
PHTX 606	Seminar	1
Written qualifying exam 3 (end of semester)		
<i>Second Year - Spring Semester</i>		
Students may take 1-3 elective courses for enrichment (Masters Candidacy)		0-9

Co-curricular

Submission, presentation, and defense of PhD proposal (NIH grant format) and MS thesis.

Awarding of MS degree and transition to PhD candidacy.

Departmental Faculty

Faculty with Primary Appointments

Arteel, Gavin E.

Professor

Arteel, Juliane I.

Assistant Professor

Ceresa, Brian P.

Associate Professor

Clark, Geoffrey J.

Associate Professor

Gupta, Ramesh

Professor

Hein, David W.

Professor and Chair

Kang, Y. James

Professor

Kidd, La Creis R.

Associate Professor

Lukashevich, Igor S.

Professor

Matoba, Nobuyuki

Associate Professor

Myers, Steven R.

Associate Professor

Nerland, Donald E.

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Palmer, Kenneth E.

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Pierce, William M.

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Siskind, Leah J.

Associate Professor

Song, Zhao-Hui

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States, J. Christopher

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Barve, Shirish

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Beverly, Levi J.

Assistant Professor

Bhatnagar, Aruni

Professor

Bodduluri, Haribabu

Professor

Brier, Michael E.

Professor

Brock, Guy N.

Associate Professor

Cai, Jian

Assistant Professor

Cai, Lu

Professor

Cave, Matthew C.

Associate Professor

Chesney, Jason A.

Professor

Conklin, Daniel

Associate Professor

Cunningham, Albert R.

Associate Professor

Damoradan, Chendil

Associate Professor

Eaton, John W.

Professor

Epstein, Paul N.

Professor

Feng, Wenke

Associate Professor

Frieboes, Hermann B.

Assistant Professor

Gobejishvili, Leila

Assistant Professor

Gozal, Evelyne

Associate Professor

Guo, Yiru

Professor

Hetman, Michal

Professor

Jenson, A. Bennett

Professor

Jones, Steven P.

Associate Professor

Jonsson, Colleen B.

Professor

Joshi-Barve, Swati

Assistant Professor

Keller, Brad B.

Professor

Kirpich, Irina

Assistant Professor

Li, Chi

Assistant Professor

Martin, Robert C.G.

Professor

McClain, Craig

Professor

McMasters, Kelly M.

Professor

McNally, Lacey R.

Assistant Professor

Merchant, Michael L.

Associate Professor

Miller, Donald M.

Professor

Ng, Chin K.

Associate Professor

O'Toole, Timothy E.

Assistant Professor

Pisano, M. Michele

Professor

Rai, Shesh N.

Professor

Rodgers, George C.

Professor

Roman, Jesse

Professor

Scott, David A.

Professor

Srivastava, Sanjay

Professor

Steinbach, Jill M.

Assistant Professor

Sullivan, Janice E.

Professor

Tan, Yi

Assistant Professor

Watson, Walter (Bert)

Assistant Professor

Wattenberg, Brian (Binks)

Associate Professor

Yan, Jun

Professor

Ye, Hong

Associate Professor

Zacharias, Wolfgang

Professor

Zhang, Xiang

Professor

Master of Science in Physiology and Biophysics

Major: PHZB

Degree Awarded: MS

Unit: GM

Program Webpage: <http://louisville.edu/medschool/physiology/>

Program Information

GENERAL PROCEDURES AND REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN THE DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS

I. PROGRAM OVERVIEW AND OBJECTIVES

The Department of Physiology and Biophysics is located in the Health Sciences Center of the University of Louisville which provides our graduate students with an active and intellectually stimulating environment. Our Graduate Program offers a Master of Science Degree to provide several career options: 1) to develop competence in directed research for advanced technical positions in industry, government, and university medical research laboratories; 2) to prepare students with a good general knowledge of human physiology to enable them to communicate physiological concepts to future students; and 3) to explore the possibility of a future career as an independent scientist in medically-related research.

The typical Master of Science (M.S.) Graduate Program includes a directed research emphasis and consists of thirty (30) semester hours typically over a twelve-month (3 semesters) period to include the following: 22 credit hours of basic medical sciences and at least 9 credit hours of directed physiological research.

II. Admission

A. Application Procedures

The University of Louisville School of Interdisciplinary and Graduate Studies (SIGS) catalog gives a general description of admission procedures. Application information can be found on the SIGS website (<http://louisville.edu/graduate/apply>). The following application items must be submitted to the School of Interdisciplinary and Graduate Studies' Admissions Office at the University of Louisville.

1. One official transcript of the applicant's previous work for each college or university that has been previously attended.
2. Two letters of recommendation from people who are well acquainted with the applicant's previous academic work.
3. Applicants must forward scores from the Analytical, Verbal and Quantitative portions of the Graduate Record Examination (GRE).
4. TOEFL Examination scores for foreign students from non-English speaking countries.

5. A non-returnable application fee to the University of Louisville. (\$60.00)

Applicants must state in a letter to the Department but submitted to the SIGS (referred to as the Personal Statement in the application materials), why they desire a M.S. degree in this Department of Physiology and Biophysics.

B. Admission Requirements

1. A cumulative undergraduate grade point average that is usually 2.80 or higher on a scale of 4.0 (A=4. B=3, etc)
2. A Graduate Record Examination Score which usually averages at the 40th percentile or higher in the verbal, quantitative and analytical sections.
3. Satisfactory MCAT scores will also be accepted in lieu of the GRE.

In the case of a foreign applicant from a non-English speaking country, the applicant must achieve a TOEFL Examination score > 85 on the internet exam.

C. Procedures for Determining Admissions

1. The Department attempts to hold a personal interview with all qualified applicants. Typically, this interview will be with two to four Department faculty members. If the applicant cannot come for an interview, then consideration of the application without the interview or, in some cases, a telephone interview will be conducted.
2. Two committees will manage student admission into the Department Graduate Programs: the Graduate Program Executive Committee (GPEC) and the Graduate Admission Committee (GAC). (Refer to Appendix A for details of composition and function.)

III. Minimal Requirements for the Master's Degree

A. Advisor Selection

1. First Semester Temporary Advisor

The Director of Graduate Studies will meet with the new student to discuss the student's academic and research interests. The Director of Graduate Studies will serve as a Temporary Advisor until a Permanent Advisor is selected.

During the first semester, beginning graduate students will visit research laboratories in which they have an interest. First-year students must select a Principal Advisor within the first 5 months of their graduate study. The selection process involves approval by the student, the Principal Advisor, the Director of Graduate Studies, and the Department Chair.

Appendix A

Admission

Two committees will control student admission into the Department Graduate Programs: The Graduate Program Executive Committee (GPEC) and the Graduate Admission Committee (GAC). The GPEC will recommend students to be interviewed based upon a dossier of information obtained from the Admission Office of the School of Interdisciplinary and Graduate Studies (SIGS). The GAC will conduct student interviews and vote on admission as representatives of the entire faculty of the Department.

A. Structure of Admission Committees:

The GPEC will consist of the Director of Graduate Admissions, the Director of Graduate Studies, and one other Departmental faculty member, all of whom are appointed by the Departmental Chair for staggered five-year terms.

The GAC will be composed of three tenured or tenure-track Department faculty members and members of GPEC, for a total membership of six. The full-time faculty of the Department will elect the three faculty representatives to GAC for staggered three-year terms.

B. Functions of the Admission Committees:

The GPEC evaluates all requests for admission into the Program. The Director of Admissions will create a dossier of information on applicants that complete the application process. This dossier will be derived from PeopleSoft and OnBase databases. A completed applicant dossier (i.e. all application material indicated in section 1.A., "Application Procedures") will be submitted to GPEC for evaluation. The GPEC will determine if the student's qualifications warrant a Departmental interview. If a simple majority of GPEC support further consideration of the applicant, interviews will be arranged by the Director of Graduate Admissions. The applicant will be interviewed by:

- At least one member of the GPEC
- The Department Chair or the Chair's designated representative
- Two to three members of the GAC.

If the applicant cannot come for an interview, then consideration of the application will proceed without the interview, or in some cases, by telephone interview.

The Director of Graduate Admissions will create a summary of the applicants academic background and interview results (i.e., the GPEC Report). This document and the complete dossier will serve as basis for admission or denial. The GAC considers the GPEC Report and complete dossier and votes on admissibility of each applicant. Student admission will require a simple majority recommendation from GAC. The recommendation of GAC is forwarded to the Director of Graduate Admissions. Completion of the admission process is accomplished by

submission of a Referral Form to SIGS and delivery of the GPEC Report and complete dossier on admitted students to the Departmental Office. The Referral Form will initiate an acceptance or denial letter to the student. The GPEC Report and the complete dossier becomes the Department File on the admitted student and are transferred to the Director of Graduate Studies.

When an applicant is accepted into the Department Graduate Program, The Department Chair will send a letter of acceptance. The prospective student must provide a letter indicating their acceptance of admission to the Department Graduate Program.

Curriculum

B. Minimum Program Requirements

At least 30 semester hours beyond the Baccalaureate Degree are required for the degree of Master of Science. A maximum of 6 semester credit hours may be credited from post-baccalaureate work in other professional or graduate degree programs.

C. Minimum Course Requirements

The typical M.S. Program must include the following courses taken on a grade basis:

- Systemic Physiology I and II (PHZB 605 and 606 - 8 CH)
- Biochemistry (BIOC 645, 647 - 8 CH) or equivalent
- Research (PHZB 619 - 8 CH)
- Seminar (PHZB 617- 2 CH - first fall and spring semesters)
- Experimental Physiology Laboratory (PHZB 625 - 3 CH)
- Responsible Conduct of Research (BIOC 640 - 1 CH)

D. Academic Performance

A student must have at least a 3.0 accumulated GPA exclusive of research credit to be graduated with a degree of Master of Science in Physiology and Biophysics. In general, a student with a GPA less than 3.0 at the end of the second semester will require a 2/3 majority vote of the Departmental faculty to continue in the Program. A student may not be graduated with more than 6 CH of "C" grades in their required courses.

E. Final Examination

The M.S. student will take a Final Examination during the last semester of the M.S. Program. The Final Examination shall consist of a written and/or oral presentation of accomplished research. This exam may take the form of an oral presentation of the research experience or a detailed review of a selected topic.

A positive recommendation for the Master of Science Degree shall require a majority vote of the Final Examination Committee (consisting of at least the Principal Advisor who will serve as

Chair and two additional members of the Graduate Faculty, one of whom is from outside the Department). The Committee must have been approved by Director of Graduate Studies, the Department Chair, and the Dean of the School of Medicine (or his designee) prior to the Final Examination. This recommendation shall be made at least one week before graduation. In the event of an unfavorable vote of the Final Examination Committee, the student may be considered for re-examination only by a recommendation of a 2/3 majority of the Departmental faculty.

Departmental Faculty

Irving G. Joshua, Ph.D.*Professor and Chair***Dale A. Schuschke, Ph.D.***Professor and Vice-Chair***Stanley D' Souza, Ph.D.***Professor***Patrick D. Harris, Ph.D.***Professor***James B. Hoying, Ph.D.***Professor***Sham Kakar, Ph.D.***Professor***Richard W. Stremel, Ph.D.***Professor***Suresh C. Tyagi, M. Phil.,****Ph. D., F.A.H.A., F.A.P.S.***Professor***Stuart K. Williams, II,****Ph.D.***Professor***David L. Wiegman, Ph.D.***Professor***Jeff C. Falcone, Ph.D.***Associate Professor***David Lominadze, Ph.D.***Associate Professor***Claudio Maldonado, Ph.D.***Associate Professor***Nolan L. Boyd, Ph.D.***Assistant Professor***Amanda Jo LeBlanc, Ph.D.***Assistant Professor***Cynthia J. Miller, Ph.D.***Assistant Professor***Utpal Sen, Ph.D.***Assistant Professor***Neetu Tyagi, Ph.D.***Assistant Professor***Gustavo Perez-Abadia,****Ph.D.***Assistant Professor***Yiming Huang, M.D.***Assistant Professor***Hung Xu, M.D.***Assistant Professor***Joint Faculty****Appointments****Robert Bolli, M.D.***Director, Institute of**Molecular Cardiology**Chief, Division of Cardiology***Richard N. Garrison, M.D.***Professor, Department of**Surgery***Associate Faculty****Appointments****Aruni Bhatnagar, Ph.D.***Professor, Department of**Medicine (Cardiology)***Maxwell Boakye, M.D.***Associate Professor,**Department of Neurological**Surgery***Douglas Borchman, Ph.D.***Professor, Ophthalmology an**d Visual Sciences***Marsha P. Cole, Ph.D.***Assistant Professor,**Department of Biochemistry**and Molecular Biology***Cynthia Downard, M.D.***Assistant Professor,**Department of Surgery -**Pediatric***Paul Epstein, Ph.D.***Professor, Department of**Pediatrics***Susan Galandiuk, M.D.***Professor, Department of**Surgery***Evelyne Gozal, Ph.D.***Associate Professor,**Department of Pediatrics***Susan J. Harkema, Ph.D.***Associate Professor,**Department of Neurological**Surgery***Bradford G. Hill, Ph.D.***Assistant Professor,**Department of Medicine,**Division of Cardiology***Suzanne Ildstad, M.D.***Professor, Department of**Surgery, Director, Institute**for Cellular Therapeutics***Steven P. Jones, Ph.D.***Associate Professor,**Department Medicine**Institute of Molecular**Cardiology***Y. James Kang, Ph.D.,****D.V.M.***Professor of Medicine,**Department of Pharmacology**& Toxicology***Syed Khundmiri***Assistant Professor, Kidney**Disease Program*

Steven C. Koenig, Ph.D.

*Associate Professor,
Department of
Bioengineering, J.B. Speed
School of Engineering*

Eleanor Lederer, M.D.

*Professor, Kidney Disease
Program*

David S. Magnuson, Ph.D.

*Professor, Neurological
Surgery*

Paul J. Matheson, Ph.D.

*Instructor, Department of
Surgery*

Nicholas Mellen, Ph.D.

*Assistant Professor,
Department of Pediatrics*

**Alexander V. Ovechkin,
M.D., Ph.D.**

*Assistant Professor,
Neurological Surgery*

George M. Pantalos, Ph.D.

*Professor, Cardiovascular
Innovation Inst, Department
of Surgery*

D. Gregg Rokosh, Ph.D.

*Assistant Professor,
Department of Medicine
(Cardiology)*

Jerry Yu, Ph.D.

*Professor, Department of
Medicine (Pulmonary)*

Gerald S. Zavorsky, Ph.D.

*Associate Professor,
Department of Health &
Sport Sciences*

Adjunct Faculty
Appointments

**Patricia D. Gillette, PT,
Ph.D., GCS**

*Director and Professor,
Physical Therapy
Bellarmine University
Louisville, KY*

Peipei Ping, Ph.D.

*Professor, Department of
Medicine/Division of
Cardiology,
UCLA School of Medicine
Los Angeles, CA*

Doctor of Philosophy in Physiology and Biophysics

Major: PHZB

Degree Awarded: Ph.D.

Unit: GE

Program Webpage: <http://louisville.edu/medschool/physiology/>

Program Information

Program Overview and Objectives

The Department of Physiology and Biophysics is located in the Health Sciences Center of the University of Louisville, which provides an active and intellectually stimulating environment and a wide variety of course options. The graduate program permits studies in related disciplines, such as anatomy, neurobiology, pharmacology, toxicology, biochemistry, microbiology, immunology, and molecular biology.

The doctoral program of the Department of Physiology and Biophysics is offered through the School of Medicine at the University of Louisville. As such, one major goal of the Department is to provide students with advanced training, which leads to the Ph.D. Degree in Physiology and Biophysics. The research interests of the Department are broad enough to provide each student with a wide selection of possible research and graduate education opportunities. Our doctoral graduate program is designed primarily to prepare students for a research career in basic and applied physiology.

I. Admission

A. Application Procedures

The University of Louisville School of Interdisciplinary and Graduate Studies (SIGS) catalog gives a general description of admission procedures. Application information can be found on the SIGS website (graduate.louisville.edu/apply). The following application items must be submitted to the Graduate Admissions Office at the University of Louisville.

1. One official transcript of the applicant's previous work for each college or university that has been previously attended.
2. Two letters of recommendation from people who are well acquainted with the applicant's previous academic work.
3. Applicants must forward scores from the Analytical, Verbal and Quantitative portions of the Graduate Record Examination (GRE). In the case of students with professional degrees (for example, M.D., D.D.S. or D.V.M.) the aptitude test taken for admission into that professional program or National Board scores may be substituted for the GRE after approval by the Departmental Graduate Admissions Committee and the Department Chair.

4. TOEFL Examination scores for foreign students from non-English speaking countries.
5. A non-returnable application fee to the University of Louisville.
6. Applicants must state in a letter to the Department but submitted to the SIGS (referred to as the Personal Statement in the application materials), why they desire a Ph.D. degree in this Department of Physiology and Biophysics.

Applicants for combined degrees (Ph.D.- M.D. or Ph.D.- D.M.D.) must apply and be accepted by the appropriate professional school (e.g., School of Medicine or Dentistry) before final action will be taken on the Departmental doctoral application.

B. Admission Requirements

Admission to the Ph.D. program in the Department of Physiology and Biophysics requires:

- A genuine interest in graduate work and the desire for a significant research career in the health sciences,
- A cumulative undergraduate grade point average that is usually 3.00 or higher on a scale of 4.0 (A=4, B=3, C=2, D=1),
- A graduate record exam score (or equivalent) which is usually 50th percentile or higher as an average of the verbal, quantitative, and analytical sections; verbal + quantitative combined score above 1000 is required for admission to School of Medicine graduate programs, and in addition,
- International students for whom English is not their primary language must show English language proficiency by demonstration of proficiency on the TOEFL examination (defined as 213 or higher on the computer-based test; > 85 higher on the internet-based exam) or by successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville or by demonstration of a degree award from an acceptable English language institution.

C. Admission Procedures

The Department attempts to hold a personal interview with all qualified applicants. Typically, this interview will be with two to four Department faculty members. If the applicant cannot come for an interview, then consideration of the application without the interview or, in some cases, a telephone interview will be conducted.

Two committees will manage student admission into the Department Graduate Programs: the Graduate Program Executive Committee (GPEC) and the Graduate Admission Committee (GAC). (Refer to Appendix B for details of composition and function.)

II. Faculty Advising

A. First Year Temporary Advisor and Research Experience

The Director of Graduate Studies will meet with the new student to discuss the student's academic and research interests. The Director of Graduate Studies will serve as a Temporary Advisor until a Permanent Advisor is selected.

B. Selection of Principal Advisor

During the first semester, beginning graduate students will visit research laboratories in which they have an interest. First-year students must select a Principal Advisor within the first 5 months of their graduate study. The selection process involves approval by the student, the Principal Advisor, the Director of Graduate Studies, and the Department Chair. The Principal Advisor must be a Graduate Research Training Faculty of the School of Medicine.

C. Advisory Committee

The Advisory Committee in this Department is an integral part of the graduate student's training. This Committee is to be extremely proactive in planning the student's curriculum and providing an appropriate breadth in the student's research experience. To that end, not only does the mentor provide guidance in developing the dissertation research plan, but the Advisory Committee has the additional responsibility to assure the research design will provide appropriate results for the proposed hypotheses.

After selection of the Principal Advisor, the student's Advisory Committee will be determined. This Committee must have at least five members, and will contain; the Principal Advisor, as Chair, at least three Departmental faculty members, and at least one Graduate Faculty member from outside the Department. All must be appointed as Members of the School of Medicine graduate faculty. In cases where the Principal Advisor holds a primary appointment in a department other than the Department of Physiology and Biophysics, a Departmental faculty member must be selected as Co-Advisor by the Principal Advisor and the student. The Co-Advisor will also serve on the student's Advisory Committee and serve as the Second Reader of the Dissertation Reading Committee. Approval of the Committee membership by the Director of Graduate Studies and the Chair will be contingent upon the potential role of each Committee member in the training, or in the career plans of the student. The Dissertation Defense Committee, selected by the Principal Advisor, must be approved by the Director of Graduate Studies, the Department Chair, and by the Dean of School of Medicine (or his/her designee).

III. Minimal Requirements for the Doctor of Philosophy Degree in Physiology and Biophysics

A. General

The Ph.D. degree is designed for the student who wishes a professional life that involves original, independent research and who desires knowledge that will permit competent advanced teaching in a physiology area. The Ph.D. degree requires that the student reach a high level of creativity and expertise. Therefore, mere completion of a prescribed number of courses is not adequate for receipt of the doctoral degree. All Ph.D. students are expected to make steady and

satisfactory progress toward the completion of the degree.

To document the satisfactory progress of the Ph.D. students, each Advisory Committee must hold at least two mandatory meetings (one each semester) to receive a report on the student's progress (presentations, publications, grades and research progress). The mentor will submit a written report to the Director of Graduate Studies who will collate and distribute these reports to the faculty. Twice a year, the Chair of the dissertation committee will lead a Departmental faculty discussion of these reports to determine the student's progress.

B. Minimal Program Requirements

The University of Louisville Ph.D. degree does not require a specific number of hours of academic credit. However, the Department requires that a minimum of two consecutive semesters (9 credit hours in the Fall or Spring semesters and/or 6 credit hours in the Summer) shall be taken to fulfill the full time one-year doctoral residency requirement at the University of Louisville. With the approval of the Dean of the School of Medicine (or his/her designee), a maximum of 12 semester hours of this requirement may be credited for post-baccalaureate work from other professional or graduate degree programs. By the end of the Program, the student must demonstrate the ability to conduct independent research.

C. Minimum Course Requirements

The required program of academic studies must include (if not completed with a grade of B or better prior to admission to the Department) the following courses:

1. Systemic Physiology I and II (PHZB 605 and 606) or equivalent
2. Biochemistry (BIOC 645 and 647), or equivalent
3. Advanced Physiology (PHZB 611) or equivalent
4. Cell Biology (MBIO 667) or equivalent
5. Experimental Physiology Laboratory (PHZB 625) or equivalent
6. Integrated Systemic Physiology (PHZB 609)
7. Seminar (PHZB 617) four semesters
8. Applied Physiology Statistics (PHZB 616.02) or equivalent
9. Responsible Conduct of Research (BIOC 630)

D. Academic Performance

A student must have at least a 3.00 accumulated GPA (on a 4.0 scale) in order to take the Ph.D. Qualifying Examination and to qualify for the Ph.D. degree. In general, a student with a GPA of less than 3.00 after two consecutive semesters (excluding summer sessions) will require a 2/3 majority vote of the Departmental faculty to continue in the Ph.D. Program. The student must not have received more than 6 credit hours of a grade of "C" on their permanent academic record. For Departmental purposes, pass grades will not be included in the GPA calculation; however, a failing grade in a pass/fail-graded course will be included in the GPA calculation at

zero quality points per credit hour. Students will not be allowed to graduate with failing grades on their transcript.

E. The Ph.D. Qualifying Examination

Before the Ph.D. Qualifying Examination may be taken, the student must have completed the Minimum Course Requirements listed above with a GPA of at least a 3.0. It would normally be expected that the student would take the Ph.D. Qualifying Examination by the end of five semesters of graduate studies. If the student has not taken the Ph.D. Qualifying Examination by the end of the second year, a letter of justification for the delay must be submitted by the Principal Advisor to the Department Chair.

A Ph.D. Qualifying Examination must be passed by the applicant in order to be admitted to Ph.D. candidacy. The Qualifying Examination Committee will be comprised of members of the student's Advisory Committee. The membership must be approved by the Director of Graduate Studies and the Department Chair. A passing recommendation shall not involve more than one negative vote of this Committee. If the student does not pass the Qualifying Examination, one additional retake will be allowed if approved by a majority vote of the Departmental faculty.

The purpose of the Ph.D. Qualifying Examination is to test the student's use and depth of core physiology through its application to the student's proposed research. This examination shall consist of a written research proposal outlining the dissertation research and an oral examination of the student's depth of current understanding of the basic physiological concepts underlying the proposed research. The student will receive the Master of Science Degree in Physiology and Biophysics, upon satisfactory completion of the Qualifying Exam.

F. Maintenance of Graduate Status

A candidate for the Ph.D. degree who has completed all residency requirements, all of the approved required program of academic studies, and passed the Qualifying Examination may register for "DOCT" to maintain doctoral candidacy until the degree is awarded. Continuous registration in this status is required. Semiannual progress meetings will continue to be expected. To complete the Ph.D. degree, the student must continue to make satisfactory progress during the candidacy period. In order to be eligible to receive the Ph.D. degree, the student must have been admitted to candidacy and registered for doctoral candidacy for the two consecutive semesters prior to the awarding of the degree.

G. Dissertation

The dissertation shall represent a scholarly achievement which embodies results of independent research and which demonstrates a thorough understanding of research concepts in the field of inquiry. The completed dissertation must be in the appropriate format as required by the SIGS and must be approved by a Dissertation Reading Committee (the Candidate's Advisory Committee). Then, at least two weeks before the scheduled dissertation defense and at least 30 days before the expected date of graduation, the dissertation shall be submitted to the

Dissertation Defense Committee. The Dissertation Defense Committee, selected by the Principal Advisor, must have been approved previously by the Director of Graduate Studies, the Department Chair, and by the Dean of School of Medicine (or his designee) (see section IIC). Two unbound copies of the accepted dissertation, signed by the Dissertation Defense Committee, must be deposited with the Dean of the SIGS and one copy must be given to the Department Chair before graduation. These may be electronic.

H. Dissertation Defense

The dissertation defense is an oral defense of the dissertation and a demonstration of mastery of the candidate's research field. The defense is administered by the Dissertation Defense Committee. The defense of the dissertation is a public examination and the SIGS will notify all faculty members that they are invited to the Dissertation Defense, but only members of the Dissertation Defense Committee will vote on the student's performance. For the student to pass the Dissertation Defense, the vote of the Dissertation Defense Committee may not include more than one negative vote. The Dissertation Defense must take place at least 14 days before the end of the semester in which the degree is anticipated.

I. The Department will not approve the granting of the Ph.D. degree until the student has submitted at least one first-authored manuscript on the dissertation research and one co-authored manuscript for publication in a refereed journal. The manuscript and the choice of journal must be approved by the Principal Advisor before manuscript submission.

J. In any case where the Departmental requirements are less restrictive than those described in the School of Medicine Minimal Guidelines for Graduate Education, the School of Medicine guidelines will apply.

IV. Exceptions

A. The above are statements of minimum Departmental requirements. However, it is recognized that there could be special and unusual cases in which rare exceptions should be allowed. The student and advisor should consult with the Department Chair if an exception is desired.

B. In the above guidelines, the Director of Graduate Studies has considerable responsibility for program quality. To avoid any possibility of a potential conflict of interest, the Department Chair (or designee) will fulfill the role of Director of Graduate Studies for any Ph.D. or M.S. student who has the Director of Graduate Studies as their Principal Advisor.

V. Appendix A

A. Typical Doctoral Programs

1. Traditional Doctoral Program

First Semester (1st FALL)

Graduate level Biochemistry(BIOC 645 – 4 CH)
Systemic Physiology I (PHZB 605 – 5 CH)
Seminar(PHZB 617.01 – 1 CH)
Experimental Physiology Lab (PHZB 610 – 2 CH)
Research (PHZB 619 – 1 CH)

Second Semester (1st SPRING)

Graduate level Biochemistry (BIOC 647 – 4 CH)
Systemic Physiology II (PHZB 606 – 4 CH)
Seminar (PHZB 617.01 – 1 CH)
Cell Biology (MBIO 667 – 3 CH)
Responsible Conduct of Research (BIOC 630 – 1 CH)
Research (PHZB 619 – 1 CH)

Third Semester (1st SUMMER)

Research (PHZB 619 – 9 CH)

Fourth Semester (2nd FALL)

Advanced Human Physiology (PHZB 611 – 4 CH)
Research (PHZB 619 – 5 CH)

Fifth Semester (2nd SPRING)

Integrated Systemic Physiology (PHZB 609 – 3 CH)
Research (PHZB 619 – 5 CH)
Statistics (PHZB 616.02 – 3 CH)

M.S. Final Exam (Ph.D. Qualifying Exam)

Master of Science Degree and Ph.D. Candidacy program

Sixth Semester (2nd SUMMER) DOCT

Seventh Semester (3rd FALL) DOCT

Eighth Semester (3rd SPRING) DOCT

Ninth Semester (3rd SUMMER) DOCT

Tenth Semester (4th FALL) DOCT

Eleventh Semester (4th SPRING) DOCT

Dissertation Defense

If more research/dissertation time is needed, the student will continue to register as DOCT (“Active Status”), until completed.

2. Doctoral Program for Residents/Fellows

This sequence is based on the premise that the clinician will be given the equivalent of two full calendar years (“Research Leave”) free to complete research without clinical duties. The Director of Graduate Studies will see that the Graduate School is notified of the transfer of the preclinical courses applicable to the Departmental doctoral requirements. The clinician will take: a) Advanced Human Physiology, b) Integrated Systemic Physiology, (c) Statistics, d) two semesters of Seminar, and e) complete initial research (PHY 619) to define a doctoral research problem.

First Semester (1st FALL)

Advanced Human Physiology (PHZB 611 – 4 CH)
Research (PHZB 619 – 7 CH)
Seminar (PHZB 617.01 – 1 CH)

Second Semester (1st SPRING)

Integrated Systemic Physiology (PHZB 609 – 3 CH)
Responsible Conduct of Research (BIOC 630 – 1 CH)
Research (PHZB 619 – 5 CH)
Statistics (PHZB 616.02 – 3 CH)

Third Semester (1st SUMMER)

Research (PHZB 619 – 6 CH)

Fourth Semester (2nd FALL)

Research (PHZB 619 – 9 CH)

Master of Science Degree (Ph.D. Qualifying Exam)

Fifth Semester (2nd SPRING) DOCT

Sixth Semester (2nd SUMMER) DOCT

Dissertation Defense

If more research/dissertation time is needed, the clinician will continue to register as DOCT (“Active Status”), until completed, and dissertation defended.

APPENDIX B

ADMISSION

Two committees will control student admission into the Department Graduate Programs: The Graduate Program Executive Committee (GPEC) and the Graduate Admission Committee (GAC). The GPEC will recommend students to be interviewed based upon a dossier of information obtained from the Admission Office of the School of Interdisciplinary and Graduate Studies (SIGS). The GAC will conduct student interviews and vote on admission as representatives of the entire faculty of the Department.

A. Structure of Admission Committees:

The GPEC will consist of the Director of Graduate Admissions, the Director of Graduate Studies, and one other Departmental faculty member, all of whom are appointed by the Departmental Chair for staggered five-year terms.

The GAC will be composed of three tenured or tenure-track Department faculty members and members of GPEC, for a total membership of six. The full-time faculty of the Department will elect the three faculty representatives to GAC for staggered three-year terms.

B. Functions of the Admission Committees:

The GPEC evaluates all requests for admission into the Program. The Director of Admissions will create a dossier of information on applicants that complete the application process. This dossier will be derived from PeopleSoft and OnBase databases. A completed applicant dossier (i.e. all application material indicated in section 1.A., "Application Procedures") will be submitted to GPEC for evaluation. The GPEC will determine if the student's qualifications warrant a Departmental interview. If a simple majority of GPEC support further consideration of the applicant, interviews will be arranged by the Director of Graduate Admissions. The applicant will be interviewed by:

- At least one member of the GPEC
- The Department Chair or the Chair's designated representative
- Two to three members of the GAC.

If the applicant cannot come for an interview, then consideration of the application will proceed without the interview, or in some cases, by telephone interview.

The Director of Graduate Admissions will create a summary of the applicants academic background and interview results (i.e., the GPEC Report). This document and the complete dossier will serve as basis for admission or denial. The GAC considers the GPEC Report and complete dossier and votes on admissibility of each applicant. Student admission will require a simple majority recommendation from GAC. The recommendation of GAC is forwarded to the Director of Graduate Admissions. Completion of the admission process is accomplished by submission of a Referral Form to SIGS and delivery of the GPEC Report and complete dossier on admitted students to the Departmental Office. The Referral Form will initiate an acceptance

or denial letter to the student. The GPEC Report and the complete dossier becomes the Department File on the admitted student and are transferred to the Director of Graduate Studies.

When an applicant is accepted into the Department Graduate Program, The Department Chair will send a letter of acceptance. The prospective student must provide a letter indicating their acceptance of admission to the Department Graduate Program. The Department will submit credentials to the Graduate Affairs for approval by the Associate Dean for Graduate and Postdoctoral Studies.

Curriculum

Minimum Course Requirements

The required program of academic studies must include (if not completed with a grade of B or better prior to admission to the Department) the following courses:

1. Systemic Physiology I and II (PHZB 605 and 606) or equivalent
2. Biochemistry (BIOC 645 and 647), or equivalent
3. Advanced Physiology (PHZB 611) or equivalent
4. Cell Biology (MBIO 667) or equivalent
5. Experimental Physiology Laboratory (PHZB 625) or equivalent
6. Integrated Systemic Physiology (PHZB 609)
7. Seminar (PHZB 617) four semesters
8. Applied Physiology Statistics (PHZB 616.02) or equivalent
9. Responsible Conduct of Research (BIOC 630)

V. Appendix A

A. Typical Doctoral Programs

1. Traditional Doctoral Program

First Semester (1st FALL)

Graduate level Biochemistry (BIOC 645 – 4 CH)
Systemic Physiology I (PHZB 605 – 4 CH)
Seminar (PHZB 617.01 – 1 CH)
Experimental Physiology Lab (PHZB 625 – 3 CH)
Research (PHZB 619 – 1 CH)

Second Semester (1st SPRING)

Graduate level Biochemistry (BIOC 647 – 4 CH)
Systemic Physiology II (PHZB 606 – 4 CH)
Seminar (PHZB 617.01 – 1 CH)
Cell Biology (MBIO 667 – 3 CH)

Responsible Conduct of Research (BIOC 630) – 1 CH
Research (PHZB 619 – 1 CH)

Third Semester (1st SUMMER)
Research (PHZB 619 – 9 CH)

Fourth Semester (2nd FALL)
Advanced Human Physiology (PHZB 611 – 4 CH)
Research (PHZB 619 – 5 CH)

Fifth Semester (2nd SPRING)
Integrated Systemic Physiology (PHZB 609 – 3 CH)
Research (PHZB 619 – 5 CH)
Statistics (PHZB 616.02 – 3 CH)

M.S. Final Exam (Ph.D. Qualifying Exam)

Master of Science Degree and Ph.D. Candidacy program

Sixth Semester (2nd SUMMER) DOCT

Seventh Semester (3rd FALL) DOCT

Eighth Semester (3rd SPRING) DOCT

Ninth Semester (3rd SUMMER) DOCT

Tenth Semester (4th FALL) DOCT

Eleventh Semester (4th SPRING) DOCT

Dissertation Defense

If more research/dissertation time is needed, the student will continue to register as DOCT (“Active Status”), until completed.

2. Doctoral Program for Residents/Fellows

This sequence is based on the premise that the clinician will be given the equivalent of two full calendar years (“Research Leave”) free to complete research without clinical duties. The Director of Graduate Studies will see that the Graduate School is notified of the transfer of the preclinical courses applicable to the Departmental doctoral requirements. The clinician will take: a) Advanced Human Physiology, b) Integrated Systemic Physiology, (c) Statistics, d) two

semesters of Seminar, and e) complete initial research (PHY 619) to define a doctoral research problem.

First Semester (1st FALL)

Advanced Human Physiology (PHZB 611 – 4 CH)
Research (PHZB 619 – 7 CH)
Seminar (PHZB 617.01 – 1 CH)

Second Semester (1st SPRING)

Integrated Systemic Physiology (PHZB 609 – 3 CH)
Research (PHZB 619 – 5 CH)
Statistics (PHZB 616.02 – 3 CH)

Third Semester (1st SUMMER)

Research (PHZB 619 – 6 CH)

Fourth Semester (2nd FALL)

Research (PHZB 619 – 9 CH)

Master of Science Degree (Ph.D. Qualifying Exam)

Fifth Semester (2nd SPRING) DOCT

Sixth Semester (2nd SUMMER) DOCT

Dissertation Defense

If more research/dissertation time is needed, the clinician will continue to register as DOCT (“Active Status”), until completed, and dissertation defended.

Departmental Faculty

Irving G. Joshua, Ph.D.

Professor and Chair

Dale A. Schuschke, Ph.D.

Professor and Vice-Chair

Stanley D' Souza, Ph.D.

Professor

Patrick D. Harris, Ph.D.

Professor

James B. Hoying, Ph.D.

Professor

Sham Kakar, Ph.D.

Professor

Richard W. Stremel, Ph.D.

Professor

Suresh C. Tyagi, , M. Phil.,

Ph. D., F.A.H.A., F.A.P.S.

Professor

Stuart K. Williams, II,

Ph.D.

Professor

David L. Wiegman, Ph.D.

Professor

Jeff C. Falcone, Ph.D.

Associate Professor

David Lominadze, Ph.D.

Associate Professor

Claudio Maldonado, Ph.D.

Associate Professor

Nolan L. Boyd, Ph.D.

Assistant Professor

Amanda Jo LeBlanc, Ph.D.

Assistant Professor

Cynthia J. Miller, Ph.D.

Assistant Professor

Utpal Sen, Ph.D.

Assistant Professor

Neetu Tyagi, Ph.D.

Assistant Professor

Gustavo Perez-Abadia,

Ph.D.

Assistant Professor

Yiming Huang, M.D.

Assistant Professor
Hung Xu, M.D.
Assistant Professor

Joint Faculty
Appointments

Robert Bolli, M.D.
Director, Institute of
Molecular Cardiology
Chief, Division of Cardiology
Richard N. Garrison, M.D.
Professor, Department of
Surgery

Associate Faculty
Appointments

Aruni Bhatnagar, Ph.D.
Professor, Department of
Medicine (Cardiology)
Maxwell Boakye, M.D.
Associate Professor,
Department of Neurological
Surgery
Douglas Borchman, Ph.D.
Professor, Ophthalmology and
Visual Sciences
Marsha P. Cole, Ph.D.
Assistant Professor,
Department of Biochemistry
and Molecular Biology
Cynthia Downard, M.D.
Assistant Professor,
Department of Surgery -
Pediatric
Paul Epstein, Ph.D.
Professor, Department of
Pediatrics
Susan Galandiuk, M.D.

Professor, Department of
Surgery
Evelyne Gozal, Ph.D.
Associate Professor,
Department of Pediatrics
Susan J. Harkema, Ph.D.
Associate Professor,
Department of Neurological
Surgery
Bradford G. Hill, Ph.D.
Assistant Professor,
Department of Medicine,
Division of Cardiology
Suzanne Ildstad, M.D.
Professor, Department of
Surgery, Director, Institute
for Cellular Therapeutics
Steven P. Jones, Ph.D.
Associate Professor,
Department Medicine
Institute of Molecular
Cardiology
Y. James Kang, Ph.D.,
D.V.M.
Professor of Medicine,
Department of Pharmacology
& Toxicology
Syed Khundmiri
Assistant Professor, Kidney
Disease Program
Steven C. Koenig, Ph.D.
Associate Professor,
Department of
Bioengineering, J.B. Speed
School of Engineering
Eleanor Lederer, M.D.
Professor, Kidney Disease
Program
David S. Magnuson, Ph.D.
Professor, Neurological
Surgery
Paul J. Matheson, Ph.D.

Instructor, Department of
Surgery
Nicholas Mellen, Ph.D.
Assistant Professor,
Department of Pediatrics
Alexander V. Ovechkin,
M.D., Ph.D.
Assistant Professor,
Neurological Surgery
George M. Pantalos, Ph.D.
Professor, Cardiovascular
Innovation Inst, Department
of Surgery
D. Gregg Rokosh, Ph.D.
Assistant Professor,
Department of Medicine
(Cardiology)
Jerry Yu, Ph.D.
Professor, Department of
Medicine (Pulmonary)
Gerald S. Zavorsky, Ph.D.
Associate Professor,
Department of Health &
Sport Sciences

Adjunct Faculty
Appointments

Patricia D. Gillette, PT,
Ph.D., GCS
Director and Professor,
Physical Therapy
Bellarmine University
Louisville, KY
Peipei Ping, Ph.D.
Professor, Department of
Medicine/Division of
Cardiology,
UCLA School of Medicine
Los Angeles, CA

Master of Music in Music Composition

Major: COMP

Degree Awarded: MM

Unit: GU

Program Webpage: <http://www.louisville.edu/music/>

Program Information

The School of Music offers training toward two specific graduate degrees in music: Master of Music requiring a minimum of 36 hours of graduate credit, and Master of Music Education requiring 30 hours. All programs require a minimum of 24 hours of residence at the University of Louisville. Major subjects in the Master of Music curriculum are music performance with concentrations in choral, wind or orchestral conducting, instrumental or vocal performance, jazz performance or jazz composition and arranging, piano pedagogy, music history, music theory, and music composition. The Master of Music Education program allows an applied music minor in an instrument, voice, or conducting. Each degree program has specific prerequisites, entrance requirements, and programmatic expectations that are described in the relevant section of the catalog.

Admission Requirements

1. Applications for admission to a graduate program require the following:
 - (a) a completed application;
 - (b) an application fee;
 - (c) official transcripts for all previous post-secondary course work (all transcripts not in English must be certified as authentic and translated verbatim into English);
 - (d) at least two letters of recommendation;
 - (e) scores from the General Test Section of the Graduate Record Examination (GRE) that must be submitted prior to the beginning of study.
2. Applications to specific degree programs require evidence of preparation for advanced study as follows:
 - (a) in performance, an acceptable audition;
 - (b) in academic specializations (music composition, music history, music theory), a portfolio of work appropriate to the field of study;

- (c) in music education, evidence of classroom teaching experience.
3. Applicants whose primary language is not English must show English language proficiency in one of the following ways:
- (a) a minimum TOEFL examination score of 550 on the paper-based test, 213 on the computer-based test, or 79-80 on the internet-based test;
 - (b) successful completion of the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville;
 - (c) documentation of the award of a degree from a recognized English language institution.
4. Applicants must possess a baccalaureate degree from an accredited institution in the area to be pursued in advanced studies, or they must present evidence of equivalent preparation.
5. Applicants must have a minimum cumulative undergraduate grade point average of 2.75 on a 4-point scale.
6. Applicants who meet the requirements listed in items 1-5 will be considered for conditional admission for graduate study at the School of Music. For additional entrance requirements specific to the degree of interest, consult the section relevant to the degree program below.
7. Entrance examinations in music history, theory and, if appropriate, jazz, will be administered before the first term of study. The School of Music provides guidelines to assist in preparing for the entrance examinations.
8. Any exception to the above expectations will be evaluated individually and will require a statement indicating criteria to be met in a specified time frame with provisions for monitoring progress and performance. Justification must be provided in writing and must be accepted by the faculty of the student's proposed program, the Director of Graduate Studies, and the Dean of the School of Music.
9. Students who fail to meet performance standards or who do not meet other requirements as outlined in the letter of admission, program of study, or the catalog of the University of Louisville are subject to dismissal from their programs.

General Information Regarding Academic Policies

1. Detailed curricular and program offerings, including specific requirements and provisions for degree programs, are published in the university catalog at <http://louisville.edu/graduatecatalog>. Students will be provided with copies of the *Handbook for Graduate Studies in Music*, the "Guidelines for Preparation for the Graduate Music History Entrance Examination," and "Guidelines for Preparation for the Graduate Music Theory

Entrance Examination.” These documents are also available on the School of Music website at <http://louisville.edu/music/>.

2. Students will be required to address any deficiencies revealed by entrance examinations in courses taken within the first two semesters of study. Credit toward the degree is not granted for review course work.
3. All students are required to complete Bibliography and Research Methods (MUS 607) by the end of the second semester of study (part-time students by the completion of 15 hours of graduate study). Upon satisfactory completion of requirements stated in B.2 and B.3, students will be considered in good standing.
4. Students will complete a project appropriate to the field of study as defined by the faculty of their program. The completion of this project (public recital, thesis, professional paper) normally takes place in the last semester of graduate study. Preparation and presentation of a recital must follow the guidelines in the *Handbook for Graduate Studies in Music* and the preparation of a thesis must follow the “Guidelines for the Preparation and Processing of Theses” issued by the School of Interdisciplinary and Graduate Studies (SIGS). The preparation of a thesis in music composition must also follow the "School of Music Thesis Formatting Guidelines for M.M. in Composition" available at <http://louisville.edu/music/academics/areas-of-study/music-composition/documents/ULCompThesisGuidelines.pdf>.
5. In order to graduate, a student must be in good standing with a minimum cumulative grade point average of 3.0. No more than six (6) hours with any "C" or "C+" grade will be accepted toward a degree, and no grade below a "B-" will be accepted for a course in the student's major subject area. Hours earned beyond the minimum in any curricular areas apply only to that area and cannot be assigned to another area in order to satisfy required credit. At least one-half of the total hours in graduate courses must be at the 600 level. Any exceptions to the program of study must be approved by the Graduate Studies Committee. A student whose cumulative GPA falls below 3.0, or who fails to satisfy the published performance criteria, will be placed on probation. Students are ordinarily not permitted to continue on probation for more than one semester.
6. When all course work and projects have been satisfactorily completed, the student becomes a candidate for the degree and is approved to take the graduate oral examination. A candidate who fails the oral examination at the end of one semester may not be given a second one before the end of the following semester. A candidate who fails the second oral examination will not be granted the degree of M.M. or M.M.E. from the University of Louisville.
7. Upon request, a maximum of six (6) hours of earned graduate credit with a minimum grade of “B” may be transferred from accredited institutions that offer advanced degrees. Credit for applied music will not be transferred, but advanced standing may be awarded at a jury. Ensemble credits appropriate to the student's degree program may be considered for transfer, but not to exceed one (1) hour per semester. Music history and music theory credits will be evaluated for transfer by the Director of Graduate Studies and the respective faculty. Transfer of more than six (6) hours may be requested provided that they are not earned by extension, or as thesis or

practicum hours, and that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program. Transfer of graduate hours within the University of Louisville toward a graduate degree in music may be requested provided that the minimum residence requirement of 24 hours is maintained.

8. Students receiving a graduate assistantship (teaching, research, or service) will be provided adequate training and will be required to adhere to university policies. Performance of duties in research and service by graduate assistants will be periodically evaluated. Students with teaching assistantships will be evaluated each semester.

9. Part-time students (with the exception of those in the M.M.E. degree program) must participate in one ensemble for each 18 hours of completed course work. If part-time study precludes completing ensemble degree requirements, other course work may be substituted.

Curriculum

Prerequisites

1. Bachelor of Music degree or equivalent.
2. Demonstration, by examination, of skills and capacities in the following fields:
 - written, aural, and keyboard harmony;
 - melodic, harmonic, and rhythmic dictation;
 - elementary counterpoint; and
 - history and literature of music, and analytic understanding of musical forms and genres.
3. Evidence of preparation for advanced work in the area, as follows:
 - Applicants for the track in Music Composition must submit original works to indicate ability and technical facility in the field of composition. Students should also have a thorough and practical knowledge of piano as well as a thorough knowledge in the areas of string, brass, woodwind, and percussion instruments.
4. GRE scores.

Core Curriculum

MUS 500 - Music History Review*	0
MUS 400- Music Theory Review*	0
MUS 600 - Graduate Oral Exam Preparation	0
MUS 607 - Bibliography and Research Methods	3
Music History Seminar (600 level)	3
Music Theory**	4
Additional Music Theory or Music History Seminar (500 or 600 level)	3
MUS 647, 648, 651, or 653 - Analysis	3
Ensemble (3 semesters of major ensemble)	3
Thesis	4

Total **23**

Other Requirements

All students must pass an oral examination after all course work is completed.

Music Composition Track	9
MUS 643, 644, 645 - Advanced Composition***	9
MUS 669 - Graduate Composition Seminar (Co-requisite for MUS 643-645)	0
Applied Music ****	4
Total	13
Minimum Total	36

Electronic Music Composition Track	
MUS 643, 644, 645 - Advanced Composition****	3
MUS 683, 684 - Composition for Digital Media	4
MUS 669 - Graduate Composition Seminar (Co-requisite for MUS 643-645)	0
Applied Music *****	4
Computer Music or New Media Elective*****	2
Total	13
Minimum Total	36

Notes:

* These courses may be satisfied by passing the entrance examinations in these areas.

** Students should take Introduction to Electronic and Computer Music (MUS 667) and Advanced Topics in Computer Music (MUS 668).

***Graduate composition majors are required to present public performances of their works within at least two semesters of their enrollment, for a total of at least 20 minutes of music. The graduate thesis will not be granted final approval until this requirement is met.

****500 level or above; minimum of 2 semesters; may include Conducting or Seminar in Conducting MUS 659/660 (sections designated for students who are not conducting majors), but excludes additional semesters of Applied Composition

*****Must be approved by the Director of Computer Music Studies.

Departmental Faculty

Professors

Robert Amchin
Professor
Division Head-Music
Education and Music
Therapy

Distinguished Teaching
Professor
Greg Byrne
Professor

Christopher Doane
Professor
Dean
Kent Hatteberg
Professor
Director of Choral

Activities
University Scholar
D. Bruce Heim
Professor
Division Head-Applied
Music Studies
University Scholar
Kimcherie Lloyd
Professor
Director of Orchestral
Studies and Opera
Naomi Oliphant
Professor
Associate Dean
Distinguished Teaching
Professor
Seow-Chin Ong
Professor
J. Patrick Rafferty
Professor
Steve Rouse
Professor
Marc Satterwhite
Professor
Division Head-Music
Theory and Composition
Brett Shuster
Associate Professor
Frederick Speck
Professor
Division Head-Ensembles
and Conducting
Director of Bands
Gerald Tolson
Professor
Division Head-Music
Education and Music
Therapy
Michael Tracy
Professor
Division Head-Jazz
Studies
Michael Tunnell
Professor

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Paul York
Professor

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Daniel Weeks
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University Scholar
Krzysztof Wolek
Associate Professor
Mark Yeary
Associate Professor

Assistant Professors

Amy Acklin
Assistant Professor
Director of Marching Band
Dror Biran
Assistant Professor
Randi Bolding
Assistant Professor
Caroline Ehman
Assistant Professor
**R. Christopher
Fitzgerald**
Assistant Professor
Rebecca Jemian
Assistant Professor
Sidney King
Assistant Professor
Stephen Mattingly
Assistant Professor
Matthew Nelson
Assistant Professor
Chad Sloan
Assistant Professor
Darcy Walworth
Assistant Professor

Krzysztof Wolek
Assistant Professor
Mark Yeary
Assistant Professor

Professor Emeriti

Jerry W. Ball
Professor Emeritus
Paul R. Brink
Professor Emeritus
Jean Christensen
Professor Emerita
Anne Marie de Zeeuw
Professor Emerita
Donn Everette Graham
Professor Emeritus
Karl-Werner Guempel
Professor Emeritus
Brenda E. Kee
Professor Emerita
John LaBarbera
Professor Emeritus
Lee Luvisi
Professor Emeritus
Daniel McAninch
Professor Emeritus
Peter McHugh
Professor Emeritus
Acton Ostling
Professor Emeritus
Richard Spalding
Professor Emeritus
Dallas Tidwell
Professor Emeritus
Edith Davis Tidwell
Professor Emerita
Distinguished Teaching
Professor
Robert Weaver
Professor Emeritus
Loren Waa
Professor Emerita

Master of Music Education in Music Education

Major: MUED

Degree Awarded: MME

Unit: GU

Program Webpage: <http://www.louisville.edu/music/>

Program Information

The School of Music offers training toward two specific graduate degrees in music: Master of Music requiring a minimum of 36 hours of graduate credit, and Master of Music Education requiring 30 hours. All programs require a minimum of 24 hours of residence at the University of Louisville. Major subjects in the Master of Music curriculum are music performance with concentrations in choral, wind or orchestral conducting, instrumental or vocal performance, jazz performance or jazz composition and arranging, piano pedagogy, music history, music theory, and music composition. The Master of Music Education program allows an applied music minor in an instrument, voice, or conducting. Each degree program has specific prerequisites, entrance requirements, and programmatic expectations that are described in the relevant section of the catalog.

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3. All students are required to complete Bibliography and Research Methods (MUS 607) by the end of the second semester of study (part-time students by the completion of 15 hours of graduate study). Upon satisfactory completion of requirements stated in B.2 and B.3, students will be considered in good standing.
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School of Interdisciplinary and Graduate Studies (SIGS). The preparation of a thesis in music composition must also follow the "School of Music Thesis Formatting Guidelines for M.M. in Composition" available at <http://louisville.edu/music/academics/areas-of-study/music-composition/documents/ULCompThesisGuidelines.pdf>

5. In order to graduate, a student must be in good standing with a minimum cumulative grade point average of 3.0. No more than six (6) hours with any "C" or "C+" grade will be accepted toward a degree, and no grade below a "B-" will be accepted for a course in the student's major subject area. Hours earned beyond the minimum in any curricular areas apply only to that area and cannot be assigned to another area in order to satisfy required credit. At least one-half of the total hours in graduate courses must be at the 600 level. Any exceptions to the program of study must be approved by the Graduate Studies Committee. A student whose cumulative GPA falls below 3.0, or who fails to satisfy the published performance criteria, will be placed on probation. Students are ordinarily not permitted to continue on probation for more than one semester.
6. When all course work and projects have been satisfactorily completed, the student becomes a candidate for the degree and is approved to take the graduate oral examination. A candidate who fails the oral examination at the end of one semester may not be given a second one before the end of the following semester. A candidate who fails the second oral examination will not be granted the degree of M.M. or M.M.E. from the University of Louisville.
7. Upon request, a maximum of six (6) hours of earned graduate credit with a minimum grade of "B" may be transferred from accredited institutions that offer advanced degrees. Credit for applied music will not be transferred, but advanced standing may be awarded at a jury. Ensemble credits appropriate to the student's degree program may be considered for transfer, but not to exceed one (1) hour per semester. Music history and music theory credits will be evaluated for transfer by the Director of Graduate Studies and the respective faculty. Transfer of more than six (6) hours may be requested provided that they are not earned by extension, or as thesis or practicum hours, and that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program. Transfer of graduate hours within the University of Louisville toward a graduate degree in music may be requested provided that the minimum residence requirement of 24 hours is maintained.
8. Students receiving a graduate assistantship (teaching, research, or service) will be provided adequate training and will be required to adhere to university policies. Performance of duties in research and service by graduate assistants will be periodically evaluated. Students with teaching assistantships will be evaluated each semester.
9. Part-time students (with the exception of those in the M.M.E. degree program) must participate in one ensemble for each 18 hours of completed course work. If part-time study precludes completing ensemble degree requirements, other course work may be substituted.

Admission Requirements

1. Applications for admission to a graduate program require the following:

- (a) a completed application;
 - (b) an application fee;
 - (c) official transcripts for all previous post-secondary course work (all transcripts not in English must be certified as authentic and translated verbatim into English);
 - (d) at least two letters of recommendation;
 - (e) scores from the General Test Section of the Graduate Record Examination (GRE) that must be submitted prior to the beginning of study.
2. Applications to specific degree programs require evidence of preparation for advanced study as follows:
 - (a) in performance, an acceptable audition;
 - (b) in academic specializations (music composition, music history, music theory), a portfolio of work appropriate to the field of study;
 - (c) in music education, evidence of classroom teaching experience.
3. Applicants whose primary language is not English must show English language proficiency in one of the following ways:
 - (a) a minimum TOEFL examination score of 550 on the paper-based test, 213 on the computer-based test, or 79-80 on the internet-based test;
 - (b) successful completion of the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville;
 - (c) documentation of the award of a degree from a recognized English language institution.
4. Applicants must possess a baccalaureate degree from an accredited institution in the area to be pursued in advanced studies, or they must present evidence of equivalent preparation.
5. Applicants must have a minimum cumulative undergraduate grade point average of 2.75 on a 4-point scale.
6. Applicants who meet the requirements listed in items 1-5 will be considered for conditional admission for graduate study at the School of Music. For additional entrance requirements specific to the degree of interest, consult the section relevant to the degree program below.
7. Entrance examinations in music history, theory and, if appropriate, jazz, will be administered before the first term of study. The School of Music provides guidelines to assist in preparing for the entrance examinations.
8. Any exception to the above expectations will be evaluated individually and will require a statement indicating criteria to be met in a specified time frame with provisions for monitoring progress and performance. Justification must be provided in writing and must be accepted by the faculty of the student's proposed program, the Director of Graduate Studies, and the Dean of the School of Music.

9. Students who fail to meet performance standards or who do not meet other requirements as outlined in the letter of admission, program of study, or the catalog of the University of Louisville are subject to dismissal from their programs.

Curriculum

Prerequisites

1. Bachelor of Music degree or equivalent.
2. Classroom teaching experience (exclusive of practice teaching and prior to, or concurrent with, graduate study),
3. Demonstration, by examination, of skills and capacities in the following fields:
 - o written, aural, and keyboard harmony;
 - o melodic, harmonic, and rhythmic dictation;
 - o elementary counterpoint; and
 - o history and literature of music, and analytic understanding of musical forms and genres.
4. GRE scores.

Curriculum

MUS 500 - Music History Review *	0
MUS 400 - Music Theory Review *	0
MUS 600 - Graduate Oral Exam Preparation	0
MUS 607 - Bibliography and Research Methods	3
MUED 628 - Qualitative Research Methods	2
MUED 629 - Foundations of Music Education	2
MUED 630 - Quantitative Research Methods	2
MUED 639 - Learning Theories in Music Education	2
Music Education and Related Courses	5-6
Applied Music (chosen from major or minor performance fields, including Conducting)	4
Music History (500 or 600 level)	3
Music Theory (500 or 600 level)	2-3
Thesis**	4
Minimum Total	30

Other Requirements

It is recommended that full-time MME students enroll in ensembles during their degree program. All students must pass an oral examination after all course work is completed.

Notes:

- * These courses may be satisfied by passing the entrance examinations in these areas.
** Students should take Introduction to Electronic and Computer Music (MUS 667) and Advanced Topics in Computer Music (MUS 668).

Departmental Faculty

Professors

Robert Amchin

Professor
Division Head-Music
Education and Music
Therapy
Distinguished Teaching
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Greg Byrne

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Christopher Doane

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Mark Yeary

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Professor Emeriti

Jerry W. Ball

Professor Emeritus

Paul R. Brink

Professor Emeritus

Jean Christensen

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Anne Marie de Zeeuw

Professor Emerita

Donn Everette Graham

Professor Emeritus

Karl-Werner Guempel

Professor Emeritus

Brenda E. Kee

Professor Emerita

John LaBarbera

Professor Emeritus

Lee Luvisi

Professor Emeritus

Daniel McAninch

Professor Emeritus

Peter McHugh

Professor Emeritus

Acton Ostling

Professor Emeritus

Richard Spalding

Professor Emeritus

Dallas Tidwell

Professor Emeritus

Edith Davis Tidwell

Professor Emerita

Distinguished Teaching

Professor

Robert Weaver

Professor Emeritus

Loren Waa

Professor Emerita

Master of Music in Music History and Literature

Major: MUHM

Degree Awarded: MM

Unit: GU

Program Webpage: <http://www.louisville.edu/music/>

Program Information

The School of Music offers training toward two specific graduate degrees in music: Master of Music requiring a minimum of 36 hours of graduate credit, and Master of Music Education requiring 30 hours. All programs require a minimum of 24 hours of residence at the University of Louisville. Major subjects in the Master of Music curriculum are music performance with concentrations in choral, wind or orchestral conducting, instrumental or vocal performance, jazz performance or jazz composition and arranging, piano pedagogy, music history, music theory, and music composition. The Master of Music Education program allows an applied music minor in an instrument, voice, or conducting. Each degree program has specific prerequisites, entrance requirements, and programmatic expectations that are described in the relevant section of the catalog.

General Information Regarding Academic Policies

1. Detailed curricular and program offerings, including specific requirements and provisions for degree programs, are published in the university catalog at <http://louisville.edu/graduatecatalog>. Students will be provided with copies of the *Handbook for Graduate Studies in Music*, the “Guidelines for Preparation for the Graduate Music History Entrance Examination,” and “Guidelines for Preparation for the Graduate Music Theory Entrance Examination.” These documents are also available on the School of Music website at <http://louisville.edu/music/>.
2. Students will be required to address any deficiencies revealed by entrance examinations in courses taken within the first two semesters of study. Credit toward the degree is not granted for review course work.
3. All students are required to complete Bibliography and Research Methods (MUS 607) by the end of the second semester of study (part-time students by the completion of 15 hours of graduate study). Upon satisfactory completion of requirements stated in B.2 and B.3, students will be considered in good standing.
4. Students will complete a project appropriate to the field of study as defined by the faculty of their program. The completion of this project (public recital, thesis, professional paper) normally takes place in the last semester of graduate study. Preparation and presentation of a recital must follow the guidelines in the *Handbook for Graduate Studies in Music* and the preparation of a thesis must follow the “Guidelines for the Preparation and Processing of Theses” issued by the

School of Interdisciplinary and Graduate Studies (SIGS). The preparation of a thesis in music composition must also follow the "School of Music Thesis Formatting Guidelines for M.M. in Composition" available at <http://louisville.edu/music/academics/areas-of-study/music-composition/documents/ULCompThesisGuidelines.pdf>

5. In order to graduate, a student must be in good standing with a minimum cumulative grade point average of 3.0. No more than six (6) hours with any "C" or "C+" grade will be accepted toward a degree, and no grade below a "B-" will be accepted for a course in the student's major subject area. Hours earned beyond the minimum in any curricular areas apply only to that area and cannot be assigned to another area in order to satisfy required credit. At least one-half of the total hours in graduate courses must be at the 600 level. Any exceptions to the program of study must be approved by the Graduate Studies Committee. A student whose cumulative GPA falls below 3.0, or who fails to satisfy the published performance criteria, will be placed on probation. Students are ordinarily not permitted to continue on probation for more than one semester.
6. When all course work and projects have been satisfactorily completed, the student becomes a candidate for the degree and is approved to take the graduate oral examination. A candidate who fails the oral examination at the end of one semester may not be given a second one before the end of the following semester. A candidate who fails the second oral examination will not be granted the degree of M.M. or M.M.E. from the University of Louisville.
7. Upon request, a maximum of six (6) hours of earned graduate credit with a minimum grade of "B" may be transferred from accredited institutions that offer advanced degrees. Credit for applied music will not be transferred, but advanced standing may be awarded at a jury. Ensemble credits appropriate to the student's degree program may be considered for transfer, but not to exceed one (1) hour per semester. Music history and music theory credits will be evaluated for transfer by the Director of Graduate Studies and the respective faculty. Transfer of more than six (6) hours may be requested provided that they are not earned by extension, or as thesis or practicum hours, and that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program. Transfer of graduate hours within the University of Louisville toward a graduate degree in music may be requested provided that the minimum residence requirement of 24 hours is maintained.
8. Students receiving a graduate assistantship (teaching, research, or service) will be provided adequate training and will be required to adhere to university policies. Performance of duties in research and service by graduate assistants will be periodically evaluated. Students with teaching assistantships will be evaluated each semester.
9. Part-time students (with the exception of those in the M.M.E. degree program) must participate in one ensemble for each 18 hours of completed course work. If part-time study precludes completing ensemble degree requirements, other course work may be substituted.

Admission Requirements

1. Applications for admission to a graduate program require the following:

- (a) a completed application;
 - (b) an application fee;
 - (c) official transcripts for all previous post-secondary course work (all transcripts not in English must be certified as authentic and translated verbatim into English);
 - (d) at least two letters of recommendation;
 - (e) scores from the General Test Section of the Graduate Record Examination (GRE) that must be submitted prior to the beginning of study.
2. Applications to specific degree programs require evidence of preparation for advanced study as follows:
- (a) in performance, an acceptable audition;
 - (b) in academic specializations (music composition, music history, music theory), a portfolio of work appropriate to the field of study;
 - (c) in music education, evidence of classroom teaching experience.
3. Applicants whose primary language is not English must show English language proficiency in one of the following ways:
- (a) a minimum TOEFL examination score of 550 on the paper-based test, 213 on the computer-based test, or 79-80 on the internet-based test;
 - (b) successful completion of the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville;
 - (c) documentation of the award of a degree from a recognized English language institution.
4. Applicants must possess a baccalaureate degree from an accredited institution in the area to be pursued in advanced studies, or they must present evidence of equivalent preparation.
5. Applicants must have a minimum cumulative undergraduate grade point average of 2.75 on a 4-point scale.
6. Applicants who meet the requirements listed in items 1-5 will be considered for conditional admission for graduate study at the School of Music. For additional entrance requirements specific to the degree of interest, consult the section relevant to the degree program below.

7. Entrance examinations in music history, theory and, if appropriate, jazz, will be administered before the first term of study. The School of Music provides guidelines to assist in preparing for the entrance examinations.
8. Any exception to the above expectations will be evaluated individually and will require a statement indicating criteria to be met in a specified time frame with provisions for monitoring progress and performance. Justification must be provided in writing and must be accepted by the faculty of the student's proposed program, the Director of Graduate Studies, and the Dean of the School of Music.
9. Students who fail to meet performance standards or who do not meet other requirements as outlined in the letter of admission, program of study, or the catalog of the University of Louisville are subject to dismissal from their programs.

Curriculum

Prerequisites

1. Bachelor of Music degree or equivalent.
2. Demonstration, by examination, of skills and capacities in the following fields:
 - written, aural, and keyboard harmony;
 - melodic, harmonic, and rhythmic dictation;
 - elementary counterpoint; and
 - history and literature of music, and analytic understanding of musical forms and genres.
3. Evidence of preparation for advanced work in the area, as follows:
 - Applicants for the track in Music History must submit a paper to the Music History faculty demonstrating ability to write efficiently and to do elementary research. In addition, applicants must complete the entrance examination in Music History with an average score of no less than seventy (70) for admission to the Music History curriculum. Before admission to candidacy, students in Music History are required to have a reading ability in one foreign language (preferably German, French, or Italian) demonstrated by examination administered in cooperation with the Department of Classical & Modern Languages (fee \$20.00). The examination must be passed before the student is admitted to candidacy.

4. GRE scores.

Core Curriculum

MUS 500 - Music History Review*	0
MUS 400 - Music Theory Review*	0
MUS 600 - Graduate Oral Exam Preparation	0
MUS 607 - Bibliography and Research Methods	3

Music History Seminar (600 level)	3
Music Theory	4
Additional Music Theory or Music History Seminar (500 or 600 level)	3
Analysis (MUS 647, 648, 651, or 653)	3
Ensemble (3 semesters of major ensemble)**	3
Thesis	4
Total	23

Other Requirements

All students must pass an oral examination after all course work is completed.

Music History and Literature Track

Music History Seminars (600 level)	6
Additional Music Theory or Analysis	2
Music Electives	5
Total	13
Minimum Total	36

Notes:

* These courses may be satisfied by passing the entrance examinations in these areas.

**The recommended ensembles for the Music History Track include Early Music Ensemble and New Music Ensemble.

Departmental Faculty

Professors

Robert Amchin

Professor

Division Head-Music

Education and Music

Therapy

Distinguished Teaching

Professor

Greg Byrne

Professor

Christopher Doane

Professor

Dean

Kent Hatteberg

Professor

Director of Choral

Activities

University Scholar

D. Bruce Heim

Professor

Division Head-Applied

Music Studies

University Scholar

Kimcherie Lloyd

Professor

Director of Orchestral

Studies and Opera

Naomi Oliphant

Professor

Associate Dean

Distinguished Teaching

Professor

Seow-Chin Ong

Professor

J. Patrick Rafferty

Professor

Steve Rouse

Professor

Marc Satterwhite

Professor

Division Head-Music

Theory and Composition

Brett Shuster

Associate Professor

Frederick Speck

Professor

Division Head-Ensembles

and Conducting
Director of Bands

Gerald Tolson

Professor
Division Head-Music
Education and Music
Therapy

Michael Tracy

Professor
Division Head-Jazz
Studies

Michael Tunnell

Professor
Distinguished Teaching
Professor

Paul York

Professor

Associate Professors

Anslyn Banks

Associate Professor

Krista Wallace-Boaz

Associate Professor

Daniel Weeks

Associate Professor

University Scholar

Krzysztof Wolek

Associate Professor

Mark Yeary

Associate Professor

Assistant Professors

Amy Acklin

Assistant Professor
Director of Marching Band

Dror Biran

Assistant Professor

Randi Bolding

Assistant Professor

Caroline Ehman

Assistant Professor

R. Christopher

Fitzgerald

Assistant Professor

Rebecca Jemian

Assistant Professor

Sidney King

Assistant Professor

Stephen Mattingly

Assistant Professor

Matthew Nelson

Assistant Professor

Chad Sloan

Assistant Professor

Darcy Walworth

Assistant Professor

Krzysztof Wolek

Assistant Professor

Mark Yeary

Assistant Professor

Professor Emeriti

Jerry W. Ball

Professor Emeritus

Paul R. Brink

Professor Emeritus

Jean Christensen

Professor Emerita

Anne Marie de Zeeuw

Professor Emerita

Donn Everette Graham

Professor Emeritus

Karl-Werner Guempel

Professor Emeritus

Brenda E. Kee

Professor Emerita

John LaBarbera

Professor Emeritus

Lee Luvisi

Professor Emeritus

Daniel McAninch

Professor Emeritus

Peter McHugh

Professor Emeritus

Acton Ostling

Professor Emeritus

Richard Spalding

Professor Emeritus

Dallas Tidwell

Professor Emeritus

Edith Davis Tidwell

Professor Emerita

Distinguished Teaching
Professor

Robert Weaver

Professor Emeritus

Loren Waa

Professor Emerita

Master of Music in Music Performance

Major: MUSP

Degree Awarded: MM

Unit: GU

Program Webpage: <http://www.louisville.edu/music/>

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2. Applications to specific degree programs require evidence of preparation for advanced study as follows:
 - (a) in performance, an acceptable audition;
 - (b) in academic specializations (music composition, music history, music theory), a portfolio of work appropriate to the field of study;
 - (c) in music education, evidence of classroom teaching experience.

3. Applicants whose primary language is not English must show English language proficiency in one of the following ways:

- (a) a minimum TOEFL examination score of 550 on the paper-based test, 213 on the computer-based test, or 79-80 on the internet-based test;
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2. Students will be required to address any deficiencies revealed by entrance examinations in courses taken within the first two semesters of study. Credit toward the degree is not granted for review course work.

3. All students are required to complete Bibliography and Research Methods (MUS 607) by the end of the second semester of study (part-time students by the completion of 15 hours of graduate study). Upon satisfactory completion of requirements stated in B.2 and B.3, students will be considered in good standing.
4. Students will complete a project appropriate to the field of study as defined by the faculty of their program. The completion of this project (public recital, thesis, professional paper) normally takes place in the last semester of graduate study. Preparation and presentation of a recital must follow the guidelines in the *Handbook for Graduate Studies in Music* and the preparation of a thesis must follow the "Guidelines for the Preparation and Processing of Theses" issued by the School of Interdisciplinary and Graduate Studies (SIGS). The preparation of a thesis in music composition must also follow the "School of Music Thesis Formatting Guidelines for M.M. in Composition" available at <http://louisville.edu/music/academics/areas-of-study/music-composition/documents/ULCompThesisGuidelines.pdf>
5. In order to graduate, a student must be in good standing with a minimum cumulative grade point average of 3.0. No more than six (6) hours with any "C" or "C+" grade will be accepted toward a degree, and no grade below a "B-" will be accepted for a course in the student's major subject area. Hours earned beyond the minimum in any curricular areas apply only to that area and cannot be assigned to another area in order to satisfy required credit. At least one-half of the total hours in graduate courses must be at the 600 level. Any exceptions to the program of study must be approved by the Graduate Studies Committee. A student whose cumulative GPA falls below 3.0, or who fails to satisfy the published performance criteria, will be placed on probation. Students are ordinarily not permitted to continue on probation for more than one semester.
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7. Upon request, a maximum of six (6) hours of earned graduate credit with a minimum grade of "B" may be transferred from accredited institutions that offer advanced degrees. Credit for applied music will not be transferred, but advanced standing may be awarded at a jury. Ensemble credits appropriate to the student's degree program may be considered for transfer, but not to exceed one (1) hour per semester. Music history and music theory credits will be evaluated for transfer by the Director of Graduate Studies and the respective faculty. Transfer of more than six (6) hours may be requested provided that they are not earned by extension, or as thesis or practicum hours, and that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program. Transfer of graduate hours within the University of Louisville toward a graduate degree in music may be requested provided that the minimum residence requirement of 24 hours is maintained.
8. Students receiving a graduate assistantship (teaching, research, or service) will be provided adequate training and will be required to adhere to university policies. Performance of duties in

research and service by graduate assistants will be periodically evaluated. Students with teaching assistantships will be evaluated each semester.

9. Part-time students (with the exception of those in the M.M.E. degree program) must participate in one ensemble for each 18 hours of completed course work. If part-time study precludes completing ensemble degree requirements, other course work may be substituted.

Curriculum

Prerequisites

1. Bachelor of Music degree or equivalent.
2. Demonstration, by examination, of skills and capacities in the following fields:
 - o written, aural, and keyboard harmony;
 - o melodic, harmonic, and rhythmic dictation;
 - o elementary counterpoint; and
 - o history and literature of music, and analytic understanding of musical forms and genres.
3. Audition in major field, demonstrating a level equivalent to the completion of a Bachelor of Music in Performance degree. Students intending to major in voice must have a reading knowledge of one foreign language and satisfactory diction in two others.
4. Students in the Concentration in Jazz must demonstrate a level of competency in improvisation, jazz keyboard, jazz theory, and jazz history. Remedial courses are in place to assist students who do not meet these requirements.
5. GRE scores.

Core Curriculum

MUS 500 - Music History Review*	0
MUS 400 - Music Theory Review*	0
MUS 600 - Graduate Oral Exam Preparation	0
MUS 607 - Bibliography and Research Methods	3
Music History Seminar (500 or 600 level)	3
Music Theory (500 or 600 level)**	4
Applied Study (600 level)***	8
MUS 697 - Graduate Recital****	0
Total	18

Other Requirements

All students must pass an oral examination after all course work is completed.

Notes:

* These courses may be satisfied by passing the entrance examinations in these areas.

** For students in the Concentration in Jazz, Jazz Theory (MUS 539-02) is recommended. For students in the Concentration in Jazz Composition and Arranging, Advanced Jazz Compositional Theory (MUS 654) is required and Jazz Theory (MUS 539-02) is recommended.

*** The applied course numbers for the degree concentrations are as follows: Choral Conducting: MUS 601, 602, 659, 660 (Students may substitute additional semesters of MUS 659, 660 for MUS 601, 602 at the discretion of the Director of Choral Activities.) Orchestral/Wind Conducting/Piano Pedagogy: MUS 601, 602, 611, 612. Jazz Performance: MUS 605, 606, 615, 616. Students enrolled for applied jazz composition and arranging may not also get credit for Advanced Jazz Arranging (MUS 656) or Film/TV Scoring (MUS 657). Instrumental/Organ/ Piano/Vocal Performance: MUS 603, 604.

**** Taken concurrently with final semester of applied study. Performance and pedagogy degree recitals are expected to show a performer's musical maturity and versatility. A degree recital program must be approved by the student's applied instructor. Minimum recital lengths will be determined by the appropriate area faculty and indicated on all applied syllabi.

Concentration in Choral Conducting

MUS 611 - Additional Applied Study*	2
MUS 530, 531 - Choral Literature I & II	4
MUS 559 - Instrumental Conducting and Score Reading	2
Ensemble (one per semester)	4
Music Electives**	6
Concentration Total	18
Total	36

Notes:

* Must be taken in the semester of the graduate degree recital.

** May include such courses as pedagogy, literature, the student's principal applied instrument, instrumental conducting, or a maximum of 2 additional ensemble credits.

Concentration in Orchestral Conducting

MUS 659, 660 - Seminar in Conducting-Instrumental	4
MUS 659, 660 - Seminar in Conducting-Choral*	2-4
MUS 686, 687 - Orchestral Literature I & II	4
Ensemble (two semesters of major ensemble)	2
Music Electives **	4-6
Concentration Total	18
Total	36

Note:

* One 2 credit hour course required of all orchestral conducting majors, the second 2 credit hour course optional depending on the individual needs of the student in consultation with their advisor. If the student only needs 2 credits of choral, they will be required to have 2 additional music electives.

** To be chosen from courses in music theory, literature, the student's principal applied instrument, or a maximum of 2 additional ensemble credits.

Concentration in Wind Conducting

MUS 659, 660 - Seminar in Conducting-(either Instrumental or Choral as per advising)	4
MUS 559 - Instrumental Conducting and Score Reading	2
Band Literature (MUS 561)	2
Ensemble (one per semester)	4
Music Electives *	6
Concentration Total	18
Total	36

Note:

* To be chosen from pedagogy, literature, the student's principal applied instrument, a maximum of 2 semesters of functional applied study, or a maximum of 2 additional ensemble credits.

Concentration in Instrumental Music

MUS 613, 614 - Additional Applied Study	8
Ensemble*	4
Music Electives**	6
Concentration Total	18
Total	36

Notes:

* In comparing degree programs, please note that among universities, many times ensembles are required, but without credit. Our required ensembles are included in the number of required degree hours.

** Students are encouraged to choose courses in literature or pedagogy; up to 2 additional ensemble credits are acceptable.

Other Requirements

Students are expected to present a public recital that comprises no less than sixty (60) minutes of music and follows the guidelines governing public recitals.

Concentration in Jazz Performance

MUS 539-01 - Jazz Style and Analysis	2
MUS 539-03 - Standard Jazz Repertoire	2
MUS 655 - Advanced Jazz Improvisation	2
Jazz Combo (one per semester)	2
Jazz Ensemble or Jazz Repertory Ensemble (one per sem)*	4
Music Electives**	6
Concentration Total	18
Total	36

Notes:

* A student may substitute two additional Jazz Combo courses for one of the Jazz Ensemble courses.

** Applied Jazz or Ensemble will not meet this requirement; applied study in a secondary area is acceptable.

Concentration in Jazz Composition and Arranging

MUS 539-01 - Jazz Style and Analysis	2
MUS 539-03 - Standard Jazz Repertoire	2
MUS 655 - Advanced Jazz Improvisation	2
MUS 539-01 - Jazz Style and Analysis	2
Jazz Combo (one per semester)	2
Jazz Ensemble or Jazz Repertory Ensemble (one per sem)*	4
Music Electives**	6
Concentration Total	18
Total	36

Notes:

* A student may substitute two additional Jazz Combo courses for one of the Jazz Ensemble courses.

** Ensemble will not meet this requirement; jazz applied study is acceptable.

Concentration in Organ Performance

MUS 613-614 - Additional Applied Study	8
Ensemble	2
Major Subject and Music Electives*	8
Concentration Total	18
Total	36

Note:

*Must include Organ Literature and Church Music Literature; additional Applied Organ or Ensemble will not meet this requirement. Applied study in a secondary area is acceptable.

Other Requirements

Students are expected to present a public recital that comprises no less than sixty (60) minutes of music and follows the guidelines governing public recitals.

Concentration in Piano Pedagogy

MUS 671, 672, 673, 674 - Piano Pedagogy	8
MUS 561, 562 - Piano Literature I & II	4
Ensemble *	2
Music Electives**	4
Concentration Total	18
Total	36

Notes:

* At least three semesters of ensemble to be chosen from Piano Ensemble or New Music Ensemble.

** Additional Applied Piano or Ensemble will not meet this requirement; applied study in a secondary area is acceptable.

Other Requirements

Students are required to present a sixty minute lecture-demonstration recital that focuses on pedagogical aspects of selected works, includes a minimum of thirty minutes of memorized solo repertoire, and follows the guidelines governing public recitals.

Concentration in Piano Performance

MUS 613, 614 - Additional Applied Study	8
MUS 561, 562 - Piano Literature I & II	4
Piano Pedagogy (500 or 600 level)	2
Ensemble *	2
Music Electives **	2
Concentration Total	18
Total	36

Notes:

- * At least three semesters of ensemble to be chosen from Piano Ensemble or New Music Ensemble.
- ** Additional Applied Piano or Ensemble will not meet this requirement; applied study in a secondary area is acceptable.

Other Requirements

Students are expected to present a public recital that comprises no less than sixty (60) minutes of music and follows the guidelines governing public recitals.

Concentration in Vocal Performance

MUS 613, 614 - Additional Applied Study	8
MUS 561, 562 - Vocal Literature	4
MUS 640-01 - Advanced Vocal Pedagogy	2
Ensemble *	2
Music Electives**	2
Concentration Total	18
Total	36

Notes:

- * Suggested ensembles include Opera Theatre and New Music Ensemble.
- ** Additional Applied Voice or Ensemble will not meet this requirement; applied study in a secondary area is acceptable.

Other Requirements

Students are expected to present a public recital that comprises no less than sixty (60) minutes of music and follows the guidelines governing public recitals.

Departmental Faculty

Professors

Robert Amchin
Professor
Division Head-Music
Education and Music
Therapy
Distinguished Teaching
Professor
Greg Byrne
Professor

Christopher Doane
Professor
Dean
Kent Hatteberg
Professor
Director of Choral Activities
University Scholar
D. Bruce Heim
Professor
Division Head-Applied

Music Studies
University Scholar
Kimcherie Lloyd
Professor
Director of Orchestral
Studies and Opera
Naomi Oliphant
Professor
Associate Dean
Distinguished Teaching
Professor

Seow-Chin Ong

Professor

J. Patrick Rafferty

Professor

Steve Rouse

Professor

Marc Satterwhite

Professor

Division Head-Music Theory
and Composition

Brett Shuster

Associate Professor

Frederick Speck

Professor

Division Head-Ensembles
and Conducting

Director of Bands

Gerald Tolson

Professor

Division Head-Music
Education and Music
Therapy

Michael Tracy

Professor

Division Head-Jazz Studies

Michael Tunnell

Professor

Distinguished Teaching

Professor

Paul York

Professor

Associate Professors

Anslyn Banks

Associate Professor

Krista Wallace-Boaz

Associate Professor

Daniel Weeks

Associate Professor

University Scholar

Krzysztof Wolek

Associate Professor

Mark Yeary

Associate Professor

Assistant Professors

Amy Acklin

Assistant Professor

Director of Marching Band

Dror Biran

Assistant Professor

Randi Bolding

Assistant Professor

Caroline Ehman

Assistant Professor

R. Christopher Fitzgerald

Assistant Professor

Rebecca Jemian

Assistant Professor

Sidney King

Assistant Professor

Stephen Mattingly

Assistant Professor

Matthew Nelson

Assistant Professor

Chad Sloan

Assistant Professor

Darcy Walworth

Assistant Professor

Krzysztof Wolek

Assistant Professor

Mark Yeary

Assistant Professor

Professor Emeriti

Jerry W. Ball

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Paul R. Brink

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Jean Christensen

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Anne Marie de Zeeuw

Professor Emerita

Donn Everette Graham

Professor Emeritus

Karl-Werner Guempel

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Brenda E. Kee

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John LaBarbera

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Lee Luvisi

Professor Emeritus

Daniel McAninch

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Peter McHugh

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Acton Ostling

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Richard Spalding

Professor Emeritus

Dallas Tidwell

Professor Emeritus

Edith Davis Tidwell

Professor Emerita

Distinguished Teaching

Professor

Robert Weaver

Professor Emeritus

Loren Waa

Professor Emerita

Master of Music in Music Theory

Major: MUST

Degree Awarded: MM

Unit: GU

Program Webpage: <http://www.louisville.edu/music/>

Program Information

The School of Music offers training toward two specific graduate degrees in music: Master of Music requiring a minimum of 36 hours of graduate credit, and Master of Music Education requiring 30 hours. All programs require a minimum of 24 hours of residence at the University of Louisville. Major subjects in the Master of Music curriculum are music performance with concentrations in choral, wind or orchestral conducting, instrumental or vocal performance, jazz performance or jazz composition and arranging, piano pedagogy, music history, music theory, and music composition. The Master of Music Education program allows an applied music minor in an instrument, voice, or conducting. Each degree program has specific prerequisites, entrance requirements, and programmatic expectations that are described in the relevant section of the catalog.

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 - (c) official transcripts for all previous post-secondary course work (all transcripts not in English must be certified as authentic and translated verbatim into English);
 - (d) at least two letters of recommendation;
 - (e) scores from the General Test Section of the Graduate Record Examination (GRE) that must be submitted prior to the beginning of study.

2. Applications to specific degree programs require evidence of preparation for advanced study as follows:
 - (a) in performance, an acceptable audition;
 - (b) in academic specializations (music composition, music history, music theory), a portfolio of work appropriate to the field of study;
 - (c) in music education, evidence of classroom teaching experience.

3. Applicants whose primary language is not English must show English language proficiency in one of the following ways:

- (a) a minimum TOEFL examination score of 550 on the paper-based test, 213 on the computer-based test, or 79-80 on the internet-based test;
 - (b) successful completion of the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville;
 - (c) documentation of the award of a degree from a recognized English language institution.
4. Applicants must possess a baccalaureate degree from an accredited institution in the area to be pursued in advanced studies, or they must present evidence of equivalent preparation.
 5. Applicants must have a minimum cumulative undergraduate grade point average of 2.75 on a 4-point scale.
 6. Applicants who meet the requirements listed in items 1-5 will be considered for conditional admission for graduate study at the School of Music. For additional entrance requirements specific to the degree of interest, consult the section relevant to the degree program below.
 7. Entrance examinations in music history, theory and, if appropriate, jazz, will be administered before the first term of study. The School of Music provides guidelines to assist in preparing for the entrance examinations.
 8. Any exception to the above expectations will be evaluated individually and will require a statement indicating criteria to be met in a specified time frame with provisions for monitoring progress and performance. Justification must be provided in writing and must be accepted by the faculty of the student's proposed program, the Director of Graduate Studies, and the Dean of the School of Music.
 9. Students who fail to meet performance standards or who do not meet other requirements as outlined in the letter of admission, program of study, or the catalog of the University of Louisville are subject to dismissal from their programs.

General Information Regarding Academic Policies

1. Detailed curricular and program offerings, including specific requirements and provisions for degree programs, are published in the university catalog at <http://louisville.edu/graduatecatalog>. Students will be provided with copies of the *Handbook for Graduate Studies in Music*, the "Guidelines for Preparation for the Graduate Music History Entrance Examination," and "Guidelines for Preparation for the Graduate Music Theory Entrance Examination." These documents are also available on the School of Music website at <http://louisville.edu/music/>.
2. Students will be required to address any deficiencies revealed by entrance examinations in courses taken within the first two semesters of study. Credit toward the degree is not granted for review course work.

3. All students are required to complete Bibliography and Research Methods (MUS 607) by the end of the second semester of study (part-time students by the completion of 15 hours of graduate study). Upon satisfactory completion of requirements stated in B.2 and B.3, students will be considered in good standing.
4. Students will complete a project appropriate to the field of study as defined by the faculty of their program. The completion of this project (public recital, thesis, professional paper) normally takes place in the last semester of graduate study. Preparation and presentation of a recital must follow the guidelines in the *Handbook for Graduate Studies in Music* and the preparation of a thesis must follow the "Guidelines for the Preparation and Processing of Theses" issued by the School of Interdisciplinary and Graduate Studies (SIGS). The preparation of a thesis in music composition must also follow the "School of Music Thesis Formatting Guidelines for M.M. in Composition" available at <http://louisville.edu/music/academics/areas-of-study/music-composition/documents/ULCompThesisGuidelines.pdf>
5. In order to graduate, a student must be in good standing with a minimum cumulative grade point average of 3.0. No more than six (6) hours with any "C" or "C+" grade will be accepted toward a degree, and no grade below a "B-" will be accepted for a course in the student's major subject area. Hours earned beyond the minimum in any curricular areas apply only to that area and cannot be assigned to another area in order to satisfy required credit. At least one-half of the total hours in graduate courses must be at the 600 level. Any exceptions to the program of study must be approved by the Graduate Studies Committee. A student whose cumulative GPA falls below 3.0, or who fails to satisfy the published performance criteria, will be placed on probation. Students are ordinarily not permitted to continue on probation for more than one semester.
6. When all course work and projects have been satisfactorily completed, the student becomes a candidate for the degree and is approved to take the graduate oral examination. A candidate who fails the oral examination at the end of one semester may not be given a second one before the end of the following semester. A candidate who fails the second oral examination will not be granted the degree of M.M. or M.M.E. from the University of Louisville.
7. Upon request, a maximum of six (6) hours of earned graduate credit with a minimum grade of "B" may be transferred from accredited institutions that offer advanced degrees. Credit for applied music will not be transferred, but advanced standing may be awarded at a jury. Ensemble credits appropriate to the student's degree program may be considered for transfer, but not to exceed one (1) hour per semester. Music history and music theory credits will be evaluated for transfer by the Director of Graduate Studies and the respective faculty. Transfer of more than six (6) hours may be requested provided that they are not earned by extension, or as thesis or practicum hours, and that the residency requirement of 24 semester hours is maintained by the addition of University of Louisville credits to the total program. Transfer of graduate hours within the University of Louisville toward a graduate degree in music may be requested provided that the minimum residence requirement of 24 hours is maintained.
8. Students receiving a graduate assistantship (teaching, research, or service) will be provided adequate training and will be required to adhere to university policies. Performance of duties in

research and service by graduate assistants will be periodically evaluated. Students with teaching assistantships will be evaluated each semester.

9. Part-time students (with the exception of those in the M.M.E. degree program) must participate in one ensemble for each 18 hours of completed course work. If part-time study precludes completing ensemble degree requirements, other course work may be substituted.

Curriculum

Prerequisites

1. Bachelor of Music degree or equivalent.
2. Demonstration, by examination, of skills and capacities in the following fields:
 - written, aural, and keyboard harmony;
 - melodic, harmonic, and rhythmic dictation;
 - elementary counterpoint; and
 - history and literature of music, and analytic understanding of musical forms and genres.
3. Evidence of preparation for advanced work in the area, as follows:
 - Applicants to the track in Music Theory must submit a portfolio that incorporates a theoretical or analytical component. In addition, compositions should be submitted if available.
4. GRE scores.

Core Curriculum

MUS 500 - Music History Review*	0
MUS 400 - Music Theory Review*	0
MUS 600 - Graduate Oral Exam Preparation	0
MUS 607 - Bibliography and Research Methods	3
Music History Seminar (600 level)**	3
Music Theory	4
Additional Music Theory or Music History Seminar (500 or 600 level)	3
MUS 647, 648, 651, or 653 - Analysis	3
Ensemble (3 semesters of major ensemble)	3
Thesis	4
Total	23

Other Requirements

All students must pass an oral examination after all course work is completed.

Music Theory Track

MUS 641 - Pedagogy of Theory	2
Additional Music Theory	1
Advanced Composition****	6
MUS 669 - Graduate Composition Seminar (Co-requisite for Advanced Composition)	0
MUS 667 - Introduction to Electronic and Computer Music	2
Music Electives	2
Track Total	13
Minimum Total	36

Notes:

- * These courses may be satisfied by passing the entrance examinations in these areas.
- ** Students in the Theory Track should take Foundations of Music Theory (MUS 652).
- *** To be chosen from MUS 543, 544, 643, 644 as determined by the composition faculty. Students enrolled in 500 level Advanced Composition are required to present public performances of their original works totaling at least 8 minutes of music; students enrolled in 600 level Advanced Composition present public performances of at least 8 minutes of music per semester.

Departmental Faculty

Professors

Robert Amchin

Professor
Division Head-Music
Education and Music
Therapy
Distinguished Teaching
Professor

Greg Byrne

Professor

Christopher Doane

Professor

Dean

Kent Hatteberg

Professor
Director of Choral Activities
University Scholar

D. Bruce Heim

Professor
Division Head-Applied
Music Studies
University Scholar

Kimcherie Lloyd

Professor
Director of Orchestral
Studies and Opera
Naomi Oliphant
Professor
Associate Dean
Distinguished Teaching
Professor

Seow-Chin Ong

Professor

J. Patrick Rafferty

Professor

Steve Rouse

Professor

Marc Satterwhite

Professor
Division Head-Music Theory
and Composition

Brett Shuster

Associate Professor

Frederick Speck

Professor

Division Head-Ensembles
and Conducting
Director of Bands

Gerald Tolson

Professor
Division Head-Music
Education and Music
Therapy

Michael Tracy

Professor
Division Head-Jazz Studies

Michael Tunnell

Professor
Distinguished Teaching
Professor

Paul York

Professor

Associate Professors

Anslyn Banks

Associate Professor

Krista Wallace-Boaz

Associate Professor

Daniel Weeks
Associate Professor
University Scholar
Krzysztof Wolek
Associate Professor
Mark Yeary
Associate Professor

Assistant Professors

Amy Acklin
Assistant Professor
Director of Marching Band
Dror Biran
Assistant Professor
Randi Bolding
Assistant Professor
Caroline Ehman
Assistant Professor
R. Christopher Fitzgerald
Assistant Professor
Rebecca Jemian
Assistant Professor
Sidney King
Assistant Professor
Stephen Mattingly
Assistant Professor

Matthew Nelson
Assistant Professor
Chad Sloan
Assistant Professor
Darcy Walworth
Assistant Professor
Krzysztof Wolek
Assistant Professor
Mark Yeary
Assistant Professor

Professor Emeriti

Jerry W. Ball
Professor Emeritus
Paul R. Brink
Professor Emeritus
Jean Christensen
Professor Emerita
Anne Marie de Zeeuw
Professor Emerita
Donn Everette Graham
Professor Emeritus
Karl-Werner Guempel
Professor Emeritus
Brenda E. Kee
Professor Emerita

John LaBarbera
Professor Emeritus
Lee Luvisi
Professor Emeritus
Daniel McAninch
Professor Emeritus
Peter McHugh
Professor Emeritus
Acton Ostling
Professor Emeritus
Richard Spalding
Professor Emeritus
Dallas Tidwell
Professor Emeritus
Edith Davis Tidwell
Professor Emerita
Distinguished Teaching
Professor
Robert Weaver
Professor Emeritus
Loren Waa
Professor Emerita

Master of Science in Nursing

Major: NURS

Degree Awarded: MSN

Unit: GN

Program Webpage: <http://louisville.edu/nursing>

Program Information

The University of Louisville - School of Nursing is an essential partner of a research intensive academic health science center in a nationally recognized university serving a metropolitan community.

The School of Nursing is a community in which faculty, staff and students collaborate to promote excellence in the profession of nursing. This is accomplished through research and scholarship that inform undergraduate and graduate education, support evidence-based practice and foster advances in nursing science.

Students are prepared to demonstrate excellence in nursing science, practice and leadership, in a variety of settings for the benefit of clients across the lifespan and to meet the evolving health care needs of society.

As a citizen of the larger community, the emphasis of the School of Nursing is to address the complex health needs of diverse and dynamic populations through nursing education, research, scholarship and service.

Marcia Hern, EdD, RN, CNS, Dean

The School of Nursing offers the following degrees:

Nursing - PhD

Nursing - MSN

Post-Masters Certificates are available in the following programs:

Adult Primary Nurse Practitioner

Adult Gerontology Primary Nurse Practitioner

Family Nurse Practitioner

Neonatal Nurse Practitioner

Psychiatric, Mental Health Nurse Practitioner

MSN Admissions Policies - School of Nursing

Students may be admitted to the program for the summer or fall semester. A full time program of study may be completed in two years. Applications for each term will be reviewed and students will be contacted regarding their admission status within 4-6 weeks after the deadline.

Application deadlines:

Fall Semester: April 1
Spring Semester: October 1

Criteria for Admission to the Master of Science in Nursing Degree Program:

To be considered for admission to Degree Status, the following items must be submitted:

To the School of Interdisciplinary and Graduate Studies:

- Completed UofL Graduate Admissions Application, including \$60 application fee (application available online at: <http://louisville.edu/graduate/apply>)
- Official transcripts of all college coursework with a cumulative grade point average of at least 3.0 on a 4.0 scale. Completion of an accredited (by NLN or CCNE) baccalaureate program in nursing must be verified.
- Graduate Record Examination (GRE) scores (successful applicants usually score at 425 or above on each of the verbal and quantitative scores; and 4 on the analytic score). The recommended scores on the revised GRE test format and scoring that took effect August 2011 are 148 verbal, 140 quantitative, and 4 on the analytical writing score.
- Two references from individuals who can speak of academic and/or professional capabilities and potential are required. References should be chosen from: former faculty members, current or immediate past employer, or other nursing/health professionals. One reference should be from a nurse. Each person providing a reference for you must complete the UofL Graduate School recommendation form (available online at: <http://louisville.edu/graduate/apply>)

To the School of Nursing, Office of Student Services:

- Completed Graduate Applicant Data Sheet (available online at: <http://www.louisville.edu/nursing>)
- Self-reported valid Kentucky registered nurse license number (without restrictions) on School of Nursing Applicant Data Sheet or proof of eligibility for that licensure.
- Criminal background check submitted through Certified Background.com

A personal interview with faculty may be required.

Students who do not meet admission requirements may contact the UofL School of Nursing Office of Student Services at (502) 852-1196 for an advising appointment.

Conditional Admission to MSN Degree Program:

Students who do not meet these admission requirements **may** be considered for admission in **conditional** status.

Applications will not be considered for Full or Conditional Degree status unless all application materials are available to the review committee by the application deadline.

Provisional Admission to MSN Degree Program:

Graduating BSN students: Students completing the final semester of their BSN program with a 3.0 or better grade point average may apply for provisional degree status. (Refer to admission statuses in the General Information Section of this catalog.)

Post-Masters Certificate Admissions Requirements (considered non-degree status):**Admissions Deadlines:**

Summer Semester, March 1
Fall Semester, April 1
Spring Semester, October 1

Only Postmasters have the summer admit option. Admit term based upon evaluation of previous coursework. Required courses are determined after a gap analysis of the student's previous coursework and certifications. For students missing a portion of required coursework, missing content may be fulfilled by completing the appropriate NURS 690 Special Topics course(s). A minimum of 25% of credit hours must be completed in residence to be awarded the Postmaster's Certificate.

The following materials must be submitted for review by the School of Nursing Student Affairs Committee:

To the School of Interdisciplinary and Graduate Studies:

- Official transcripts of all college course work including ones verifying completion of accredited **BSN and Master's in Nursing** programs. Applicants whose prior degree(s) was from UofL do not need to send official transcripts. However, if the last degree earned was NOT from U of L, those transcripts must be submitted. All applicants are required to submit transcripts for all college work completed.
- Completed U of L Graduate Admissions Application, including \$60 application fee (application available online at: <http://louisville.edu/graduate/apply>)
- Two completed letters of recommendation for Graduate School (see U of L Graduate School Application) which address academic and professional competence. References

should be chosen from former faculty member, current or immediate past employer, or other nursing/health professional. At least one reference should be from a nurse. These letters should accompany the reference form required by *the School of Interdisciplinary and Graduate Studies*.

- A minimum grade point average of 3.0 on a 4.0 scale from Master's in Nursing program.

To the School of Nursing:

- Completed Applicant Data Sheet available on line at www.louisville.edu/nursing
- A personal interview with faculty may be required.
- Criminal Background Check. Instructions on School of Nursing website. Cost \$40.
- Self-reported valid Kentucky registered nurse license number (without restrictions) on School of Nursing Applicant Data Sheet or proof of eligibility for that licensure.

Criteria for Admission in Visiting Student Status to the Graduate Nursing Program:

Students admitted as visiting students are non-degree. Students admitted in non-degree status may not be eligible for some financial aid sources.

Visiting students from other schools may apply each semester for non-degree status by submitting the following:

To the School of Interdisciplinary and Graduate Studies:

- Graduate Admissions Application including the \$60.00 fee.
- A letter of good standing from student's home school or transcripts from graduate school in which the student is currently enrolled verifying a grade point average of 3.0 or higher.

Important Note:

All applicants, regardless of their application status, are required to submit official transcripts for all college work completed. An application fee of \$60.00 is required of all MSN applicants regardless of where the BSN was earned.

Academic Policies

Academic Progress in the Graduate Program

Satisfactory academic progress in a program involves maintaining the academic and professional standards expected in a particular discipline or program and may include demonstration of the ability to function as a professional practitioner. Failure to maintain these standards or demonstrate such abilities may result in the termination of the student's admission to the program.

Removal from Clinical

A student who is unsafe in a clinical area or research setting is subject to academic action including dismissal from the program.

Transfer of Credit

Students who desire to transfer graduate credit from other academic institutions shall discuss this option with the advisor. Earned graduate credit may be transferred from institutions that offer advanced degrees. The maximum number of semester hours transferable, upon request, is six (6) hours. Up to six additional hours may be requested in a master's program, provided that these additional hours are not credit earned by extension and provided that the residency requirement of 24 semester hours is maintained by the addition of U of L credits to the total program. Credit earned more than six years prior to the student's application to the School of Interdisciplinary and Graduate Studies will not normally be considered for transfer.

In all cases, transfer of credit is NOT automatic. Students who want courses taken at other institutions evaluated should submit the course outline (syllabus) for the course in question to the Office of Student Services. Courses cannot be evaluated without course outlines. Course equivalency should be determined before enrollment in the course to ensure the credits will transfer. Only courses in which the student earned grades of B (3.0 on a 4.0 scale) or better will be considered for transfer. Credits which have been applied to a baccalaureate degree may not be applied to a subsequent master's degree. Six hours may be transferred from previously earned master's degree toward a second master's degree subject to the approval of the Associate Dean for Graduate Programs. Hours earned toward a project or thesis shall not be transferable to the second master's degree. Graduate nursing courses may be transferred as a required nursing course only if judged by the current faculty of record as equivalent to the course taught at the University of Louisville. The decision of equivalency made by the faculty of record is final.

Health Services Fee

Every HSC student will be assessed the Campus Services Fee each semester.

Services provided under the fee:

- a. All pathogen exposure (e.g., TB, needle stick, etc.) to include outside labs, x-ray, and medications
- b. All visits to the Campus Health Services (Belknap and HSC)*
- c. Mental Health Services*

*Medications, lab, or x-ray costs that might be associated with these visits are not covered by the fee.

Clinical Laboratory Fee

Effective Summer 2006, all graduate students enrolled in clinical programs in the School of Nursing will be charged clinical fees of \$300. A \$100.00 fee will be assessed at the time of enrollment in NURS 656 Advanced Clinical Assessment or NURS 629 Assessment of the Neonate. A \$200.00 fee will be assessed upon registration in the first clinical course for each concentration. This fee covers costs associated with clinical laboratory instruction, including clinical laboratory supplies, clinical equipment, support of simulation equipment, preceptor placement coordination and clinical visitations.

Course Offerings

Classes are taught on a single week day, traditionally on Thursdays during the fall and spring semesters. These courses may be taught during the day or in the evening. Some courses are offered every semester, once per year, or every two years based on demand and/or resources. Some courses are online. Course offerings are subject to cancellation due to insufficient enrollment. Preceptorship/clinical experiences are scheduled on any day of the week based on availability of clinical sites and preceptors. Limited evening and weekend preceptorship experiences may be available. Preceptorship experiences throughout the state are also possible but not guaranteed. The office of the Associate Dean for Graduate Programs is responsible for student placement with preceptors, in collaboration with the Clinical Placement Coordinator and course faculty.

Drop/Add Procedures

Students wishing to alter their schedule of courses in any way must make the changes with the University's Office of the Registrar. Failure to officially withdraw from a course may result in a grade of F and tuition charges for that course.

Students may drop/add at any time during the early registration period after their first scheduled time for registration. The online ULink systems may be used for drop/add. See the online Schedule of Courses for current instructions for Drop/Add after classes begin.

Late Complete Withdrawal after the Deadline

Upon proper documentation of extreme circumstances, decision for approval of late complete withdrawals may be made by the Associate Dean for Graduate Programs. Late complete withdrawals are those requested after the deadline has passed and before the instructor has assigned a grade.

Students may not withdraw from any course after the published deadline in the online Schedule of Courses without the approval of the Associate Dean for Graduate Programs. This is granted only because of sickness or conditions beyond the student's control. The grade report would reflect a grade of W.

Student Health Services Requirements

Each student must comply with the current student health policy of the Health Sciences Center. All costs associated with compliance are the responsibility of the student. Because of contractual agreements with agencies and the changing needs of society, this policy is updated periodically. The current health policies are listed below. It is the responsibility of the student to maintain his/her health in order to insure safety for other students and clients. If faculty or the agency deems that any student creates a health risk, the student may be excluded from the clinical experience and/or the program.

Individual health care facilities, used as clinical sites by the School of Nursing, may have additional requirements. In this event, the student is required to comply with any additional requirements of that facility.

Note: Health policies are constantly under review by faculty based on CDC changing requirements and community expectations. Students will be notified of any policy changes, and compliance will be required.

Clinical Requirements

Before beginning the first clinical course of the MSN program, students must be in compliance with the following clinical requirements:

- verification of a valid Kentucky Registered Nurse License
- submit documentation of CPR certification (Adult, Child and Infant)
- submit proof of successful completion of UofL HIPAA Training
- submit proof of student nurse practitioner liability insurance coverage
- submit required immunization records and proof of health insurance coverage to the Campus Health Services (call 852-6446 for additional current information on requirements).
- submit proof of successful completion of Bloodborne Pathogen training.
- individual health care facilities, used as clinical sites by the School of Nursing, may have additional requirements. In this event, the student is required to comply with any additional requirements of that facility.

Additional information on clinical requirements is published in the Graduate Student Handbook.

Health Insurance

Students are responsible for submitting proof of health insurance. On April 26, 1999, the University of Louisville Board of Trustees approved a requirement for proof of insurance for all Health Sciences Center (HSC) students. Every HSC student will be assessed the University sponsored health insurance plan (the comprehensive plan) if not already covered. Students who already have health insurance that includes hospitalization coverage can waive the fee.

Repeating Nursing Courses

Students who receive a grade of C+ or below in a course must repeat the course. Students in the Graduate Nursing Program are allowed to repeat one required nursing curriculum course only one time. A student who receives a grade of C+ or below in a second course required in the nursing curriculum will be dismissed from the program. A Permit to Repeat Course form should be submitted to the Office of Student Services (OSS), School of Nursing, to ensure that only the last grade attempted will be included in the student's grade point average. Repeating a course is not an automatic privilege, and in most cases the student must petition to the School of Nursing for permission to repeat a nursing course. Once permission is granted, the student will be allowed to repeat the course on a space available basis.

Satisfactory Standing

Satisfactory standing in the nursing program is a cumulative program grade point average of at least 3.0.

Probation and Dismissal

If the cumulative grade point average falls below 3.0, the student will be placed on academic probation for the next regular semester. If the cumulative grade point average is not raised to a minimum of 3.0 by the end of the probation semester, the student will be dismissed from the program. The dismissal will be reflected on the student's transcript. If a student wishes to continue at the University, he/she must apply and be accepted to another unit in order to continue to enroll in classes.

Permission for Visiting Student Status at another Institution

Students may apply for visiting student status should they wish to enroll in a nursing course at another institution while a student at U of L. If the course is being taken to apply toward the U of L degree requirements, it is the student's responsibility to check with OSS to confirm the equivalency of the course before they enroll. Students must provide OSS with the most recent copy of the course syllabus so that U of L faculty can evaluate the course for equivalency. Once the equivalency status of the course has been determined, the applying student will be sent a letter of permission for visiting student status. Students are responsible for requesting that an official transcript be sent to the University's Registrar's Office upon completion of any transfer work.

Curriculum

The Master of Science in Nursing Curriculum

The faculty have moved to decrease barriers, provide a climate responsive to individual student needs, and to move towards graduating the most well-prepared practitioners in the Kentuckiana area. With the University of Louisville mission directed toward research, teaching, practice, and

service, the School of Nursing is well situated to be the premier graduate program in the metropolitan area.

MSN, Adult Gerontology Primary Care Nurse Practitioner Concentration

Core Classes	Credit Hrs.
NURS 605 Foundations for Advanced Practice	3
NURS 607 Research and Evidence Based Practice Nursing	3
NURS 608 Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611 Nursing Pharmacology	3
NURS 613 Intro to Health Care Policy and Systems	3
NURS 652 Statistics	3
NURS 655 Pathophysiology for Clinical Decision Making	3
NURS 656 Advanced Physical Clinical Assessment	3
NURS 657 Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS	27

Concentration Classes	Credit Hrs.
NURS 601 Primary Care I	3
NURS 602 Primary Care II	3
NURS 624 Adv. Clinical Practice Adult NP I	3
NURS 625 Adv. Clinical Practice Adult NP II	3
NURS 604 Transition to Practice	2
NURS 666 Geriatric Pharmacology	1
NURS 667 Primary Care of the Older Adult	2
TOTAL SPECIALTY CREDIT HOURS	17
TOTAL CREDIT HOURS	44
Clinical Hours Required: 672	

MSN, Adult Gerontology Acute Care Nurse Practitioner Concentration

Core Classes	Credit Hrs.
NURS 605 Foundations for Advanced Practice	3
NURS 607 Research and Evidence Based Practice Nursing	3
NURS 608 Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611 Nursing Pharmacology	3
NURS 613 Intro to Health Care Policy and Systems	3
NURS 652 Statistics	3
NURS 655 Pathophysiology for Clinical Decision Making	3
NURS 656 Advanced Physical Clinical Assessment	3
NURS 657 Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS	27

Concentration Classes	Credit Hrs.
NURS 604 Transition to Practice	2
NURS 674 Adult Acute Care NP	4
NURS 675 Adult Acute Care Clinical I	3
NURS 676 Adult Acute Care NP II	4
NURS 677 Adult Acute Clinical II	3
NURS 667 Geriatric Pharmacology	1
TOTAL SPECIALTY CREDIT HOURS	17
TOTAL CREDIT HOURS	44
Clinical Hours Required: 672	

MSN, Family Nurse Practitioner Concentration

Core Classes	Credit Hrs.
NURS 605 Foundations for Advanced Practice	3
NURS 607 Research and Evidence Based Practice Nursing	3
NURS 608 Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611 Nursing Pharmacology	3
NURS 613 Intro to Health Care Policy and Systems	3
NURS 652 Statistics	3
NURS 655 Pathophysiology: Clinical Decision Making	3
NURS 656 Advanced Clinical Assessment	3
NURS 657 Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS	27

Concentration Classes	Credit Hrs.
NURS 601 Primary Care I	3
NURS 661 Adv. Clinical Practice: FNP Clinical I	3
NURS 602 Primary Care II	3
NURS 660 Adv. Clinical Practice FNP Seminar I	2
NURS 604 Transition to Practice	2
NURS 664 Common Health Problems of the Pediatric Client	1
NURS 662 Advanced Clinical Practice: FNP Clinical II	3
TOTAL SPECIALTY CREDIT HOURS	17
TOTAL CREDIT HOURS	44
Clinical Hours Required: 672	

MSN, Family Nurse and Women's Health Nurse Practitioner Concentration

Core Classes	Credit Hrs.
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NURS 605	Foundations for Advanced Practice	3
NURS 607	Research and Evidence Based Practice Nursing	3
NURS 608	Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611	Nursing Pharmacology	3
NURS 613	Intro to Health Care Policy and Systems	3
NURS 652	Statistics	3
NURS 655	Pathophysiology: Clinical Decision Making	3
NURS 656	Adv. Clinical Assessment	3
NURS 657	Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS		27

Concentration Classes		Credit Hrs.
NURS 601	Primary Care I	3
NURS 602	Primary Care II	3
NURS 604	Transition to Practice	2
NURS 615	Advanced Clinical Practice WHNPI	2
NURS 616	WHNP I	3
NURS 617	Advanced Clinical Practice WHNP II	1
NURS 618	WHNP II	4
NURS 619	WHNP Skills Lab	1
NURS 660	Adv. Clinical Practice FNP Seminar I	2
NURS 661	Adv. Clinical Practice: FNP Clinical I	3
NURS 663	Advanced Clinical Practice: FNP Clinical	2.5
NURS 664	Common Health Problems of the Pediatric Client	1
TOTAL SPECIALTY CREDIT HOURS		27.5
TOTAL CREDIT HOURS		54.5
Clinical Hours Required: 952		

MSN, Neonatal Nurse Practitioner Concentration

Core Classes		Credit Hrs.
NURS 605	Foundations for Advanced Practice	3
NURS 607	Research and Evidence Based Practice	3
NURS 608	Economic and Information Mgt. in Complex Health Care Systems	3
NURS 613	Intro to Health Care Policy and Systems	3
NURS 629	Advanced Health Assessment	3
NURS 652	Statistics	3
NURS 655	Pathophysiology: Clinical Decision Making	3
NURS 657	Clinical Prevention and Populations Health	3
NURS 658	Pharmacology for the Neonate	3

TOTAL CORE CREDIT HOURS **27**

	Credit Hrs.
Concentration Classes	
NURS 604 Transition to Practice	2
NURS 633 Adv. Clinical Practice NNP I	4
NURS 635 Advanced Clinical Practice: NNP III	4
NURS 636 High Risk Clinical: NNP	3
NURS 637 Adv. High Risk Clinical: NNP	3
TOTAL SPECIALTY CREDIT HOURS	16
TOTAL CREDIT HOURS	43
Clinical Hours Required: 693	

MSN, Psych/Mental Health Nurse Practitioner Concentration

	Credit Hrs.
Core Classes	
NURS 605 Foundations for Advanced Practice	3
NURS 607 Research and Evidence Based Practice	3
NURS 608 Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611 Nursing Pharmacology	3
NURS 613 Intro to Health Care Policy and Systems	3
NURS 652 Statistics	3
NURS 655 Lifespan Pathophysiology or 659	1-3
NURS 656 Adv. Clinical Assessment	3
NURS 657 Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS	25-27

	Credit Hrs.
Concentration Classes	
NURS 604 Transition to Practice	2
NURS 638 Adv. Psychiatric Assessment & Clinical Interview Tech.	1
NURS 639 Advanced Psych NP Mental Health Assessment Clinical	1
NURS 641 Adv. PMH Practice I: Psychiatric Mental Health Nursing of Individuals, Families, Groups	3
NURS 642 Adv. PMH Practice II: PMH Nursing of Individuals, Families, Groups and Communities	3
NURS 645 Adv. Clinical PMH Practice I: Psychiatric Mental Health Nursing of Individuals, Families, Groups	3
NURS 646 Adv. Clinical Practice II: PSYCH Nursing with Groups and Communities	4
NURS 647 Psychopathology Across the Lifespan	2
NURS 649 Psychopharmacology	2

TOTAL SPECIALTY CREDIT HOURS	20
TOTAL CREDIT HOURS	45-47
Clinical Hours Required: 672	

MSN, Certificate in Health Professions Education

	Credit Hrs.
Core Classes	
NURS 605 Foundations for Advanced Practice	3
NURS 607 Research and Evidence Based Practice	3
NURS 608 Economic and Information Mgt. in Complex Health Care Systems	3
NURS 611 Advanced Nursing Pharmacology	3
NURS 613 Intro to Health Care Policy and Systems	3
NURS 652 Statistics	3
NURS 655 Pathophysiology: Clinical Decision Making	3
NURS 656 Advanced Clinical Assessment	3
NURS 657 Clinical Prevention and Populations Health	3
TOTAL CORE CREDIT HOURS	27

	Credit Hrs.
Concentration Classes	
NURS 610 Nurse Educator Practicum	2
ELFH 614 Program Evaluation and Planning	3
ELFH 661 Adult Development and Learning	3
ELFH 675 College Teaching	3
TOTAL SPECIALTY CREDIT HOURS	11
TOTAL CREDIT HOURS	38

Post-Master Certificate: Adult Gerontology Primary Care Nurse Practitioner

	Credit Hrs.
Prerequisite Classes	
NURS 611 Nursing Pharmacology	3
NURS 655 Pathophysiology: Clinical Decision Making	3
NURS 656 Adv. Clinical Assessment	3

	Credit Hrs.
Certification Classes	
NURS 601 Primary Care I	3
NURS 602 Primary Care II	3
NURS 624 Adv. Clinical Practice Adult NPI	3
NURS 625 Adv. Clinical Practice Adult NP II	3
NURS 666 Primary Care of the Older Adult	2
NURS 667 Geriatric Pharmacology	1
TOTAL CREDIT HOURS	15
NURS 604 Transition to Practice may be required	2

Clinical Hours Required: 672

Post-Master's Certificate: Adult Gerontology Acute Care Nurse Practitioner

Prerequisite Classes		
NURS 611	Nursing Pharmacology	3
NURS 655	Pathophysiology for Clinical Decision Making	3
NURS 656	Adv. Clinical Assessment	3
Certification Classes		
NURS 674	Adult Acute Care NP I	4
NURS 675	Adult Acute Care Clinical I	3
NURS 667	Geriatric Pharmacology	1
NURS 676	Adult Acute Care NP II	4
NURS 677	Adult Acute Care II	3
TOTAL CREDIT HOURS		15
NURS 604	Transition to Practice may be required	2

Clinical Hours Required: 672

Post-Masters Certificate: Family Nurse Practitioner

Prerequisite Classes		Credit Hrs.
NURS 611	Nursing Pharmacology	3
NURS 655	Pathophysiology: Clinical Decision Making	3
NURS 656	Adv. Clinical Assessment	3
Certification Classes		Credit Hrs.
NURS 601	Primary Care I	3
NURS 602	Primary Care II	3
NURS 660	Adv. Clinical Practice FNP Seminar I	2
NURS 661	Adv. Clinical Practice: FNP Clinical I	3
NURS 662	Advanced Clinical Practice: FNP Clinical II	3
NURS 664	Common Health Problems of the Pediatric Client	1
TOTAL SPECIALTY CREDIT HOURS		15
NURS 604	Transition to Practice may be required	2

Clinical Hours Required: 672

Post-Masters Certificate: Neonatal Nurse Practitioner

Prerequisite Classes		Credit Hrs.
NURS 629	Neonatal Assessment	3
NURS 655	Lifespan Pathophysiology	3
NURS 658	Neonatal Pharmacology	3
Certification Classes		Credit Hrs.

NURS 633	Adv. Clinical Practice NNP I	4
NURS 635	Advanced Clinical Practice::NNP III	2
NURS 636	High Risk Clinical: NNP	4
NURS 637	Adv. High Risk Clinical: NNP	4
TOTAL SPECIALTY CREDIT HOURS		14
NURS 604	Transition to Practice may be required	2
Clinical Hours Required: 693		

Post-Master's Certificate: Psychiatric Mental Health Nurse Practitioner

Prerequisite Classes		Credit Hrs.
NURS 611	Nursing Pharmacology	3
NURS 656	Adv. Clinical Assessment	3
NURS 655 or NURS 659	Lifespan Pathophysiology	2-3
Certification Classes		Credit Hrs.
NURS 638	Adv. Psychiatric Assessment & Clinical Interview Tech.	1
NURS 639	Adv. Psychiatric NP MH Assessment Clinical	1
NURS 641	Adv. PMH Practice I: Psychiatric Mental Health Nursing of Individuals, Families, Groups	3
NURS 642	Advanced PMH Practice II: PMH Nursing of Individuals, Families, Groups and Communities	3
NURS 645	Adv. Clinical PMH Practice I: Psychiatric Mental Health Nursing of Individuals, Families	3
NURS 646	Adv. Clinical Practice II: PSYCH Nursing with Groups and Communities	4
NURS 647	Clinical Decision Making: Psychopathology Across the Lifespan	2
NURS 649	Psychopharmacology	2
TOTAL SPECIALTY CREDIT HOURS		18
NURS 604	Transition to Practice may be required	2
Clinical Hours Required: 672		

Departmental Faculty

Marcia Hern, EdD, RN,
CNS

Dean and Professor

Said Abusalem, PhD, RN
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Emerita

**Cynthia McCurren, PhD,
RN**

Emerita

**Kay Roberts, EdD, FAAN,
FNP**

Emerita

Barbara Speck, PhD, RN
Emerita

Doctor of Philosophy in Nursing

Major: NURS

Degree Awarded: Ph.D.

Unit: GN

Program Webpage: <http://www.louisville.edu/nursing>

Program Information

Marcia Hern, EdD, RN, CNS, Dean

The School of Nursing offers the following degree programs:

Nursing - Ph.D.

Nursing - M.S.N.

Vision

The University of Louisville School of Nursing affirms and builds upon our strengths and accomplishments as we move forward to meet the challenges of excellence. We will be recognized as a nursing program of national stature for the integration of teaching, research, practice and service. Our purpose is to enrich lives through the improvement of health care. We will be guided by the mission of our metropolitan university in serving the diverse needs of students, clients and community.

Mission

The University of Louisville School of Nursing is an essential partner of a research intensive academic health science center in a nationally recognized University serving a metropolitan community.

The School of Nursing is a community in which faculty, staff and students collaborate to promote excellence in the profession of nursing. This is accomplished through research and scholarship that inform undergraduate and graduate education, support evidence-based practice and foster advances in nursing science. Students are prepared to demonstrate excellence in nursing science, practice and leadership in a variety of settings for the benefit of clients across the lifespan, and to meet the evolving health care needs of society. As a citizen of the larger community, the emphasis of the School of Nursing is to address the complex health needs of diverse and dynamic populations through nursing education, research, scholarship and service.

Doctor of Philosophy in Nursing

The Doctor of Philosophy in Nursing is designed to prepare nurse scientists who will assume a variety of roles in education, research, leadership and health policy. The goal of the program is to

prepare nurse scientists to: a) generate knowledge, test interventions and evaluate outcomes to reduce risks of illness/disability and promote quality of life, b) collaborate with other disciplines to improve the delivery of health care, c) assume research, leadership, executive, public policy and/or teaching roles, and d) affect health policy through the application of scientific knowledge.

Two progression tracks are offered: (1) BSN to PhD and (2) MSN to PhD. The BSN to PhD track is an innovative approach to recruit students into graduate study at an early point in their nursing career. These students will complete the first year of coursework at the master's level and then continue on to the doctoral-level work without earning a master's degree. The MSN to PhD students will enter directly into the doctoral coursework.

The PhD in Nursing consists of at least 61 credit hours of coursework beyond the baccalaureate degree or 46 credit hours beyond a master's degree plus dissertation credit hours. Full or part-time programs of study are available; however, full-time study is highly recommended to allow students to devote themselves entirely to the program and immerse themselves in the life of a scholar.

Admissions Criteria

Submit the following items to:

Office of Graduate Admissions, University of Louisville, Louisville, KY 40292

1. UofL Graduate Application and application fee (Online submission is preferred. Complete online at <http://louisville.edu/graduate/apply>)
The online version of the Graduate Application lists codes for the Nursing PhD program. If you are submitting a hard copy application form, please use the following codes:
NURSPHDMSN- for students who have completed Master's of Nursing degrees
NURSPHDBSN- for students who have completed only the Bachelor of Science in Nursing Degrees.
2. Transcripts
 - *If BSN applicant:* Official transcripts representing all college course work with a cumulative grade point average of at least 3.0 on a 4.0 scale. Must verify completion of an accredited baccalaureate program in nursing.
 - *If MSN applicant:* Official transcripts representing all college course work with a cumulative grade point average of at least 3.25 on a 4.0 scale. Must verify completion of an accredited master's program in nursing.
 - If a BSN applicant, BSN program must have been accredited by CCNE or NLN.
 - If a MSN applicant, MSN program must have been accredited by CCNE or NLN.
3. Graduate Record Examination (GRE) scores
Successful candidates generally have a combined Verbal and Quantitative score of 1100 or higher, and an Analytical score of 4.0 or higher. Recommended scores on the revised GRE test format and scoring that took effect August 2011 are 156 verbal, 146 quantitative and 4 on the analytical writing score.

4. TOEFL Examination

Foreign student applicants must review the Graduate Catalog TOEFL requirement guidelines. TOEFL scores required in the School of Nursing are:

- Computer-based test minimum score of 220; Written Essay score of 4.0
- Paper-based test minimum score of 560; Written Essay score of 4.0
- Internet based test minimum score of 79; Written Essay score of 4.0

5. Letters of Recommendation

Submit three recommendations from individuals who can speak of academic and/or professional capabilities and potential. Recommendations should be chosen from among: former faculty members, current or immediate past employers, or other nursing/health professionals. This is done through the School of Interdisciplinary and Graduate Studies recommendation form (available online at: <http://louisville.edu/graduate/apply>) Recommendation forms must have been completed within the last year.

Submit the following items to:

Office of Student Services, School of Nursing, University of Louisville, Louisville, KY 40292

1. School of Nursing PhD Applicant Data Sheet (Online submission preferred. Applicant Data Sheet is available at <http://louisville.edu/nursing>).
2. A current curriculum vitae or resume.
3. A written statement of career goals, area(s) of expertise, research interests, and reasons for pursuing doctoral studies. Maximum three pages; double spaced; 12 point font.
4. Personal interview with School of Nursing faculty will be required.
5. Registered Nurse License, evidence of licensure as a registered nurse is required. International students need to be licensed as registered nurses in their country of origin, if licensure is available. If direct patient care activities are provided, a Kentucky RN licensure prior to December in their first year of study is required.
6. Criminal Background Check required. Information is available on web-site and through the School of Nursing, Office of Student Services.

Application deadline for fall admission is January 15th. Completed applications received after January 15th may be considered on a space available basis.

Please note:

Applicants accepted into the MSN-PhD program are strongly advised to have completed a three-credit masters-level statistics course (applied descriptive and inferential statistics) with a grade of B (3.0) or higher within five years before the date of enrollment. Applicants who wish to take a refresher course will be advised of available statistics courses to take in the summer prior to beginning fall PhD coursework in statistics.

In order to do a self-assessment of knowledge in statistics, the following represents anticipated basic competencies from previous statistics coursework:

- Design of Research
- Frequency distributions
- Central tendency and variability
- Probability theory
- Normal distributions
- Correlation
- Simple linear regression
- Statistical inference
- Decision, error, and power
- T-tests
- One and two-way ANOVAs
- Nonparametric tests

Assistantships

A PhD Graduate Student Assistantship is a financial award to a full-time PhD student for the period of one year. To be eligible for the award the student must be admitted to the PhD degree program or be a continuing PhD student. For the full year, the award includes tuition, health insurance, and a monthly stipend. The student is required to maintain full-time study during the award period and participate for 20 hours/week in a Research Assistant or Teaching Assistant role in the School of Nursing. These activities serve to augment and enrich the student's academic program. The student will be assigned by the Associate Dean for Graduate Programs and Research to either research or teaching and will coordinate their experience. Descriptions of activities are available for each type of assistantship. Assistantships are awarded on a competitive basis.

Academic Policies

Academic Progress in the Graduate Program

Satisfactory academic progress in a program also involves maintaining the academic and professional standards expected in a particular discipline or program and may include demonstration of the ability to function as a professional. Failure to maintain these standards or demonstrate such abilities may result in the termination of the student's admission to the program.

Removal from a Clinical Research Area

A student who is unsafe in clinical or a research setting is subject to academic action including dismissal from the program.

Transfer of Credit

Earned graduate credit may be transferred from accredited institutions that offer advanced degrees. The maximum number of semester hours transferable, upon request, is six. Credits

which have been applied toward an earned degree may not be applied toward the doctoral nursing degree. Course work being considered for transfer must have been taken while the student was enrolled in an accredited graduate or professional school and must be evaluated for equivalency by the Associate Dean for Graduate Programs and Research. Credit earned more than six years prior to the student's application to the School of Interdisciplinary and Graduate Studies will not normally be considered for transfer.

Drop/Add Procedures

Students wishing to alter their schedule of courses in any way must make the changes with the University's Office of Registration. Failure to officially withdraw from a course may result in a grade of F and tuition charges for that course.

Students may drop/add at any time during the Early Registration period after their first scheduled time for registration. See the online Schedule of Courses for current instructions for Drop/Add after classes begin.

Late Complete Withdrawal after the Deadline

Upon proper documentation of extreme circumstances, decision for approval of late complete withdrawals may be made by the Associate Dean for Graduate Programs and Research. Late complete withdrawals are those requested after the deadline has passed and before the instructor has assigned a grade.

Students may not withdraw from any course after the published deadline in the online Schedule of Courses without the approval of the Associate Dean for Graduate Programs and Research. This is granted only because of sickness or conditions beyond the student's control. The grade report would reflect a grade of 'W'.

Student Health Services Requirements

Each student must comply with the current student health policy of the Health Sciences Center. All costs associated with compliance are the responsibility of the student. Because of contractual agreements with agencies and the changing needs of society, this policy is updated periodically. It is the responsibility of the student to maintain his/her health in order to insure safety for other students and research subjects. If faculty or the agency deems that any student creates a health risk, the student may be excluded from the research or clinical area and/or the program.

Individual health care facilities, used as research or clinical sites by the School of Nursing, may have additional requirements. In this event, the student is required to comply with any additional requirements of that facility.

Note: Health policies are constantly under review by faculty based on CDC changing requirements and community expectations. Students will be notified of any policy changes, and compliance will be required.

Immunization Requirements

Immunization requirements have been established by the Schools of Medicine, Dentistry, Nursing and Public Health & Information Sciences, in recognition of a responsibility to provide for your safety, both in the classroom and in clinical settings, and for the safety of patients/research subjects you will encounter in your training. These requirements also reflect the standards required by the various institutions in which you will be working during your education. Compliance is administered through the U of L Campus Health Services. More detail is available in the student handbooks or on the Campus Health Services website: <http://louisville.edu/campushealth>

Health Insurance

Students are responsible for submitting proof of health insurance. On April 26, 1999, the University of Louisville Board of Trustees approved a requirement for proof of insurance for all Health Sciences Center (HSC) students. Every HSC student will be assessed the University sponsored health insurance plan, the comprehensive plan. Students who already have health insurance that includes hospitalization coverage can waive the fee.

Health Services Fee

On April 26, 1999, the University of Louisville Board of Trustees approved a Health Services Fee. Every HSC student will be assessed the Campus Services Fee each semester.

For more information about what the fee covers, please see the Campus Health Services website: <http://louisville.edu/campushealth/>

Repeating Nursing Courses

Students who receive a grade of C+ or below in a course must repeat the course. Students in the Graduate Nursing Program are allowed to repeat a required nursing curriculum course only one time. A student who receives a grade of C+ or below in a second course required in the nursing curriculum will be dismissed from the program. A Permit to Repeat Course form should be submitted to the Office of Student Services, School of Nursing, to ensure that only the last grade attempted will be included in the student's grade point average. Repeating a course is not an automatic privilege, and in most cases the student must petition to the Associate Dean and/or the Academic Affairs Committee for permission to repeat a nursing course. Once permission is granted, the student will be allowed to repeat the course on a space available basis.

Satisfactory Standing

Satisfactory standing in the nursing program is a cumulative program grade point average of at least 3.0.

Probation and Dismissal

If the cumulative grade point average falls below 3.0, the student will be placed on academic probation for the next regular semester. If the cumulative grade point average is not raised to a minimum of 3.0 by the end of the probation semester, the student will be dismissed from the program. The dismissal will be reflected on the student's transcript. If a student wishes to continue at the University, he/she must apply and be accepted to another unit in order to continue to enroll in classes.

Residency Requirement

In order that the student may be assured of an opportunity to utilize the educational facilities properly and to participate in the intellectual life and research atmosphere of the University, at least two years of study must be open at the University of Louisville and at least one must be spent in full-time residency.

To be considered in full-time residency for one year, a student must be registered for 18, or more, credit hours in a 12 month period.

Curriculum

PhD in Nursing: Required Courses

BSN Students will complete 15 hours of required masters level courses.

NURS 605	Foundations for Advanced Practice	3
NURS 607	Research and Evidence Based Practice	3
NURS 608	Economic & Info. Mgt. in Complex Health Care Systems OR NURS 655 Advanced Pathophysiology	3
NURS 652	Statistics OR equivalent	3
NURS 657	Clinical Prevention and Population Health	3
Total Hours		15

BSN and MSN Students will complete the following required doctoral level courses, qualifying exam and dissertation:

	Advanced Statistics Courses	9
NURS 700	Theoretical Basis of Nursing	3
NURS 702	Philosophy of Science	3
NURS 710	Research Methodology I: Qualitative Research Methods	3
NURS 711	Research Methodology II: Quantitative Design	3
NURS 712	Research Methodology III: Nursing Measurement	3
NURS 714	Research Methodology IV: Analysis of Existing Data	3
NURS 725	Leadership and Health Policy for the Nurse Scientist	3

NURS 735	PhD Seminar I	1
NURS 736	PhD Seminar II	1
NURS 737	PhD Seminar III	1
NURS 738	PhD Seminar IV	1
	Advanced Statistics Courses	6
	Three Cognates	9
DOCT 600	Doctoral Candidacy**	2

**Prerequisite: Completion of course work and successful completion of qualifying exam.

Departmental Faculty

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RN**

Emerita

**Kay Roberts, EdD, FAAN,
FNP**

Emerita

Barbara Speck, PhD, RN

Emerita

Master of Science in Biostatistics-Decision Science

Major: BDSCMSBIO

Degree Awarded: MS

Unit: GH

Program Webpage: <http://louisville.edu/sphis/bb/academics>

Program Information

Biostatistics involves the development and application of statistical techniques to scientific research in health-related fields, including medicine, epidemiology, and public health. Students in the M.S. program will receive state-of-the-art training in the latest statistical methodologies in order to tackle the challenges associated with the study design and data analysis of modern research conducted in the health sciences.

Decision science (or formal decision analysis) is an emerging, cutting-edge discipline that provides researchers with additional tools with which to develop the clinical and healthcare policies and guidelines that affect public health.

The M.S. program in Biostatistics-Decision Science is in the Department of Bioinformatics and Biostatistics.

Competencies

To graduate, a student must be able to demonstrate mastery of the following competencies:

1. Read, interpret, and evaluate for optimality the biostatistics content of scientific and biomedical journal articles.
2. Analyze moderately complex research data using statistical methods involving common linear statistical models.
3. Manage data using spreadsheet and database software.
4. Use standard statistical and graphics computer packages including SAS, Microsoft Excel, and SPSS.
5. Keep abreast of statistical methods literature to evaluate and utilize new statistical methods.
6. Thoroughly understand the broad discipline of biostatistics, including its theoretic underpinnings, its history of development, current applications, and areas of active inquiry.
7. Understand advanced biostatistical operations.
8. Conduct independent research.
9. Advance the field of biostatistics through original research.
10. Read and critically evaluate decisions analyses published in the literature.
11. Understand and apply the concepts of public health and information sciences to clinical decision making and decision analysis.

12. Thoroughly understand the broad discipline of decision science including its theoretic underpinnings, its history of development, current applications, and areas of active inquiry.
13. Advance the field of decision science through original research.

Demonstration of competencies 1, 2, 3, 4, 5, 7, and 12 is achieved by successful completion of required coursework. Demonstration of competencies 6, 8-11, and 13 is achieved by successful development, execution, completion, and defense of the thesis.

Admission Requirements

Applicants are required to submit the following:

1. Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).
2. Non-refundable application fee.
3. At least two letters of recommendation written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>).
4. Submission of GRE scores to SIGS (85th percentile or better on Quantitative section is preferred).
5. All post-secondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).
6. Statement of goals submitted to the department office (must include desired academic and degree program).
7. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
8. A baccalaureate degree or its equivalent from an accredited institution is required for admission.
9. A minimum undergraduate grade point average of 2.75 is required for unconditional admission.
10. International students for whom English is not their primary language must show English language proficiency by one of:
 - Award of a degree from an accredited U.S. institution
 - Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test)
 - Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

Faculty Advisor

Upon admission to the M.S. program, each student is assigned to work with the director of the program. The director assumes the role of faculty advisor until the student chooses a thesis advisor at which point this responsibility shifts to the thesis advisor.

Program of Study

Upon admission to the M.S. program, a program of study is developed for each student by the faculty advisor and approved by the program director. Decisions regarding additional coursework are made by the faculty advisor, and such courses become part of the program of study. This approach gives maximum flexibility for addressing differing student qualifications and interests.

Degree Requirements

The M.S. biostatistics-decision science is a 36 credit-hour program including the thesis. Additional hours may be needed for completion of the concentration program.

Coursework

36 total credit-hours of required coursework

24 credit-hours of core coursework

3-6 credit-hours of concentration coursework

6-9 credit-hours of thesis research

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Fall I	PHEP-618	Epidemiologic Methods II	3
	PHST-661	Probability	3
	PHST-680	Biostatistical Methods I	3
	Semester Total		9

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Spring I	PHST-662	Mathematical Statistics	3
	PHST-681	Biostatistical Methods II	3
		Elective course	3
	Semester Total		9
Fall II	PHST-602	Biostatistics-Decision Science Seminar	1
	PHCI-624	Clinical Trials I	2
		Concentration course	3
		Concentration course	3
	Semester Total		9
Spring II	PHST-602	Biostatistics-Decision Science Seminar	1
	PHDA-603	Public Health Practicum I	2
		Concentration course(s)	6
	Semester Total		9

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Degree Total			36

Electives

An elective course must be chosen from the following list or as approved by student's faculty advisor.

<i>Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
MATH-566	Nonparametric Statistics	3
MATH-567	Sampling Techniques	3
MATH-568	Mathematical Models in Molecular Biology	3
MATH-667	Methods of Classification	3
PHBI-750	Statistical Methods for Bioinformatics	3
PHEH-500	Introduction to Environmental Health	3

Biostatistics Concentration

Coursework

<i>Biostatistics Concentration Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Fall II	PHST-683	Survival Analysis	3
	PHDA-666	Master's Thesis Research	3
	Semester Total		6

<i>Biostatistics Concentration Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Spring II	PHST-684	Categorical Data Analysis	3
	PHDA-666	Master's Thesis Research	3
	Semester Total		6
Concentration Total			12

Decision Science Concentration

Coursework

<i>Decision Science Concentration Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Fall II	PHDA-663	Analysis for Decision Making (cross-listed with IE-643)	3
	PHDA-666	Master's Thesis Research	3
	Semester Total		6
Spring II	PHDA-666	Master's Thesis Research	6
Concentration Total			12

Thesis

To successfully complete the M.S. degree, each student must successfully defend a master's thesis on a topic approved by his or her major professor and thesis committee.

Thesis Committee

Students choose a principal advisor (major professor) and at least two other committee members. One member of thesis committee must be from allied department in the university. The committee is appointed by the dean of the school upon the recommendation of the program director.

Thesis Preparation

The thesis is to be prepared in format and binding according to the guidelines established by the School of Interdisciplinary and Graduate Studies (SIGS).

Thesis Approval

The thesis is to be submitted in completed form to the chair of the thesis committee at least fifteen days before the end of the term in which the candidate expects to be graduated, and the candidate is not eligible for the final oral examination until the thesis has been accepted by the committee.

The thesis committee schedules an oral examination of the candidate, which all faculty and students of the department are invited to attend. This defense is scheduled at the convenience of the members of the thesis committee. The thesis is approved by a majority vote of the committee.

Thesis Distribution

One unbound copy of the thesis, signed by the thesis committee, must be deposited with SIGS before graduation. A copy of the final, signed thesis must also be deposited with the department office.

Departmental Faculty**Guy Brock, Ph.D.***Associate Professor***Somnath Datta, Ph.D.***Professor***Susmita Datta, Ph.D.***Professor***Jeremy Gaskins, Ph.D.***Assistant Professor***Maiying Kong, Ph.D.***Associate Professor***K.B. Kulasekera, Ph.D.***Professor and Chair***Doug Lorenz, Ph.D.***Assistant Professor*

Riten Mitra, Ph.D.
Assistant Professor

Shesh Rai, Ph.D.
Associate Professor

Dongfeng Wu, Ph.D.
Associate Professor

Doctor of Philosophy in Biostatistics-Decision Science

Major: BDSCPHDBIO

Degree Awarded: Ph.D.

Unit: GH

Program Webpage: <http://louisville.edu/sphis/bb/academics>

Program Information

Biostatistics involves the development and application of statistical techniques to scientific research in health-related fields, including medicine, epidemiology, and public health. Students in the Ph.D. program receive state-of-the-art training in the latest statistical methodology in order to tackle the challenges associated with the study design and data analysis of modern research conducted in the health sciences. The Ph.D. program provides advanced training in biostatistical theory and methods, with the goal of enabling the student to carry out original research. In addition, students may elect to train with an emphasis on decision science or on bioinformatics.

Biostatistics involves the development and application of statistical methods in research in health-related fields, including public health, medicine, dentistry, and nursing. This program is designed to train students in biostatistics for carrying our research in biomedical fields and in statistical methods used in biomedical research.

Decision science, or formal decision analysis, is an emerging, cutting edge discipline that provides researchers with additional tools with which to develop the clinical and health-care policies and guidelines that affect public health. The decision science emphasis goes beyond traditional decision science programs by providing a mathematically rigorous, interdisciplinary approach to decision-making that is capable of adapting to the ever-changing health care environment. The decision science emphasis provides advanced training in the theory and methods of formal decision analysis, with the goal of enabling students to carry out original research. The focus of is on training a well-qualified biostatistician to work within the specialized field of decision science.

Bioinformatics requires the development and application of statistical methods for many of the areas covered by the field, including genomics, proteomics, statistical genetics, and metabolomics. Current biomedical research technologies generate high volumes of data that require extension of existing statistical methodologies and development of new methodologies in order to extract important information regarding biological processes. The emphasis on bioinformatics is designed to fulfill the expanding need for biostatisticians with advanced training in this area. Students in the bioinformatics emphasis gain a basic understanding of molecular and cellular biology, genetics, and bioinformatics and an in-depth knowledge of statistical theory and methods. Graduates are able to carry out original statistical research in genomics, proteomics, metabolomics, and evolving areas of systems biology.

Students who complete the M.S. program in biostatistics with the Department of Bioinformatics and Biostatistics or who already possess the equivalent of an M.S. in statistics, biostatistics, decision science, or a related discipline may apply for admission to the Ph.D. program. The Ph.D. program in biostatistics is located in the Department of Bioinformatics and Biostatistics.

Competencies

To graduate, a student must be able to demonstrate mastery of the following competencies:

<i>Competency</i>	<i>Demonstration*</i>		
	<i>QE</i>	<i>SCP</i>	<i>Dsrt</i>
Read, interpret, and critically review the biostatistics content of scientific and biomedical journal articles	x		x
Analyze moderately complex research data using statistical methods involving common linear statistical models	x	x	
Analyze dichotomous, count, and time-to-event data using appropriate statistical methods, including logistic regression, log-linear models, Kaplan-Meier curves, and Cox proportional hazards models	x	x	
Assist researchers in planning research studies, proposing and evaluating statistical methods and computing power analyses		x	
Write statistical methods sections for grant proposals, clinical trial protocols, and journal articles	x		
Manage data using spreadsheet and database software	x		
Use standard statistical and graphics computer packages including SAS, R, and SPSS	x	x	x
Keep abreast of statistical methods literature to evaluate and utilize new statistical methods			x
Thoroughly understand the broad discipline of biostatistics, including its theoretic underpinnings, its history of development, current applications, and areas of active inquiry	x		x
Understand advanced biostatistical operations	x		x
Conduct independent research			x
Advance the field of biostatistics through original research			x

Students who elected to have an emphasis must demonstrate the following additional competencies, many of which represent specialization of competencies cited above:

<i>Additional Competency by Emphasis</i>	<i>Demonstration*</i>		
	<i>QE</i>	<i>SCP</i>	<i>Dsrt</i>
<i>Emphasis on Decision Science</i>			
Read and critically evaluate decision analyses published in the literature	x		x

<i>Additional Competency by Emphasis</i>	<i>Demonstration*</i>		
	<i>QE</i>	<i>SCP</i>	<i>Dsrt</i>
Provide consultation with researchers and decision makers about decision analysis methods, problems, and results		X	
Understand and apply the concepts of public health and information sciences to clinical decision making and decision analysis	X	X	
Communicate the results of decision analysis and other clinical research to decision makers, peers, and to the community through written and oral presentations and publications		X	
Thoroughly understand the broad discipline of decision science including its theoretical underpinnings, its history of development, current applications, and areas of active inquiry	X		X
Advance the field of decision science through original research			X
<i>Emphasis on Bioinformatics</i>			
Analyze high-throughput, biological data, such as microarrays, SNP chips, and mass spectrometer data, and understand the special statistical considerations that such data require	X	X	
Retrieve and leverage various types of biological information from online repositories	X	X	
Understand the basic biological principles that underlie our biological knowledge, and how the various forms of high-throughput data are used to address specific biological questions and expand our knowledge	X		X
Advance the field of statistics in bioinformatics through original research			X

*Key for demonstration (method): QE = Qualifying examinations

SCP = Statistical consulting practicum

Dsrt = Dissertation

The following are required for admission:

1. Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).
2. Non-refundable application fee.
3. At least two letters of recommendation written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>).
4. Submission of GRE scores to the School of Interdisciplinary and Graduate Studies (85th percentile or better on Quantitative section is preferred).
5. All post-secondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).

6. Statement of goals submitted to the department office (must include desired academic and degree program).
7. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
8. A baccalaureate degree or its equivalent from an accredited institution is required for admission.
9. A minimum undergraduate grade point average of 2.75 is required for unconditional admission.
10. International students for whom English is not their primary language must show English language proficiency by one of:
 - Award of a degree from an accredited U.S. institution
 - Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test)
 - Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

The curriculum consists of a minimum of 34 credit-hours of coursework and a doctoral dissertation. The student is eligible to sit for qualifying examinations upon completion of required coursework. Upon passing the qualifying examinations, the student enters candidacy to work on the dissertation. After the dissertation is submitted and approved, including an oral defense, the student is eligible to receive the Ph.D. degree in biostatistics.

Faculty Advisor

Upon admission to the Ph.D. program, each student is assigned to the graduate coordinator of the Ph.D. program for course advising. The graduate coordinator assumes the role of faculty advisor until the student chooses a dissertation advisor at which point this responsibility shifts to the dissertation advisor. If it becomes clear that a Ph.D. student will be working with a given faculty member prior to forming a dissertation committee, the student may request a change in course advisor by completing the form "Request to Change Academic Advisor."

Program of Study

Upon admission to the Ph.D. program, a program of study is developed for each student by the faculty advisor and approved by the program director and department chair. Students who did not complete the M.S. program in biostatistics with the Department of Bioinformatics and Biostatistics may be required to complete additional coursework normally offered in the M.S. program. Decisions regarding additional coursework are made by the student's assigned faculty advisor and such courses become part of the program of study. This approach gives maximum flexibility for addressing differing student qualifications and interests.

Degree Requirements

Completion of the coursework is the prelude to sitting for the qualifying examination. Successful completion of the qualifying examination allows the student to enter doctoral candidacy. A doctoral candidate must then develop and successfully defend a dissertation proposal that describes an original and independent research project. Upon successful defense of the proposal, a student may then proceed to continue dissertation research. Upon successful completion of the research, defense of the dissertation, and demonstration of the required competencies listed below, a student is awarded the Ph.D. degree.

The Ph.D. program in biostatistics is a 34 credit-hour program (minimum beyond a master's degree) including the dissertation. Additional hours may be needed for completion of the program.

Coursework

- 34 total credit-hours
- 25 credit-hours of required coursework
- 9 credit-hours of elective courses

Required Coursework			
Emphasis (if any)	Course #	Course Title	Credit-Hours
All	PHST-710	Advanced Statistical Computing I	3
	PHST-762	Advanced Statistical Inference	3
	PHST-781	Advanced Linear Models	3
	various	Electives	9
	PHST-703	Doctoral Practicum in Consulting	1
	Subtotal		
No emphasis	PHST-691	Bayesian Statistics	3
	PHST-724	Advanced Clinical Trials	3
	PHST-780	Advanced Nonparametrics	3
	PHST-782	Generalized Linear Models	3
	PHST-783	Advanced Survival Analysis	3
	Subtotal		
Emphasis on decision science	PHDA-690	Utility Theory and Assessment	3
	PHST-691	Bayesian Statistics	3
	PHDA-701	Advanced Medical Decision Making	3
	PHDA-663	Decision Analysis	3
	PHDA-705	Statistical Methods for Cost-Effectiveness Analysis	3
	Subtotal		

<i>Required Coursework</i>			
<i>Emphasis (if any)</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Emphasis on bioinformatics	PHBI-751	High-Throughput Data Analysis	3
	CECS-660	Introduction to Bioinformatics	3
	BIOC-545 -OR- MBIO-667	Advanced Biochemistry I Graduate Cell Biology	3 3
	PHBI-750	Statistics for Bioinformatics	3
	PHBI-752	Statistical Genetics	3
	Subtotal		15
	Degree Total		

The student may be required to take one or more prerequisite courses for a required course if the student does not meet the prerequisites. These prerequisite courses become part of the program of study but are in addition to the number of coursework credit-hours presented above.

Electives

The student must take electives from the following list. The student's program of study specifies the particular courses to be taken.

<i>Electives</i>					
<i>Emphasis*</i>			<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
<i>--</i>	<i>D</i>	<i>B</i>			
x	x		PHBI-750	Statistics for Bioinformatics	3
x	x		PHBI-751	High-Throughput Data Analysis	3
x	x	x	PHST-682	Multivariate Analysis	3
x	x	x	PHST-711	Advanced Statistical Computing II	3
x	x	x	PHST-725	Design of Experiments	3
x	x	x	PHST-785	Nonlinear Regression	3
x	x	x	PHST-675	Independent Study in Biostatistics	1-3
x	x		PHBI-752	Statistical Genetics	3
x			PHDA-705	Statistical Methods for Cost-Effectiveness Analysis	3
	x		PHST-724	Advanced Clinical Trials	3
	x	x	PHST-782	Generalized Linear Models	3
		x	PHST-691	Bayesian Statistics	3
		x	PHST-780	Advanced Nonparametrics	3
x	x	x	PHST-704	Mixed Effect Models and Longitudinal Data Analysis	3

<i>Electives</i>					
<i>Emphasis*</i>			<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
<i>--</i>	<i>D</i>	<i>B</i>			
		x	CECS-632	Data Mining	3

*Key for emphasis: -- = no emphasis

D = emphasis on decision science

B = emphasis on bioinformatics

The student may be required to take one or more prerequisite courses for an elective course if the student does not meet the prerequisites. These prerequisite courses become part of the program of study but are in addition to the number of coursework credit-hours presented above.

Qualifying Examination

Upon completion of the required coursework for the Ph.D. degree, a student is eligible to sit for the doctoral qualifying examinations. Each student must take two qualifying exams.

Exam 1 covers the following topics:

Statistical inference

Linear models

Exam 2 covers the following topics, depending on the student's emphasis, if any:

No emphasis

Student choice of any two of the following:

- Statistical computing
- Clinical trials
- Generalized linear models
- Survival analysis

Emphasis on decision Science

Utility theory, assessment, and medical decision making

Student choice of one of the following:

- Bayesian analysis
- Cost-effectiveness analysis

Emphasis on bioinformatics

Statistical methods in bioinformatics (including high-throughput methods) and statistical genetics

Student choice of one of the following:

- Bayesian analysis
- Statistical computing

Dissertation

In order to complete the degree, a candidate must submit and successfully defend a dissertation on a topic approved by his or her major professor and the dissertation committee. Dissertation work may be started following successful completion of doctoral qualifying examinations.

Dissertation Committee

The dissertation committee is formed by the candidate's proposing a major professor (or principal advisor) and at least three other committee members. One member of the dissertation committee must be external to the Department of Bioinformatics and Biostatistics. The committee is appointed by the dean of the school upon the recommendation of the program director and chair of the department.

Dissertation Proposal (Pre-Dissertation Essay)

A dissertation proposal or pre-dissertation essay is submitted to the major professor and the dissertation committee. The proposal must be approved by a majority vote of the dissertation committee before the candidate undertakes further work on the dissertation.

The dissertation proposal is a typed document not exceeding 25 pages in length excluding topics (v) to (viii), below. The following formatting is used: Times New Roman 12-point font, margins of 1 inch on all sides and 1.5-line spacing throughout the body of the document. The School of Interdisciplinary and Graduate Studies dissertation guidelines for citing references must be followed. The document is divided into the following sections and in the following sequence:

- i. Introduction and Literature Reviews – general introduction to the area of proposed research and relevant literature reviews
- ii. Specific Aims and Significance – short section describing the specific aims of the proposed research and their potential importance in the field
- iii. Preliminary Results – summary of the research findings the student already has (e.g., simulation results) towards one or more of the specific aims. This is an important component of the proposal that demonstrates the feasibility of the proposed research by the student.
- iv. Research Plan – detailed description of the research towards the specific aims to be undertaken during the rest of the doctoral study period
- v. References – complete references to all the cited literature. Journal names should not be abbreviated
- vi. Tables – including table headings
- vii. Figures – one figure per page
- viii. Appendix – copies (in PDF format) of published articles and preprints that are most relevant to the proposed research

Dissertation Preparation

The dissertation is to be prepared in format and binding according to the guidelines established by the School of Interdisciplinary and Graduate Studies.

Dissertation Approval

The dissertation is submitted in completed form to the dissertation committee at least thirty days before the end of the term in which the candidate expects to be graduated. A candidate is not eligible for the final oral examination until the dissertation has been accepted by the committee.

The dissertation committee schedules an oral examination of the candidate. All faculty and students of the school are invited to attend the presentation portion. The defense is scheduled at the convenience of the members of the dissertation committee. The dissertation must be approved by the full committee.

Dissertation Distribution

One unbound copy of the dissertation, signed by the dissertation committee members, must be deposited with the School of Interdisciplinary and Graduate Studies before graduation. A copy of the final, signed dissertation must also be deposited with the department office.

Departmental Faculty**Guy Brock, Ph.D.***Associate Professor***Somnath Datta, Ph.D.***Professor***Susmita Datta, Ph.D.***Professor***Jeremy Gaskins, Ph.D.***Assistant Professor***Maiying Kong, Ph.D.***Associate Professor***K.B. Kulasekera, Ph.D.***Professor and Chair***Doug Lorenz, Ph.D.***Assistant Professor***Riten Mitra, Ph.D.***Assistant Professor***Shesh Rai, Ph.D.***Associate Professor***Dongfeng Wu, Ph.D.***Associate Professor*

Master of Science in Epidemiology

Major: EPIDMSE

Degree Awarded: MS

Unit: GH

Program Webpage: <http://louisville.edu/sphis/deph>

Program Information

The M.S. program in Epidemiology is designed to prepare students for the Ph.D. program in Public Health Sciences with a concentration in epidemiology. The M.S. in epidemiology is offered by the Department of Epidemiology and Population Health.

Eligibility for the M.S. program in Epidemiology

Students with a prior baccalaureate or more advanced degree in an appropriate field of study, from a regionally accredited university or college will be eligible for the M.S. program in Epidemiology. Previous coursework in mathematics and/or statistics and biological or health sciences (for example, biology, biochemistry, anatomy, physiology, microbiology) is strongly recommended. Applicants who are judged to not have sufficient prior coursework or experience in these areas may be required to take additional coursework.

The following are additionally required for admission:

Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).

Non-refundable application fee.

1. At least two letters of recommendation on letterhead written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>).
2. Official GRE scores taken within the past five years. Score greater than the 50th percentile on each of the quantitative and verbal sections is recommended.
3. All postsecondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).
4. Statement of goals submitted to the department office (must include desired academic and degree program).
5. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
6. A baccalaureate degree or its equivalent from an accredited institution is required for admission.
7. A minimum undergraduate grade point average of 3.0 is required

8. International students for whom English is not their primary language must show English language proficiency by one of:
- * Award of a degree from an accredited U.S. institution
 - * Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test) - score must be in at least the 60th percentile
 - * Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

The program is designed as a two-year program of coursework and thesis research and preparation. The student is expected to develop and plan his or her thesis research prior to the final semester in which the majority of the actual research is done.

Faculty Advisor

Upon admission to the M.S. program, each student is assigned a faculty advisor by the department chair or program director. Students and/or advisors who wish to change their assigned relationship must make a written request to the department chair or program director.

Program of Study

The student and his or her faculty advisor work together to develop a program of study that recognizes the student's research interests and core elements of modern epidemiology and its breadth and multidisciplinary nature.

Degree Requirements

Degree requirements include required coursework in epidemiology, elective coursework in biostatistics and in public health sciences, and a thesis.

Coursework

38 total credit-hours:

- 20 credit-hours of required coursework
- 6 credit-hours of elective coursework in biostatistics
- 6 credit-hours of elective coursework in public health
- 6 credit-hours of thesis research

Required Coursework			
Semester	Course #	Course Title	Credit Hours
Fall I	PHEP-618	Epidemiologic Methods II	3
	PHEP-619	Biology of Disease in Populations	3
	PHEP-648	Data Management and Analysis for Epidemiology I	1
	PHxx-xxx	Elective course	3
	Semester Total		
Spring I	PHEP-702	Epidemiologic Research Management I	3
	PHEP-701	Advanced Epidemiologic Methods	3
	PHEP-649	Data Management and Analysis for Epidemiology II	1
	PHxx-xxx	Elective course	3
	Semester Total		
Fall II	PHEP-xxx	Epidemiology elective course	3
	PHxx-xxx	Elective course	3
	PHEP-666	Thesis Research in Epidemiology	3
	Semester Total		
Spring II	PHxx-xxx	Elective course	3
	PHEP-666	Thesis Research in Epidemiology	6
	Semester Total		
Degree Total			38

Electives

Program requirements include one elective course in epidemiology and four in a public health area. Elective courses can be selected from offerings within SPHIS with instructor and program permission. Elective courses in epidemiology (PHEP) and biostatistics (PHST) are strongly encouraged.

Selection of electives for both requirements is done by the student and his or her faculty advisor with approval of the program director or chair of the department.

Students may petition to take courses not on these lists with approval of the instructor, the student's faculty advisor, and the program director or chair of the department or his or her designee.

<i>Approved Public Health Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
PHEP-606	Genetic and Molecular Epidemiology	3
PHEP-611	Nutritional Epidemiology	3
PHEP-612	Epidemiology and Bioterrorism	3

<i>Approved Public Health Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
PHEP-613	Epidemiology of Aging	3
PHEP-615	Epidemiology of Maternal and Child Health	3
PHCI-671	Preventive Medicine I	3
PHCI-672	Preventive Medicine II	3
PHCI-605	Survey Research Methods	3
PHCI-611	Introduction to Clinical Epidemiology	3
PHEH-650	Adv Topics in Environmental and Occupational Health	3
PHPB-650	Adv Topics in Health Promotion and Behavioral Sciences	3
PHMS-650	Adv Topics in Health Management and Systems Sciences	3
PHST-624	Clinical Trials I	3
PHST-650	Advanced Topics in Biostatistics	3
PHST-680	Biostatistical Methods I	3
PHST-681	Biostatistical Methods II	3
PHST-661	Probability	3
PHST-662	Mathematical Statistics	3
PHST-683	Survival Analysis	3
PHST-684	Categorical Data Analysis	3
PHST-682	Multivariate Analysis	3

<i>Approved Epidemiology Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
PHEP-606	Genetic and Molecular Epidemiology	3
PHEP-611	Nutritional Epidemiology	3
PHEP-612	Epidemiology and Bioterrorism	3
PHEP-613	Epidemiology of Aging	3
PHEP-615	Epidemiology of Maternal and Child Health	3

Thesis

A thesis is required of a candidate for the degree of Master of Science in Epidemiology. It is to be an original work of professional quality and the basis for one or more potentially publishable papers.

Departmental Faculty

Kathy B. Baumgartner,
Ph.D.
Associate Professor
Richard N. Baumgartner,
Ph.D.
Professor and Chair

Frank Groves, M.D.
Assistant Professor
Richard A. Kerber, Ph.D.
Associate Professor
Susan B. Muldoon, Ph.D.,
MPH
Assistant Professor

Elizabeth O'Brien, Ph.D.
Assistant Professor
Kira Taylor, Ph.D.
Assistant Professor
Kristina Zierold, Ph.D.
Assistant Professor

Doctor of Philosophy in Public Health Sciences

Major: PHSCPHDENV

Degree Awarded: Ph.D.

Unit: GH

Program Webpage: <http://louisville.edu/sphis/academics/academics.html>

Program Information

Introduction

The School of Public Health and Information Sciences offers a doctor of philosophy degree in Public Health Sciences with concentrations in the following areas:

- Environmental Health
- Epidemiology
- Health Management
- Health Promotion

The following are general admission requirements. Additional requirements may be outlined within each concentration.

1. Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).
2. Non-refundable application fee.
3. At least two letters of recommendation written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>).
4. Submission of GRE score to SIGS (no minimum score required).
5. All postsecondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).
6. Statement of goals submitted to the department office (must include desired academic and degree program).
7. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
8. A baccalaureate degree or its equivalent from an accredited institution is required for admission.
9. A minimum undergraduate grade point average of 2.75 is required for unconditional admission.
10. International students for whom English is not their primary language must show English language proficiency by one of:
 - Award of a degree from an accredited U.S. institution

- Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test)

- Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

Introduction

The concentration in environmental health for the Ph.D. in public health sciences is designed to provide scholars with the tools to conduct in-depth research and provide advanced instruction in the discipline of environmental health at the college and university level. It also prepares researchers for governmental, private, and voluntary organizations involved in environmental protection and the prevention of disease and injury. In addition to understanding advanced concepts of environmental health, industrial hygiene, and toxicology, graduates of this concentration are expected to develop skills that enable them to identify and define questions of environmental and occupational health importance, design research studies to address these questions, and to complete a program of research that demonstrates abilities as an independent investigator.

The Ph.D. concentration in environmental health is in the Department of Environmental and Occupational Health and is part of the Ph.D. program in public health sciences in the School of Public Health and Information Sciences.

Admission

An applicant who has satisfactorily completed an appropriate M.S. degree or MPH with a concentration in environmental health is eligible for admission to the Ph.D. concentration in environmental health. An applicant with an advanced degree (M.D., Ph.D., D.O.) may also be accepted pending evaluation of appropriate training, experience, or coursework. The previous graduate work by such an applicant is reviewed on a case-by-case basis, and the applicant, if admitted, may be required to take additional course work prior to completing the minimum 34 credit-hours required for post-master's doctoral work.

The following are additionally required for admission:

Undergraduate and Graduate GPA > 3.0 on 4.0 scale

Minimum GRE > 500 Verbal; > 600 Quantitative

If applicable, Test of English as a Foreign Language (TOEFL) score > 60th percentile

Faculty Advisor

Upon admission to the Ph.D. concentration, each student is assigned a faculty advisor who works with the student to develop a program of study. The program of study recognizes core elements of environmental health as well as its breadth and multidisciplinary nature. At the Ph.D. level,

this requires the selection of courses directly relevant to environmental health, such as biostatistics, epidemiology, molecular genetics, behavioral science, health policy/management, systems sciences, or other relevant areas of study.

Program of Study

Each doctoral student, in consultation with his or her academic advisor and the department chair, plans a program of study that uniquely fits the student's career goals. The design of a doctoral program of study that reflects each student's professional skills and research interest is the primary organizing principle of the proposed program.

Degree Requirements

The emphasis in doctoral training goes beyond accumulating course credit. Completion of the coursework is the prelude to sitting for the qualifying examination. Successful passage of the qualifying examination allows the student to enter doctoral candidacy. A doctoral candidate must then successfully develop and defend a dissertation proposal that describes an original and independent research project. Upon successful defense of the proposal, a student may then proceed to dissertation research. Upon successful completion of the research, defense of the dissertation, and demonstration of the required competencies listed below, a student is awarded the Ph.D. degree.

The Ph.D. concentration in environmental health is designed as a 37 credit-hour program (minimum beyond a master's degree) including the dissertation. Additional hours may be needed for completion of the concentration program.

Coursework

37 total credit-hours

34 credit-hours of required coursework

3 credit-hours of environmental health seminars

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
Fall I	PHST-620	Introduction to Statistical Computing	3
	PHEP-602	Epidemiological Methods	3
	BIOC-668	Molecular Biology	4
	Semester Total		10

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
Spring I	PHEP-620	Environmental and Occupational Epidemiology	3
	MBIO-658	Cellular and Molecular Immunology	3
		Elective course	3
	PHEH-750	Seminar 1 in Environmental and Occupational Health	1
	Semester Total		
Summer I	PHEH-751	Seminar 2 in Environmental and Occupational Health	1
		Elective course	3
		Elective course	3
	Semester Total		
Fall II	PHTX-661	Molecular Mechanisms in Toxicology	3
	PHEH-601	Environmental Risk Assessment	3
		Elective course	3
	PHEH-752	Seminar 3 in Environmental and Occupational Health	1
	Semester Total		
Degree Total			37

PHEH-750, -751, -752 Seminars in Environmental and Occupational Health

A student in the Ph.D. concentration in environmental health is required to complete the three seminars in environmental and occupational health (PHEH-750, -751, and -752) for a total of 3 credit-hours. These group courses are jointly taught by the faculty of the department and are designed to provide a collegial experience that provides an opportunity to integrate learning from other courses, discuss hot topics, brain-storm about research ideas, and acquire professional skills in scientific manuscript and grant writing, oral and poster presentations, grantsmanship, and peer review.

Electives

As a part of the approved program of study, a student has the option to select nine credit-hours of elective coursework. Courses directly relevant to environmental health are preferred, including, but not limited to, biostatistics, bioinformatics, epidemiology, medical geography, molecular or population genetics, toxicology, microbiology, health services research, outcomes research, and health promotion and behavior. Courses may be selected from those offered within the School of Public Health and Information Sciences, other departments within the university, or from sources outside the university with permission and acceptance of credit by the program and dean.

Because the needs vary by research topic for which specific research methods and statistics skills, requirements in these area are difficult to define explicitly for all students. The student's program of study utilizes electives to provide the student with the courses needed in his or her particular case.

A student may petition to take courses not on this list with approval of the instructor and the chair of the department. The student must provide a written rationale for the choices of elective coursework in his or her program of study.

<i>Approved Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHEH-753	Independent Study in Environmental and Occupational Health	1-3
PHST-650	Advanced Topics in Biostatistics	3
PHST-680	Biostatistical Methods I	3
PHST-681	Biostatistical Methods II	3
PHPB-650	Advanced Topics in Health Promotion and Behavioral Sciences	3
PHMS-650	Advanced Topics in Health Management and Systems Sciences	3
GEOG-657	Geographic Information Systems	3
GEOG-656	Spatial Statistics	3
PHTX-601	Principles of Medical Pharmacology	3
PHTX-630	Toxicology: Principles and Application	3
PHTX-618	Topics in Pharmacology & Toxicology	3
PHTX-607	Seminar in Genetics and Molecular Medicine	3
BIOC-611	Biochemical and Molecular Methods	3
BIOC-640	Principles of Biochemistry	3
BIOC-670	Protein Structure and Function	3

<i>Approved Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
BIOC-660	Molecular Endocrinology	3
BIOC-641	Advanced Eukaryotic Genetics	3
BIOC-668	Molecular Biology	3
BIOC-675	Cancer Biology	3
BIOL-522	Aquatic Ecology	3
BIOL-563	Population and Community Ecology	3
BIOL-562	Ecosystem Ecology	3
BIOL-584	Interdisciplinary Frameworks in Environmental Science and Technology	3
BIOL-608	Ecological Instrumentation	3
BIOL-660	Advanced Ecology of Urban and Suburban Landscapes	3
BIOL-657	Advanced Industrial and Food Microbiology	3
CEE-509	Environmental Processes and Systems	3
CEE-534	Industrial Waste Management	3
CEE-535	Solid Waste Management	3
CEE-574	Water and Wastewater Treatment	3
CEE-581	Environmental Impact Analysis	3
CEE-674	Water Resources Systems	3
CEE-675	Surface Water Quality Modeling	3
CHE-509	Environmental Processes and Systems	3
CHE-533	Chemical Engineering Safety and Health	3
CHE-534	Industrial Waste Management	3
CHE-535	Pollution Prevention	3
EXP-600	Physiology of Exercise	3
EXP-605	Human Physiology	3
GEOG-522	GIS and Public Health	3
GEOG-531	GIS and Urban Demographic Analysis	3
GEOG-561	Urban Environmental Quality	3
GEOS-564	Hydrology	3
GEOS-565	Natural Hazards	3

<i>Approved Electives</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
MBIO-601	Molecular Microbiology (Introductory to Infectious Diseases)	3
MBIO-602	Introduction to Immunology	3
MBIO-670	Molecular Virology	3
MBIO-685	Microbial Physiology	3
MBIO-687	Microbial Pathogenesis	3
MBIO-618	Topics in Advanced Microbiology	3
MBIO-680	Genetics of Infectious Diseases	3
MBIO-667	Cell Biology	3
PHZB-605	Systemic Physiology I	3
PHZB-611	Advanced Human Physiology	3
IE-530	Industrial Safety Engineering	3
UPA-678	Land Use and Planning Law	3
UPA-679	Environmental Policy	3
UPA-687	Environmental Policy and Natural Hazards	3

Qualifying Examination

Upon completion of the majority of the required coursework for the Ph.D., the student is eligible to sit for the doctoral qualifying examination. The timing and eligibility for the qualifying examination is determined by the student's faculty advisor and department chair. Successful completion of the examination admits the student to doctoral candidacy. A student who does not successfully complete the exam may be required to take additional or remedial coursework and is allowed one opportunity to retake the exam.

Dissertation

A dissertation is required of a candidate for the degree of doctor of philosophy in public health sciences with a concentration in environmental health. It is to be a scholarly achievement in research, and should demonstrate a thorough understanding of research techniques in environmental health and the ability to conduct independent research.

Doctor of Philosophy (Ph.D.) in Public Health Sciences Concentration in Epidemiology

Introduction

The concentration in epidemiology in the Ph.D. program in public health sciences is designed to develop academic researchers in population-based epidemiology.

Admission

Students who have satisfactorily completed the M.S. degree in epidemiology are eligible for the Ph.D. concentration in epidemiology. Students with a master's degree in a related discipline or an advanced degree (for example, M.D., Ph.D., D.O.) may be accepted also pending evaluation of appropriate training, experience, and coursework. Previous coursework in mathematics and/or statistics and biological or health sciences (for example, biology, biochemistry, anatomy, physiology, microbiology) is strongly recommended. Students completing the M.Sc. in clinical investigation sciences or MPH with an epidemiology concentration may be required to complete additional coursework to be accepted into the epidemiology Ph.D. concentration.

Faculty Advisor

Upon admission to the concentration, each student is assigned a faculty advisor who works with the student to develop a program of study.

Program of Study

The program of study recognizes core elements of modern epidemiology as well as its breadth and multidisciplinary nature. This requires the selection of a minor field of concentration, such as biostatistics, environmental science, molecular genetics, behavioral science, health management and systems sciences, clinical research, or another relevant area of study, and the completion of at least 6 credit-hours of coursework in this field.

Degree Requirements

The emphasis in doctoral training goes beyond accumulating course credit. The coursework is organized into two blocks of 24 credit-hours each. Completion of the first block of coursework is prerequisite for sitting for the proficiency examination. After passing the proficiency examination, the student can proceed with the second block of coursework. Successful completion of the second block is prerequisite to sitting for the candidacy examination. After passing the candidacy examination, the student is admitted to doctoral candidacy. A doctoral

candidate must then successfully develop and defend a dissertation proposal that describes an original and independent research project. Upon successful defense of the proposal, the student may then proceed to dissertation research. Upon successful completion of the research, oral defense of the dissertation, and demonstration of the required competencies listed above, the student is awarded the Ph.D. degree.

The Ph.D. concentration in epidemiology is designed to consist of 50 credit-hours of coursework over a minimum of two years plus one to four years for completion of the dissertation. The coursework outlined below represents an ideal sequence for a full-time student. A part-time student may need to deviate from this sequence. As part of the first block, a student is expected to complete required courses in basic and advanced epidemiologic methods that cover core areas including study design, research management, and statistical analysis; the survey course in disease biology and pathophysiology; and a minimum of 6 credit-hours of epidemiology seminars. The student must pass the proficiency examination before proceeding to minor electives and individual studies in the second block, which must include an additional 3 credit-hours of epidemiology seminars. Exceptions may be granted upon approval by the student's advisor and the department chair.

Coursework

50 total credit hours (beyond admission requirements) consisting of the following:

- 11 credit-hours of required courses
- 9 credit-hours of seminars in epidemiology
- 18-21 credit hours of epidemiology and biostatistics electives
- 6 credit hours of minor electives (outside of epidemiology)
- 3-6 credit-hours of mentored readings and research in epidemiology

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
Block 1			
Fall I	PHEP-618	Epidemiologic Methods II	3
	-OR-	-OR if already taken -	
	PHEP-xxx	Epidemiology elective	
	PHEP-648	Data Management and Analysis for Epidemiology I ^{B1}	1
	PHEP-619	Biology of Disease in Populations ^{B1}	3

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
	PHEP-xxx	Epidemiology elective	3
	-OR-	-OR-	
	PHST-xxx	Biostatistics elective	
	PHEP-750	Seminars in Epidemiology ^{B1}	3
	Semester total		13
Block 1			
Spring I	PHEP-701	Advanced Epidemiologic Methods ^{B1}	3
	PHEP-649	Data Management and Analysis for Epidemiology II ^{B1}	1
	PHEP-702	Epidemiologic Research Management ^{B1}	3
	PHEP-xxx	Epidemiology elective	3
	-OR-	-OR-	
	PHST-xxx	Biostatistics elective	
	PHEP-750	Seminars in Epidemiology ^{B1}	3
Semester total		13	
Block 1 total			26
Block 2			
Fall II	PHEP-xxx	Epidemiology elective	3
	PHEP-xxx	Epidemiology elective	3
	-OR-	-OR-	
	various	Minor elective	
	various	Minor elective	3
PHEP-750	Seminars in Epidemiology ^{B2}	3	

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
	Semester total		12
Spring II	PHEP-xxx	Epidemiology elective	3
	Two of: PHEP- xxx various PHEP- 778	Two of: Epidemiology elective Minor Elective Readings and Research in Epidemiology	6 (3 each)
	PHEP-778	Readings and Research in Epidemiology ^{B2}	3
	Semester total		12
Block 2 Total			24
Degree Total			50

Key: ^{B1} = required in Block 1

^{B2} = required in Block 2

Minor Elective Requirement

As a part of the approved program of study, the student is required to complete 6 credit-hours of coursework in a minor field of concentration. Areas directly relevant to the science of epidemiology are preferred, including, but not limited to, biostatistics, bioinformatics, medical geography, molecular or population genetics, environmental health, toxicology, microbiology, health management, health promotion and behavioral science, and clinical research. These courses may be selected from ones offered within the school, other departments within the university, or from sources outside the university with permission and acceptance of credit by the school and university.

Minor courses should be chosen by the student in consultation with his or her advisor and the respective course directors. Students may petition to take courses not on this list with approval of

the instructor, program director, and the chair of the Department of Epidemiology and Population Health. The student must provide a written rationale for the choice of minor coursework in the program of study. The following is a partial list of approved minor courses. Some courses may have prerequisites, and the student is expected to either meet these or obtain permission from the instructor before registering.

<i>Approved Electives for Minor Requirement</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
BIOC-641	Advanced Eukaryotic Genetics	3
BIOC-660	Molecular Endocrinology	3
BIOC 661	Molecular Mechanisms of Toxicology (cross-listed as PHTX-661)	3
BIOC-668	Molecular Biology	3
BIOC-675	Cancer Biology	3
EXP-600	Physiology of Exercise	3
EXP-605	Human Physiology	3
GEOG-656	Spatial Statistics	3
GEOG-657	Geographic Information Systems	3
MBIO-687	Microbial Pathogenesis	3
MBIO-618	Topics in Advanced Microbiology	3
MBIO-680	Genetics of Infectious Diseases	3
NURS-670	Cancer Epidemiology and Pathophysiology	3
PHBI-750	Statistical Methods for Bioinformatics	3
PHBI-751	High-throughput Data Analysis	3
PHCI-501	Bench to Bedside	1
PHCI-602	Health Services and Outcomes Research	2
PHCI-610	New Drug and Device Development	2
PHCI-624	Clinical Trials I: Planning and Design	2
PHCI-625	Clinical Trials II	2
PHCI-632	Ethical Conduct of Healthcare Research	2
PHCI-650	Medical Decision Analysis	2
PHEH-650	Advanced Topics in Environmental and Occupational Health	3

<i>Approved Electives for Minor Requirement</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHMS-650	Advanced Topics in Health Management and Systems Science	3
PHPB-650	Advanced Topics in Health Promotion and Behavioral Science	1-3
PHST-650	Advanced Topics in Biostatistics	3
PHST-680	Biostatistical Methods I	3
PHST-681	Biostatistical Methods II	3
PHST-661	Probability	3
PHST-662	Mathematical Statistics	3
PHST-683	Survival Analysis	3
PHST-682	Multivariate Analysis	3
PHST-684	Categorical Data Analysis	3
PHST-785	Nonlinear Regression	3
PHTX-607	Seminar in Genetics and Molecular Medicine	3
PHTX-618	Topics in Pharmacology & Toxicology	3
PHTX-630	Toxicology: Principles and Application	3
PHTX-661	Molecular Mechanisms of Toxicology (cross-listed as BIOC 661)	3
PHZB-605	Systemic Physiology I	3
PHZB-611	Advanced Human Physiology	3

Proficiency Examination

Upon successful completion of the first block of required coursework, the student is eligible to sit for the written proficiency examination, which is administered by a committee of departmental faculty appointed by the chair. The timing of the proficiency examination is determined by the student's faculty advisor and the department chair. The subject matter includes basic knowledge of disease biology and pathophysiology; theory and skills in epidemiologic research methods, including study design and management; and quantitative analytic methods. A student who does not successfully pass the proficiency examination is allowed a second opportunity to pass the exam. Failing the proficiency examination the second time results in dismissal from the program.

Candidacy Examination

After passing the proficiency examination and upon completion of the second block of coursework, the student is eligible to sit for the written and oral candidacy examination, which is administered by a committee appointed by the department chair and composed of graduate faculty. The subject matter includes knowledge of advanced epidemiologic methods; specialized knowledge pertaining to the minor field of concentration; disease biology and pathophysiology, which may be tailored to the student's special area of interest; and knowledge of the research process. Successful passage of the candidacy examination admits the student to doctoral candidacy. A student who does not successfully pass the candidacy examination may be required to take additional or remedial coursework and is allowed a second opportunity to pass the exam. Failing the candidacy examination the second time results in dismissal from the program.

Dissertation

A dissertation is required of every candidate for the degree of doctor of philosophy in public health sciences with a concentration in epidemiology. The dissertation is a scholarly achievement in research and presents an original contribution to knowledge and should demonstrate a thorough understanding of research techniques in epidemiology and the ability to conduct independent research. The following sections summarize the basic requirements for the dissertation committee, dissertation proposal, and defense. Additional details are available in the department's document "Student Advising, Thesis and Dissertation Committees."

**Doctor of Philosophy (Ph.D.) in Public Health Sciences
Concentration in Health Management****Introduction**

The Ph.D. concentration in health management in the Department of Health Management and Systems Sciences is in the Ph.D. program in Public Health Sciences in the University of Louisville's School of Public Health and Information Sciences.

The concentration in health management is designed to prepare graduates for careers as researchers, teachers and practitioners, involved in the efforts to protect and promote the health and well-being of communities and populations. It provides graduates with the knowledge and skills necessary to attain academic positions involving scholarly research and instruction in the disciplines of public health management and key policy and management positions in governmental as well as private and voluntary organizations. In addition to an in depth

understanding of the infrastructure and context of public health management, graduates of this concentration are expected to be able to identify issues and questions of importance with regard to the management of the resources of public health and to design and carry out a program of research designed to address these issues and questions. Graduates should be able to demonstrate abilities as an independent investigator as well as a team collaborator.

Admission

An applicant who has satisfactorily completed a master of public health degree, or another relevant master degree or a health professional degree is considered for admission to the health management concentration. Applicants already holding an advanced degree are evaluated on the basis of appropriateness of previous coursework, training and experience. The graduate work by such applicants is reviewed on a case-by-case basis, and the applicant, if admitted, may be required to take additional course work prior to completing the minimum 48 credit hours required for post-master's doctoral work.

The minimum required documentation for full admission must include:

- Official transcript for each degree
- Official GRE score
 - If applicant has no degree from accredited US institution, then only the GRE is acceptable
 - Requirement is waived if applicant has doctoral degree.
- Three (3) letters of recommendation from individuals who have direct knowledge and experience with the applicant's academic or professional work experience.
- Official TOEFL score if applicant's native language is not English and applicant has no degree from accredited U.S. institution.
- Foreign credential evaluation for each degree not from an accredited U.S. institution

The following are recommended criteria for admission:

Undergraduate and graduate GPA each ≥ 3.0 on 4.0 scale

GRE performance in 50th percentile or above for verbal and quantitative scores (Comparable scores on the MCAT or DAT are considered.)

If applicable, Test of English as a Foreign Language (TOEFL) score in 60th percentile or above

Curriculum

Each doctoral student, in consultation with his or her academic advisor, program director, and department chair, plans a course of study that uniquely fits the student's career goals. The design of a doctoral program of study that reflects each student's professional skills and research interest is the primary organizing principle of the proposed program.

The emphasis in doctoral training goes beyond accumulating course credit. Completion of the coursework is the prelude to sitting for the qualifying examination. Successful passage of this qualifying examination allows the student to enter candidacy. A doctoral candidate must then successfully develop and defend a dissertation proposal that describes an original and independent research project. Upon successful defense of the proposal, a student then proceeds to dissertation research. Upon successful completion of the research, defense of the dissertation, and demonstration of the required competencies listed below, a student is awarded the Ph.D. degree.

The Ph.D. concentration in health management is designed as a 48 credit-hour program (minimum beyond a master's degree) and the dissertation. Depending on the student's previous educational experience, additional hours may be needed for completion of the concentration program.

Faculty Advisor

Upon admission to the Ph.D. concentration, each student is assigned a faculty advisor who works with the student to develop a program of study.

Program of Study

The program of study incorporates a foundation of core courses intricate to health management as well as addresses its multidisciplinary nature. At the Ph.D. level, this requires the selection of courses directly relevant to health management, such as organizational theory, management and administrative processes, health policy, leadership, systems and network sciences, and another area of study related to providing in depth knowledge related to effectively managing the resources necessary to carrying out the mission of protecting and improving public health. The importance of understanding the contributions of the emerging field of complexity and network

sciences, as it relates to public health management, is a focal point of emphasis within the Ph.D. concentration.

Degree Requirements

The emphasis in doctoral training goes beyond accumulating course credit. Completion of the coursework is the prelude to sitting for the qualifying examination. Successful passage of the qualifying examination allows the student to enter doctoral candidacy. A doctoral candidate must then successfully develop and defend a dissertation proposal that describes an original and independent research project. Upon successful defense of the proposal, a student may then proceed to dissertation research. Upon successful completion of the research, defense of the dissertation, and demonstration of the required competencies listed below, a student is awarded the Ph.D. degree.

The Ph.D. concentration in health management is designed as a 48 credit-hour program (minimum beyond a master's degree) and the dissertation. Additional hours may be needed for completion of the concentration program.

Coursework

48 total credit hours

30 credit hours of required coursework

15 credit hours of elective coursework

3 credit hours of public health management seminars

Some required or elective courses may require additional credit hours in prerequisite courses not already taken by the student. Seminars in Public Health Management - A student in the Ph.D. concentration in health management is required to complete at least three credit hours of seminars in Public Health Management (PHMS-751, -752, -753). These group courses are jointly taught by the faculty of the department and are designed to provide a collegial experience that provides an opportunity to integrate learning from other courses, discuss hot topics, brain-storm about research ideas, and acquire professional skills in scientific manuscript and grant writing, oral and poster presentations, grantsmanship, and peer review.

Electives

As a part of the approved program of study, a student is able to select fifteen credit hours of elective coursework. Courses directly relevant to health management are preferred including, but not limited to, biostatistics, bioinformatics, epidemiology, medical geography, molecular or

population genetics, toxicology, microbiology, health services research, outcomes research, health knowledge and behavior. Courses may be selected from those offered within the school, other schools or colleges within the university, or from sources outside the university with permission and acceptance of credit by the school and university.

A student may petition to take courses not on this list with approval of the course instructor, the student's advisor, program director, and chair of the department. The student must provide a written rationale for the choices of elective coursework in his or her program of study.

Qualifying Examination

Upon completion of the required coursework for the Ph.D., the student is eligible to sit for the qualifying examination. The components of the qualifying exam focus on the subject matter drawn from foundation courses, the student-selected minor area of study, as well as research methods and problem analysis. The timing and eligibility for the qualifying exams are determined by the student's faculty advisor, program director, and department chair. Successful completion of the exam admits the student to doctoral candidacy. A student who does not successfully complete the exam may be required to take additional or remedial coursework and is allowed one opportunity to retake the exam.

Dissertation

A dissertation is required of a candidate for the degree of doctor of philosophy in public health sciences with a concentration in health management. It is to be a scholarly achievement in research, and should demonstrate a thorough understanding of research techniques in health management and the ability to conduct independent research.

Doctor of Philosophy (Ph.D.) in Public Health Sciences Concentration in Health Promotion

Introduction

The Ph.D. concentration in health promotion in the Department of Health Promotion and Behavioral Sciences is in the Ph.D. in public health sciences degree program in the University of Louisville's School of Public Health and Information Sciences. The concentration is designed to prepare students for careers in higher education, upper level management positions in government and private nonprofit health agencies, and research positions with universities,

government agencies and in the private sector. In addition to gaining a solid foundation in the theories and concepts of the discipline, students also achieve competency as independent researchers.

Admission

Applicants should have a minimum of 3.0 on a 4.0 scale and, in most cases, should have completed a master's or other graduate degree related to the theme of the doctoral program. Applicants who have a master's degree in a different discipline may be admitted with the stipulation that they complete foundation course work during their enrollment for the doctoral degree. This coursework is in addition to the outlined curriculum, and is negotiated with the student's academic advisor on a case-by-case basis.

The formal application, curriculum vitae, personal statement, application fee, at least two letters of recommendation, official transcripts of all college work, and official scores on the Graduate Record Examination (GRE) General Test must be submitted to the School of Interdisciplinary and Graduate Studies. The personal statement should be a one-two page essay which discusses the student's background in health promotion, why the student is attracted to the field, and how the degree helps the student reach his or her career goals. Students should score above the 50th percentile on the GRE. In addition, prior work experience relevant to the health promotion discipline is also considered as a factor in acceptance into the program. International students are required to submit TOEFL scores and a foreign credential evaluation of their transcripts. These are required no later than thirty days before the first day of classes of the semester in which the applicant plans to enroll.

For specific information about the degree concentration or the application process, students should contact Dr. Richard W. Wilson, Chair, Department of Health Promotion and Behavioral Sciences, (502)852-8040.

Curriculum

The typical progression through the health promotion curriculum is:

- Program of Study (year 1)
- Required and elective coursework of 48 credit-hours (years 1 and 2)
- Qualifying examination (year 2)
- Candidacy
- Dissertation research and preparation

- Oral examination

Faculty Advisor

The Department of Health Promotion and Behavioral Sciences appoints a director of the Ph.D. concentration program each year. The director assigns advisors for each doctoral student. The assignment process is negotiated with the student who has the option of requesting a specific advisor. The student's choice is contingent on the agreement of the desired advisor, his or her availability, and the overall faculty resources of the department.

Program of Study

Upon matriculation in the program, each student meets with his or her assigned advisor and develops a program of study that includes courses in research design and statistics as well as selected cognate courses. The program of study may be modified as the student's needs change or course availability is altered.

If a student has not had sufficient exposure to epidemiology prior to matriculation, he or she is required to take a course in epidemiology as part of the program of study. In addition the program of study includes development of competencies in other areas of public health knowledge that are relevant to the student's area of interest.

Degree Requirements**Coursework**

The Health Promotion concentration of the Ph.D. in Public Health Sciences consists of a minimum of 39 credit-hours, including the following requirements:

39 total credit-hours:

21 credit-hours of required coursework:

- 12 credit-hours of coursework in health promotion theory and principles
- 3 credit-hours of cognate coursework
- 3 credit-hours of research design and statistics
- 3 credit-hours of ELFH-683 College Teaching

18 credit-hours of elective coursework:

- 9 credit-hours of cognate coursework
- 9 credit-hours of research design and statistics

<i>Required Coursework</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHPB-701	Theoretical Basis of Health Promotion	3
PHPB-704	Psycho-Social Foundations of Health Decision Making	3
PHPB-705	Community Organization and Health Policy Advocacy	3
PHPB-710	Community-Based Participatory Research	3
PHPB-722	Health Risk Communication	3
PHPB-724	Dissertation Methods Seminar	3
	Research design and statistics electives (with approval of advisor)	9
	Cognate electives (with approval of advisor)	9
ELFH-683 or ELFH-661 or other course	College Teaching or Adult Development and Learning or equivalent course (with approval of advisor)	3
Total		39

Research Design and Statistics Electives

Students work with their advisors to select appropriate courses to complete the twelve credit-hours required in this category. Selections are based on the research and statistics background of students and the anticipated research and statistics needs of the dissertation research projects. The following is the list of approved electives for this category. Other courses may be considered with permission of the faculty advisor and the program director.

<i>Approved Research Design and Statistics Elective Courses</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHEP-602	Epidemiological Methods	3
PHPB-615	Advanced Program Evaluation	3
PHEP-710	Community-based Participatory Research	3
PHPB-711	Qualitative Research Methods in Public Health	3
PHPB-724	Dissertation Methods Seminar	3

PHST-630	Applied Statistical Methods	3
PHST-640	Statistical Methods for Research Design in Human Studies	3
PHST-680	Biostatistical Methods I	3
PHST-681	Biostatistical Methods II	3
PHST-682	Multivariate Statistical Analysis	3
PHST-684	Categorical Data Analysis	3
PHST-725	Design of Experiments	3
PSYC-610	Advanced Statistics I	3
PSYC-611	Advanced Statistics II	3
PSYC-612	Advanced Statistics III	3
ECPY-793	Reviewing Scientific Literature [course in meta-analysis]	3
SOC-609	Seminar in Statistics I	3
SOC-609	Seminar in Statistics II	3
SOC-618	Qualitative Field Research Methods	3

Cognate Electives

Students work with their advisors to select appropriate courses to complete the twelve credit-hours required in this category. Selections are based on the research and professional interests of students and the career paths anticipated.

The following is the list of approved electives for this category. Other courses may be considered with permission of the faculty advisor and the program director.

<i>Approved Cognate Elective Courses</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHPB-604	Health Decision and Risk Analysis	3
PHPB-612	Health Communication Campaigns	3
PHPB-650	Advanced Topics in Health Promotion and Behavioral Sciences	3
PHMS-655	Systems Thinking and Dynamic Modeling in Public Health	3
PHPB-721	Health Promotion and Healthcare-Associated Infection	3
PHPB-727	Culture and Public Health	3

<i>Approved Cognate Elective Courses</i>		
<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
PHPB-753	Independent Study in Health Promotion and Behavioral Sciences	3
GEOG-657	Geographic Information Systems	3
HSS-669	Administering Health Promotion and Disease Prevention Programs	3
HSS-675	Health Promotion and Disease Prevention at the Individual Level	3
HSS-676	Community Health Promotion and Disease Prevention	3
HSS-684	Program Planning in Health Education and Promotion	3
NURS-657	Health Promotion and Illness Prevention Across the Lifespan	3
PHCI-631	Social and Behavioral Sciences in Health Care	3
PHEH-620	Global Issues	3
PHMS-604	Legal and Bioethical Aspects of Public Health	3
PHPH-630	Geographic Information Systems in Public Health	3
PSYC-581	Introduction to Health Psychology	3

Qualifying Examination

Upon completion of all formal course work, typically at the end of the second year, students take a written qualifying exam to demonstrate their ability to synthesize and apply concepts from those courses. The exam is evaluated on a pass/fail basis; students who don't pass the exam at the first administration are given time to prepare to sit for the exam one additional time. Once the qualifying exam is successfully completed, students are admitted to candidacy for the doctoral degree.

Dissertation

A dissertation, based on original research conducted by the student, is required of a candidate for the degree of doctor of philosophy in public health sciences with a concentration in health promotion. The dissertation is to be a scholarly achievement that demonstrates the student's

thorough understanding of research techniques in health promotion and the ability to conduct independent research.

Departmental Faculty

J. Jackson Barnette, Ph.D.

Professor

Master of Science in Clinical Investigation Sciences

Major: CISCMSC

Degree Awarded: MSc.

Unit: GH

Program Webpage: <http://louisville.edu/sphis/academics/academics.html>

Program Information

Introduction

The M.Sc. in Clinical Investigation Sciences is offered in the School's Clinical Research, Epidemiology and Statistics Training (CREST) Program. The M.Sc. can be pursued in combination with the M.D. degree from the School of Medicine.

The M.Sc. degree program provides physicians, dentists, nurses and other health professionals an opportunity to acquire the clinical research skills necessary for a career in an academic health center.

The CREST curriculum integrates biostatistical and epidemiologic methods in a problem-based learning format with additional instruction in bioethics, health economics, health services and outcomes research and social and behavioral science. Students pursuing the master degree take didactic courses while they engage in mentored and independent research that culminates in the preparation of a professional paper.

Competencies

The successful student is able to:

- Access and critique the scientific literature.
- Address and discuss methods and issues of clinical epidemiology.
- Identify important clinical research questions and state as testable hypotheses.
- Develop collaborative clinical research studies in accordance with appropriate epidemiologic and biostatistical methodologies.
- Apply the principles of data collection, monitoring, management and analysis within the context of a multidisciplinary team.
- Disseminate study results to professional and lay audiences through oral and written communication.
- Analyze human subjects' issues and apply ethical principles in performing and disseminating clinical research.
- Discuss and respond to the legal issues in new drug and device development.

It is expected that prior to graduation, students in the program have demonstrated these competencies by completing the curriculum, participating in a collaborative research project, and successfully writing and defending the professional paper.

Admission

Applicants should have a minimum of 3.0 on a 4.0 scale and, in most cases, should have completed a professional doctoral degree (e.g., DM.D., D.O., M.D.) or academic degree from an accredited institution or its equivalent. Other applicants with research experience may be considered (e.g., research coordinator).

The following are additionally required for admission:

1. Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).
2. Non-refundable application fee.
3. At least two letters of recommendation written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>).
4. Submission of GRE score to SIGS (no minimum score required). This is not required if you have an M.D. degree or other terminal degree.
5. All postsecondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).
6. Statement of goals submitted to the department office (must include desired academic and degree program).
7. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
8. International students for whom English is not their primary language must show English language proficiency by one of:
 - Award of a degree from an accredited U.S. institution
 - Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test)
 - Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

The typical progression through the M.Sc. curriculum is:

- Develop program of study (Year 1 beginning).
- Take coursework (Year 1 and Year 2 Fall).
- Select research project and begin work (Year 2 Fall).
- Do research project and prepare thesis or professional paper (Year 2 Spring).

- Present and defend research project (Year 2 Spring).

Faculty Advisor

The program director serves as faculty advisor for each student until the student begins his or her research for the thesis or professional paper, at which time the student selects a mentor for his or her research with the approval of the program director. The mentor may be any member of the School's faculty and assumes the functions of faculty advisor.

Program of Study

Upon matriculation in the program, each student meets with the program coordinator and develops a program of study based on the student's time availability (e.g., typical two-year program or extended three-year program). The program of study may be modified as the student's needs change or course availability is altered.

Degree Requirements

Coursework

- 31 total credit hours of required coursework
 - 7 credit hours of epidemiology coursework
 - 8 credit hours of coursework in research design and statistics
 - 7 credit hours of coursework in effectiveness and outcomes
 - 6 credit hours of mentored research
 - 3 credit hours of electives

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
Fall I	PHCI-610	New Drug and Device Development	2
	PHCI-611	Introduction to Clinical Epidemiology	2
	PHPB-501	Introduction to Health Behavior	3
	PHST-500	Introduction to Biostatistics	3
	Semester Total		
Spring I	PHCI-601	Evaluating Health Care Literature	1
	PHCI-624	Clinical Trials I	2
	PHCI-632	Ethical Conduct of Research	2
	PHEP-602	Epidemiological Methods	3
	Semester Total		
Fall II	PHCI-625	Clinical Trials II	2
	PHCI-650	Medical Decision Analysis	2
		Elective	3

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit Hours</i>
	Semester Total		7
Spring II	PHCI-699	Mentored Research	6
	Semester Total		6
Degree Total			31

Elective

The choice of the elective course in Fall II must be approved by the faculty advisor and program director.

Thesis or Professional Paper

A thesis or professional paper, based on original research conducted by the student, is required of a candidate for the degree of master of science in clinical investigation sciences. It is to be an original work of professional quality and a scholarly achievement that demonstrates the student's thorough understanding of research techniques in clinical research and the ability to conduct independent research.

Thesis or Professional Paper Committee

The thesis or professional paper is read by a reading committee, chaired by the student's mentor/faculty advisor, and appointed by the dean of the school upon the recommendation of the program director. This committee consists of three members, and must include one representative of an allied department. The thesis or professional paper must be approved by the committee and the program director.

Thesis or Professional Paper Proposal

The proposal for thesis or professional paper is to be developed in written form and presented to the committee for approval.

Thesis or Professional Paper Preparation

If the student prepares a thesis, it is to be prepared in format and binding according to the guidelines established by SIGS, available at <http://louisville.edu/graduate/current-students/thesis-dissertation-information>. If the student prepares a professional paper, it is to have the format and style appropriate for its type and potential destination.

Thesis or Professional Paper Approval

The thesis or professional paper is to be submitted in completed form to the chair of the thesis committee at least fourteen days before the end of the term in which the candidate expects to be graduated, and the candidate is not eligible for the final oral examination until the thesis has been accepted by the committee.

The committee schedules an oral examination of the candidate during which the student presents his or her thesis or professional paper and is asked to defend it and the supporting research. The thesis or professional paper is approved by a majority vote of the committee and by the program director.

Thesis Distribution

If the student prepares a thesis, one unbound copy, signed by the thesis committee, must be deposited with SIGS before graduation.

Departmental Faculty

Susan Muldoon, Ph.D., MPH.
Assistant Professor

Master of Public Health

Major: PH MPH

Degree Awarded: MPH

Unit: GH

Program Webpage: <http://louisville.edu/sphis/academics/mph-program>

Program Information

Introduction

The Master of Public Health (MPH) degree program is a School-based program designed to graduate students each with core competencies in public health and specialized competencies in one of the following concentrations: biostatistics, environmental and occupational health, epidemiology, health promotion and behavior, and health management.

Graduates of the MPH program are prepared for positions in the public health work force, in health-related industries, and in academic organizations and for further professional or academic education.

The dual M.D.-MPH degree program is a five-year program. In addition, a Dual Bachelor-MPH degree is available.

Admission

The ideal candidate for admission to the MPH program has received the equivalent of a bachelor's degree or higher, has education or training in one or more health-related fields, has worked or studied in a public health-related situation, can comprehend and communicate effectively in English, has the recommendations of at least three persons in a health-related or advanced education field, has performed satisfactorily in one or more standardized test, and is very interested in pursuing a career in public health or a related field.

The requirements for admission to the MPH program are:

- Bachelor's degree from an accredited institution or its equivalent
- Recommended minimum GPA of 3.0 on a 4.0 scale

If candidate's primary language is not English, one of the following:

- Test of English as a Foreign Language (TOEFL) exam with a minimum score of 250 (after conversion for test type)
- Passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

- Degree from an accredited U.S. institution (requires provisional admission with evaluation of English language competency and potential requirement to pass the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville)
- An application is considered once all of the following requirements have been received:
- Graduate application and payment of application fee.
- Three letters of recommendation written within the last twelve months.
- Official transcripts of all degrees.
- Resume or curriculum vitae.
- One-page personal statement written by the application that is a clear, substantive description of his or her goals in public health, noting any professional or research experience.
- **International applicants:** Foreign credential evaluation of all degrees from non-U.S. institutions. Please contact the MPH program prior to completing this requirement.

Concentrations

Concentrations are offered in each of the five basic areas of public health by the department that focuses on the area. Each concentration is designed to develop the competencies needed by a public health worker in the corresponding area.

<i>Concentration</i>	<i>Department</i>
Biostatistics	Bioinformatics and Biostatistics
Environmental and Occupational Health	Environmental and Occupational Health Sciences
Epidemiology	Epidemiology and Population Health
Health Management	Health Management and Systems Sciences
Health Promotion and Behavior	Health Promotion and Behavioral Sciences

Requirements for acceptance to the concentrations in the MPH program are:

<i>Concentration</i>	<i>Concentration Acceptance Requirements</i>
All	<ul style="list-style-type: none"> • Student in good standing in MPH program • Successful completion of core courses
Biostatistics	<ul style="list-style-type: none"> • Grade from PHST-500 Introduction to Biostatistics • Other evidence of analytic ability, for example: <ul style="list-style-type: none"> - Quantitative score from at least one of these exams: GRE, GMAT, or DAT - Transcripts showing other college-level mathematics or statistics course - Instructor recommendation - Participation in or successful completion of a research project with analytical component • Exceptions may be granted.

<i>Concentration</i>	<i>Concentration Acceptance Requirements</i>
Environmental and occupational health	No additional requirements.
Epidemiology	<ul style="list-style-type: none"> • Grade from PHEP-501 Introduction to Epidemiology • Grade from PHST-500 Introduction to Biostatistics • Exceptions may be granted.
Health management	No additional requirements.
Health promotion and behavior	No additional requirements.

Individual Track Option

A student may complete an individual track in place of completing a concentration. The individual track option is designed for students who meet the requirements and wish to study areas of public health that are not directly addressed by one of the available concentrations or who are enrolled in a dual master's degree program with the MPH. A student's program of study in an individual track is established as part of admission to the individual track option.

Requirements for admission to the individual track option are the following:

- GPA of 3.25 or higher in required first-year MPH program courses

One of:

- Enrollment in a dual master's degree program with the MPH
- Personal statement of purpose and reasons for an individual track
- Program director approval of a faculty member to serve as the student's advisor for the track application process and, if admitted, for the track and practicum
- An acceptable program of study for an individual track recommended by the student's advisor
- Competitive selection of student's application using rankings of the above requirements among all applicants for an individual track at that time

The program may limit the number of admissions to the individual track option in any one year based on the total number of MPH students and dual degree students. In addition the program director may seek review and advice from the MPH Advisory Committee on some or all of the applications. If a student is not admitted to the individual track option, he or she must choose and be admitted to an existing concentration.

Curriculum

The curriculum consists of courses in four areas: core (6 courses), concentration or individual track (5), practicum experience (2), and integrating experience (3). Core courses and two integrating experience courses are completed prior to taking courses in other areas. Toward the end of taking these courses, each student either identifies his or her area of concentration and is admitted to the department offering the concentration or applies and is admitted to the individual track option. Once admitted into the concentration or individual track option, the student takes concentration courses or course in his or her individual track program of study, completes the practicum experience, and takes the remaining integrating experience course, which includes a comprehensive written examination focused on the program's core MPH competencies.

Full-time students are expected to complete the program and graduate in two years. Part-time students are required to complete the program and graduate within six years.

Faculty Advisor

On matriculation, each student is assigned a faculty advisor and is requested to meet at least twice each semester with his or her advisor. Advisors are available to address general academic and public health questions and to assist the student in declaration of his or her area of concentration or the individual track option.

After admission into a concentration, each student is assigned a faculty advisor who serves as academic practicum advisor, academic mentor, and counselor on career and employment opportunities, professional development, and opportunities beyond graduate school. The faculty advisor for a student in the individual track option is assigned as part of admission to the option.

Program of Study

The program of study is predetermined for courses in core, practicum experience, and integrating experience areas and in the majority of the concentration area. Concentrations have one or two elective courses. The program of study for an individual track is established as part of admission to the individual track option.

Degree Requirements

Requirements for the MPH degree are:

- Successful completion of core, concentration, practicum experience, and integrating experience coursework
- Completion of all deliverables for the practicum experience
- Minimum score of 80% on either of two tries of a comprehensive examination on MPH competencies (part of PPHH-697 Integrating Learning and Experience in Public Health) or successful completion of remediation project (part of PPHH-601)

Departmental Faculty

Robert Jacobs, Ph.D.
Professor

Master of Science in Chemical Engineering

Major: CHE

Degree Awarded: MS

Unit: GS

Program Webpage: <http://louisville.edu/speed/chemical>

Program Information

Director of Graduate Studies

Dr. Kyung A. Kang, (502)852-2094, [Email Dr. Kang](mailto:kyung.kang@louisville.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in chemical engineering, but is also available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Chemical Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Chemical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1100 in the old GRE scale or 302 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - . total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - a. successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - b. demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the guidelines for the Preparation of a Thesis, which are located on the website of the School of Interdisciplinary and Graduate Studies. https://sharepoint.louisville.edu/sites/SIGS/Documents/Thesis_Dissertation%20Guidelines.pdf
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees.

Curriculum

Graduate Studies - M.S.

The minimum curricular requirements for the master's program are shown in the table below. For those applicants who, in the opinion of the faculty, do not have a sufficient background, remedial work may be specified.

Courses		Hours
CHE 610: Advanced Thermodynamics		3
CHE 620: Transport Phenomena		3
CHE 641: Advanced Reactor Design		3
CHE 686: Chemical Engineering Analysis		3
CHE 695: Chemical Engineering Seminar		2
Technical Electives ^{1,2}		12
Thesis Option: CHE 690: MS Thesis ³	Non-thesis Option: Technical Electives ^{1,2}	6
Total		32

- ¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in CHE.
- ² At least three hours of Technical Electives must be from non-CHE courses, and the student's research advisor or academic advisor must approve non-CHE courses.
- ³ For the thesis option, a student is required to select both an approved M.S. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CHE 690.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Amos, Delaina A.

Ph.D., University of California, Berkeley
Associate Professor of Chemical Engineering

Berson, R. Eric

Ph.D., University of Louisville

Associate Professor of Chemical Engineering

Carreon, Moises A.

Ph.D., University of Cincinnati

Assistant Professor of Chemical Engineering

Fu, Xiao-An

Ph.D., Case Western Reserve University

Assistant Professor of Chemical Engineering

Kang, Kyung A.

Ph.D., University of California, Davis

Professor of Chemical Engineering

Pinto, Neville

Ph.D., The Pennsylvania State University

Professor of Chemical Engineering
Dean, J.B. Speed School of Engineering

Starr, Thomas L.

Ph.D., University of Louisville

Professor of Chemical Engineering

Associate Dean, Speed Research Administration

Sunkara, Mahendra K.

Ph.D., Case Western Reserve University

Professor of Chemical Engineering

Watters, James Charles

Ph.D., University of Maryland

Professor of Chemical Engineering

Chair of Chemical Engineering

Engineering

Willing, Gerold A.

Ph.D., Auburn University

Associate Professor of Chemical Engineering

Doctor of Philosophy in Chemical Engineering

Major: CHE

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/chemical>

Program Information

Director of Graduate Studies

Dr. Kyung A. Kang, (502) 852-2094, [Email Dr. Kang](mailto:kyung.kang@louisville.edu)

General Information

The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in chemical engineering, but is also available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Chemical Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Chemical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1100 in the old GRE scale or 302 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts and/or official

score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a. total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b. successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c. demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are explained in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - Ph.D.

The Ph.D. program in Chemical Engineering is comprised of 70 credit hours beyond the baccalaureate degree in Chemical Engineering. A student entering the Ph.D. program who already has a master's degree in Chemical Engineering may have some of the credit hours for that degree counted towards the 70 hours. Remedial work may be specified for applicants who, in the opinion of the faculty, do not have sufficient background.

The normal minimum curricular requirements for the doctoral program are listed below. However, some exceptions are possible at the discretion of the faculty and the Graduate Advisor in unusual situations.

Courses – Post Baccalaureate	Hours
CHE 610: Advanced Thermodynamics	3
CHE 620: Transport Phenomena	3
CHE 641: Advanced Reactor Design	3

CHE 686: CHE Analysis	3
CHE 695: CHE Seminar	4
Technical Electives ¹	18
CHE 693: Research in CHE	36
Total	70

¹ At least three hours of Technical Electives must be from non-CHE courses, and the student's research advisor or academic advisor must approve non-CHE courses.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Amos, Delaina A.

Ph.D., University of California, Berkeley
Associate Professor of Chemical Engineering

Berson, R. Eric

Ph.D., University of Louisville
Associate Professor of Chemical Engineering

Fu, Xiao-An

Ph.D., Case Western Reserve

University

Assistant Professor of Chemical Engineering
Kang, Kyung A.

Ph.D., University of California, Davis
Professor of Chemical Engineering

Pinto, Neville

Ph.D., The Pennsylvania State University
Professor of Chemical Engineering

Dean, J.B. Speed School of Engineering

Starr, Thomas L.

Ph.D., University of Louisville

Professor of Chemical Engineering
Associate Dean, Speed Research Administration

Sunkara, Mahendra K.

Ph.D., Case Western Reserve University
Professor of Chemical

Engineering
Interim Director, Conn
Center for Renewable Energy
Research

Watters, James Charles
Ph.D., University of

Maryland
Professor of Chemical
Engineering
Chair of Chemical
Engineering

Willing, Gerold A.
Ph.D., Auburn University
Associate Professor of
Chemical Engineering

Master of Science in Civil Engineering

Major: CE

Degree Awarded: MS

Unit: GS

Program Webpage: <http://louisville.edu/speed/civil/>

Program Information

Director of Graduate Studies

Dr. Mark French, (502)852-0144, [Email Dr. French](mailto:mark.french@louisville.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in civil engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Civil Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Civil Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts and/or

official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the guidelines for the [Preparation of a Thesis](#), which are located on the website of the School of Interdisciplinary and Graduate Studies.
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Work - M.S.

Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background. The minimum curricular requirements for the master's program are:

Courses		Hours
CEE Electives ¹		18
Non-CEE Electives ^{1,2}		6
<u>Thesis Option:</u> CEE 690: MS Thesis ³	<u>Non-thesis Option:</u> Technical Electives ^{1,2}	6
Total		30⁴

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in CEE.

² Technical Electives need not necessarily be CEE courses, but the student's research advisor or academic advisor must approve non-CEE courses.

³ For the thesis option, a student is required to select both an approved M.S. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CEE 690.

⁴ Candidates for the Master of Science degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Bhaskar, Nageshwar R.

Ph.D., The Ohio State University

Professor of Civil & Environmental Engineering

French, Mark N.

Ph.D., University of Iowa

Professor of Civil & Environmental Engineering

Kim, Young Hoon

Ph.D., Texas A&M University

Assistant Professor of Civil & Environmental Engineering

McGinley, W. Mark

Ph.D., University of Alberta, Edmonton

Professor of Civil & Environmental Engineering

Mohsen, Jafar P.

Ph.D., University of Cincinnati

Professor of Civil & Environmental Engineering
Chair of Civil & Environmental Engineering

Parola, Arthur C.

Ph.D., The Pennsylvania State University

Professor of Civil &

Environmental Engineering

Rockaway, Thomas D.

Ph.D., Georgia Institute of Technology

Assistant Professor of Civil & Environmental Engineering

Sun, Zhihui

Ph.D., Northwestern University

Assistant Professor of Civil & Environmental Engineering

Zhao, Qian

Ph.D., Georgia Institute of Technology

Assistant Professor of Civil & Environmental Engineering

Doctor of Philosophy in Civil Engineering

Major: CE

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/civil/>

Program Information

Director of Graduate Studies

Dr. Mark French, (502)852-6276, [Email Dr. French](mailto:mark.french@louisville.edu)

General Information

The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in civil engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Civil Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Civil Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.
8. Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background in civil engineering.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will

be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are explained in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - Ph.D.

Normally, it is expected that the student will complete a Master's degree before being admitted to the Ph.D. Program. However, qualified applicants may be admitted directly to the doctoral program after receiving a baccalaureate degree. These students will be required to complete an additional 30 hours of coursework at the 500 and 600 level under an individual plan developed in conjunction with the department's Director of Graduate Studies. Also, remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background.

The minimum curricular requirements for the doctoral program are:

Courses – Post Bac	Hours
Approved Master’s Level Course Work	30
CEE Electives ¹	27
CEE 698: CE PhD Seminar	3
CEE 699: CE PhD Research	18
Total	78²

¹ Electives may include up to 6 hours credit in approved mathematics courses.

² Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student’s thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Bhaskar, Nageshwar R.
Ph.D., The Ohio State University
Professor of Civil & Environmental Engineering

French, Mark N.
Ph.D., University of Iowa
Professor of Civil & Environmental Engineering
Kim, Young Hoon
Ph.D., Texas A&M University

Assistant Professor of Civil & Environmental Engineering
McGinley, W. Mark
Ph.D., University of Alberta, Edmonton
Professor of Civil &

Environmental
Engineering
Mohsen, J. P.
*Ph.D., University of
Cincinnati*
Professor of Civil &
Environmental
Engineering
Chair of Civil &
Environmental
Engineering

Parola, Arthur C.
*Ph.D., The Pennsylvania
State University*
Professor of Civil &
Environmental
Engineering
Rockaway, Thomas D.
*Ph.D., Georgia Institute of
Technology*
Associate Professor of
Civil & Environmental
Engineering

Sun, Zhihui
*Ph.D., Northwestern
University*
Associate Professor of
Civil & Environmental
Engineering
Zhao, Qian
*Ph.D., Georgia Institute of
Technology*
Assistant Professor of
Civil & Environmental
Engineering

Master of Science in Computer Science

Major: CS

Degree Awarded: MS

Unit: GS

Program Webpage: <http://louisville.edu/speed/computer>

Program Information

Director of Graduate Studies

Dr. Mehmed M. Kantardzic, (502)852-3703, [Email Dr. Kantardzic](mailto:mkantardzic@louisville.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in computer engineering or computer science, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Computer Engineering & Computer Science. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Computer Science are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the [Guidelines for the Preparation of a Thesis](#), which are located on the website of the School of Interdisciplinary and Graduate Studies.
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees.

Curriculum

Graduate Studies - M.S.

Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background. The minimum curricular requirements for the master's program are:

Courses		Hours
Foundations Course ¹		3
Software Courses ²		6
Analytic Courses ³		6
CECS Electives ⁴		9
Thesis Option: CECS 690: MS Thesis ⁵	Non-thesis Option: CECS 696: Project CECS Elective ⁴	6
Total		30⁶

¹ One Foundations Course from the following list is required:

CECS 504: Automata Theory
CECS 619: Algorithms

² Two Software Courses from the following list are required:

CECS 516: Computer Networks
CECS 535: Introduction to Databases

CECS 545: Artificial Intelligence
CECS 550: Software Engineering
CECS 625: Parallel Programming
CECS 629: Distributed Systems
CECS 630: Advanced Databases & Data Warehousing
CECS 640: Internet Applications

³Two Analytic Courses from the following list are required:

CECS 506: Modeling & Analysis
CECS 522: Performance Evaluation
CECS 563: Experimental Design
CECS 620: Combinatorial Optimization and Modern Heuristics
CECS 622: Simulations
CECS 627: Digital Image Processing
CECS 632: Data Mining

⁴ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in CECS.

⁵ For the thesis option, a student is required to select both an approved M.S. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CECS 690.

⁶ Candidates for the Master of Science degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Altiparmak, Nihat
*Ph.D., University of Texas
at San Antonio*

Assistant Professor of
Computer Engineering &
Computer Science

Badia, Antonio E.
Ph.D., Indiana University
Associate Professor of

Computer Engineering &
Computer Science

Chang, Dar-Jen

*Ph.D., University of
Michigan*

Associate Professor of
Computer Engineering &
Computer Science

Desoky, Ahmed H.

*Ph.D., North Carolina
State University*

Associate Professor of
Computer Engineering &
Computer Science

Elmaghraby, Adel S.

*Ph.D., University of
Wisconsin*

Professor of Computer
Engineering & Computer
Science

Chair of Computer
Engineering & Computer
Science

Frigui, Hichem

*Ph.D., University of
Missouri-Columbia*

Professor of Computer
Engineering & Computer
Science

Imam, Ibrahim N.

Ph.D., Auburn University

Associate Professor of
Computer Engineering &
Computer Science

Kantardzic, Mehmed

*Ph.D., University of
Sarajevo, Bosnia*

Professor of Computer
Engineering & Computer
Science

Kumar, Anup

*Ph.D., North Carolina
State University*

Professor of Computer
Engineering & Computer
Science

Lauf, Adrian

*Ph.D., Vanderbilt
University*

Assistant Professor of
Computer Engineering &
Computer Science

Nasraoui, Olfa

*Ph.D., University of
Missouri-Columbia*

Associate Professor of
Computer Engineering &
Computer Science

Rouchka, Eric Christian

*D.Sc., Washington
University*

Associate Professor of
Computer Engineering &
Computer Science

Yampolskiy, Roman V.

*Ph.D., University of
Buffalo*

Assistant Professor of
Computer Engineering &
Computer Science

Doctor of Philosophy in Computer Science and Engineering

Major: CSE

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/computer>

Program Information

Director of Graduate Studies

Dr. Mehmed M. Kantardzic, (502)852-3703, [Email Dr. Kantardzic](mailto:Dr.Kantardzic)

General Information

The Computer Engineering & Computer Science Department (CECS) and the Electrical & Computer Engineering Department (ECE) jointly offer the Ph.D. degree in Computer Science & Engineering (CSE). The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in computer engineering, computer science, or electrical engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Computer Engineering and Computer Science. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Computer Science and Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate and graduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).

4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.
6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are explained in more detail at: http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees.

Curriculum

Graduate Studies - Ph.D.

Normally, it is expected that the student will complete a Master's degree before being admitted to the Ph.D. Program. However, qualified applicants may be admitted directly to the doctoral program after receiving a baccalaureate degree. These students will be required to complete an additional 30 hours of coursework at the 500 and 600 level under an individual plan developed in conjunction with the department's Director of Graduate Studies. Also, remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background.

The minimum curricular requirements for the doctoral program are:

Courses – Post Bac	Hours
Approved Master’s Level Course Work	30
CECS Electives ¹	18
CSE 693: Dissertation Research	24
CSE 695: Seminar in CSE	2
Total	74¹

¹ Master’s Level Course Work and/or CECS Electives must be chosen so that 18 hours of courses are taken in the core areas. Two courses are required in each of two core areas and one course in each of the remaining two core areas. The approved courses for the four core areas are listed below.

Approved Computer Software Engineering Core Courses:

- CECS 504: Automata Theory
- CECS 516: Computer Networks
- CECS 530: Design of Compilers
- CECS 545: Artificial Intelligence
- CECS 550: Software Engineering
- CECS 608: Operating Systems
- CECS 619: Algorithms
- CECS 630: Advanced Databases & Data Warehousing

Approved Computer Hardware Engineering Core Courses:

- CECS/ECE 510: Computer Design
- CECS 525/ECE 516: Microcomputer Design
- CECS 611: Computer Architecture
- ECE 515: VLSI Systems
- ECE 630: Pulse & Digital Waveforms

Approved Computationally Intensive Applications Core Courses:

- CECS 522: Performance Evaluation
- CECS 564: Cryptology
- CECS 609: Hypertext & Multimedia Processing
- CECS 622: Simulation & Modeling
- CECS 628: Computer Graphics
- CECS 660: Introduction to Bioinformatics
- ECE 520: Digital Signal Processing
- ECE 550: Communication & Modulation
- ECE 560: Control Systems
- ECE 614: Artificial Neural Systems
- ECE 618/CECS 627: Digital Image Processing

ECE 619/CECS 633: Computer Vision
 ECE 620: Pattern Recognition
 ECE 653: Digital Communications
 ECE 661: Sampled-Data Control Systems
 Approved Advanced Mathematics Core Courses:
 CECS 563: Experimental Design in Engineering
 CECS 620: Combinatorial Optimization and Modern Heuristics
 CECS 632: Data Mining
 MATH 501: Analysis I
 MATH 560: Probability
 MATH 660: Probability Theory
 MATH 662: Advanced Mathematical Statistics
 MATH 667: Methods of Classification
 MATH 681: Combinatorics & Graph Theory

² Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Altiparmak, Nihat
Ph.D., University of Texas at San Antonio
 Assistant Professor of
 Computer Engineering &
 Computer Science
Badia, Antonio E.
Ph.D., Indiana University
 Associate Professor of

Computer Engineering &
 Computer Science
Chang, Dar-Jen
Ph.D., University of Michigan
 Associate Professor of
 Computer Engineering &
 Computer Science

Desoky, Ahmed H.
Ph.D., North Carolina State University
 Associate Professor of
 Computer Engineering &
 Computer Science
Elmaghraby, Adel S.
Ph.D., University of Wisconsin

Professor of Computer
Engineering & Computer
Science

Chair of Computer
Engineering & Computer
Science

Frigui, Hichem

*Ph.D., University of
Missouri-Columbia*

Professor of Computer
Engineering & Computer
Science

Imam, Ibrahim N.

Ph.D., Auburn University
Associate Professor of
Computer Engineering &
Computer Science

Kantardzic, Mehmed

*Ph.D., University of
Sarajevo, Bosnia*

Professor of Computer
Engineering & Computer
Science

Kumar, Anup

*Ph.D., North Carolina State
University*

Professor of Computer
Engineering & Computer
Science

Lauf, Adrian

Ph.D., Vanderbilt University
Assistant Professor of
Computer Engineering &
Computer Science

Nasraoui, Olfa

*Ph.D., University of
Missouri-Columbia*

Associate Professor of
Computer Engineering &
Computer Science

Rouchka, Eric Christian

D.Sc., Washington University

Associate Professor of
Computer Engineering &
Computer Science

Yampolskiy, Roman V.

Ph.D., University of Buffalo

Assistant Professor of
Computer Engineering &
Computer Science

Master of Science in Electrical Engineering

Major: EE

Degree Awarded: MS

Unit: GS

Program Webpage: <http://louisville.edu/speed/electrical>

Program Information

Director of Graduate Studies

Dr. John F. Naber, (502)852-7910, [Email Dr. Naber](mailto:John.Naber@unl.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in electrical engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Electrical & Computer Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Electrical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - . total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - a. successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - b. demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the guidelines for the Preparation of a Thesis, which are located on the website of the School of Interdisciplinary and Graduate Studies.
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - M.S.

Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background. The minimum curricular requirements for the master's program are:

Courses			Hours
ECE Electives ^{1,2}			15
Technical Electives ^{1,3}			9
<u>Thesis Option:</u> ECE 690: MS Thesis ⁴	<u>Paper Option:</u> ECE 691: MS Paper ⁴	<u>Project Option:</u> ECE 692: MS Project or Project Course/ECE 696 ⁵ ECE Electives ^{1,3}	6
Total			30⁶

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in ECE.

² At least two ECE Electives must be chosen from two different core groups:

Group 1: ECE 510/511; ECE 516

Group 2: ECE 514/515; ECE 533/534; ECE 540/541; ECE 542; ECE 543; ECE 569

Group 3: ECE 520/521; ECE 530; ECE 550/551; ECE 560/561; ECE 625

- ³ Technical Electives need not necessarily be ECE courses, but the student's research advisor or academic advisor must approve non-ECE courses.
- ⁴ For the thesis/paper option, a student is required to select both an approved M.S. thesis/paper topic and the director and members of the thesis/paper committee during the first term of Graduate Studies. The thesis/paper director must give approval for enrollment in ECE 690/691.
- ⁵ Must include ECE 699 or a course from a list of approved research/project courses, maintained by the Department, and ECE 696.
- ⁶ Candidates for the Master of Science degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alphenaar, Bruce William

Ph.D., Yale University
Professor of Electrical &
Computer Engineering

Amini, Amir

Ph.D., University of Michigan
Professor of Electrical &
Computer Engineering

Cohn, Robert W.

Ph.D., Southern Methodist University
Professor of Electrical &
Computer Engineering

Farag, Aly A.

Ph.D., Purdue University
Professor of Electrical &
Computer Engineering

Graham, James H.

Ph.D., Purdue University
Professor of Electrical &
Computer Engineering
Chair of Electrical &
Computer Engineering

Harnett, Cindy K.

Ph.D., Cornell University
Assistant Professor of
Electrical & Computer
Engineering

Horowitz, Barry

Ph.D., Polytechnic Institute of Brooklyn
Professor of Electrical &
Computer Engineering

Inanc, Tamer

Ph.D., The Pennsylvania State University
Associate Professor of
Electrical & Computer
Engineering

Li, Hongxiang

Ph.D., University of Washington
Assistant Professor of
Electrical & Computer
Engineering

Lilly, John H.

Ph.D., Rensselaer Polytechnic Institute
Professor of Electrical &
Computer Engineering

McIntyre, Michael

Ph.D., Clemson University
Assistant Professor of
Electrical & Computer
Engineering

McNamara, Shamus

*Ph.D., University of
Wisconsin-Madison*
Associate Professor of
Electrical & Computer
Engineering

Naber, John F.

*Ph.D., Virginia Tech
University*
Professor of Electrical &
Computer Engineering

Walsh, Kevin M.

*Ph.D., University of
Cincinnati*
Professor of Electrical &
Computer Engineering

Welch, Karla Conn

Ph.D., Vanderbilt University
Assistant Professor of
Electrical & Computer
Engineering

Zurada, Jacek M.

*Ph.D., Technical University
of Gdansk*
Professor of Electrical &
Computer Engineering

Doctor of Philosophy in Electrical Engineering

Major: EE

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/electrical>

Program Information

Director of Graduate Studies

Dr. John F. Naber, (502)852-7910, [Email Dr. Naber](mailto:John.Naber@unlouisville.edu)

General Information

The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in electrical engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Electrical & Computer Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Electrical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.50 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1000 in the old GRE scale or 295 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are outlined in more detail at: http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees.

Curriculum

Graduate Studies - Ph.D.

Normally, it is expected that the student will complete a Master's degree before being admitted to the Ph.D. Program. However, qualified applicants may be admitted directly to the doctoral program after receiving a baccalaureate degree. These students will be required to complete an additional 30 hours of coursework at the 500 and 600 level under an individual plan developed in conjunction with the department's Director of Graduate Studies. Also, remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background.

The minimum curricular requirements for the doctoral program are:

Courses – Post Bac	Hours
Approved Master’s Level Course Work	30
Mathematics Electives ¹	6
ECE Electives ¹	15
Technical Electives ¹	9
ECE 700: Dissertation Research in EE	18
Total	78²

¹ At least 15 hours of Electives must be completed at the 600-level.

² Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student’s thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alphenaar, Bruce William

Ph.D., Yale University
Professor of Electrical &
Computer Engineering

Amini, Amir

Ph.D., University of

Michigan

Professor of Electrical &
Computer Engineering

Cohn, Robert W.

*Ph.D., Southern Methodist
University*

Professor of Electrical &
Computer Engineering

Farag, Aly A.

Ph.D., Purdue University
Professor of Electrical &
Computer Engineering

Graham, James H.

Ph.D., Purdue University
Professor of Electrical &
Computer Engineering
Chair of Electrical &
Computer Engineering

Harnett, Cindy K.

Ph.D., Cornell University
Assistant Professor of
Electrical & Computer
Engineering

Horowitz, Barry

*Ph.D., Polytechnic Institute
of Brooklyn*
Professor of Electrical &
Computer Engineering

Inanc, Tamer

*Ph.D., The Pennsylvania
State University*
Associate Professor of
Electrical & Computer
Engineering

Li, Hongxiang

*Ph.D., University of
Washington*
Assistant Professor of
Electrical & Computer
Engineering

Lilly, John H.

*Ph.D., Rensselaer
Polytechnic Institute*
Professor of Electrical &
Computer Engineering

McIntyre, Michael

Ph.D., Clemson University
Assistant Professor of
Electrical & Computer
Engineering

McNamara, Shamus

*Ph.D., University of
Wisconsin-Madison*
Associate Professor of
Electrical & Computer
Engineering

Naber, John F.

*Ph.D., Virginia Tech
University*
Professor of Electrical &
Computer Engineering

Walsh, Kevin M.

*Ph.D., University of
Cincinnati*
Professor of Electrical &
Computer Engineering

Welch, Karla Conn

Ph.D., Vanderbilt University
Assistant Professor of
Electrical & Computer
Engineering

Zurada, Jacek M.

*Ph.D., Technical University
of Gdansk*
Professor of Electrical &
Computer Engineering

Master of Science in Industrial Engineering

Major: IE

Degree Awarded: MS

Unit: GS

Program Webpage: <http://louisville.edu/speed/industrial/>

Program Information

Director of Graduate Studies

Dr. Gail DePuy, (502)852-0115, [Email Dr. DePuy](mailto:Gail.DePuy@louisville.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in industrial engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Industrial Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Industrial Engineering are as follows:

1. All admission applications for the program shall include:
 1. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 2. an application fee,
 3. results from the Graduate Record Examination (GRE),
 4. at least two letters of recommendation, and
 5. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 300.

5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.
6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either: total TOEFL score of 80 or higher or overall IELTS score of 6.5 or higher, or successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the guidelines for the Preparation of a Thesis, which are located on the website of the School of Interdisciplinary and Graduate Studies.
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - M.S.

Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background. The minimum curricular requirements for the master's program are:

Courses		Hours
IE 515: Operations Research Methods		3
IE 541: Simulation		3
IE 561: Engineering Statistics		3
IE 580: Occupational Ergonomics		3
IE 630: Production Systems		3
IE 657: Logistical Systems		3
6XX Technical Electives ^{1,2}		6
<u>Thesis Option:</u> IE 690: MS Thesis ³	<u>Non-Thesis Option:</u> IE 699: Masters Project ⁴	6

	6XX Technical Elective ¹	
Total		30⁵

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in IE.

² For students who do not have a previous degree in industrial engineering, one of the electives must be EM 613.

³ For the thesis option, a student is required to select both an approved M.S. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in IE 690.

⁴ For the non-thesis option, a student is required to select both an approved M.S. project topic and project advisor during the first term of Graduate Studies.

⁵ Candidates for the Master of Science degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alexander, Suraj M.

Ph.D.; Virginia Polytechnic Institute & State University
Professor of Industrial Engineering

Bae, Ki-Hwan

Ph.D., Virginia Polytechnic Institute and State University
Assistant Professor of Industrial Engineering

Bai, Lihui

Ph.D., University of Florida
Assistant Professor of Industrial Engineering

Depuy, Gail W.

Ph.D., Georgia Institute of Technology
Professor of Industrial Engineering

Holman, G. Talley

Ph.D., Auburn University
Assistant Professor of Industrial Engineering

Stucker, Brent

Ph.D., Texas A&M University
Professor of Industrial Engineering

Usher, John S.

*Ph.D., North Carolina State
University*

Professor of Industrial
Engineering

Yang, Li

*Ph.D., North Carolina State
University*

Assistant Professor of
Industrial Engineering

Wilhelm, Mickey R.

Ph.D., University of Alabama

Professor of Industrial
Engineering

Doctor of Philosophy in Industrial Engineering

Major: IE

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/industrial/>

Program Information

Director of Graduate Studies

Dr. Gail W. DePuy, (502)852-0115, [Email Dr. DePuy](mailto:Gail.DePuy@louisville.edu)

General Information

The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in industrial engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Industrial Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Industrial Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1200 in the old GRE scale or 305 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are outlined in more detail at: http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees.

Curriculum

Graduate Studies - Ph.D.

Normally, it is expected that the student will complete a Master's degree before being admitted to the Ph.D. Program. However, qualified applicants may be admitted directly to the doctoral program after receiving a baccalaureate degree. These students will be required to complete an additional 30 hours of coursework at the 500 and 600 level under an individual plan developed in conjunction with the department's Director of Graduate Studies. Also, remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background.

The minimum curricular requirements for the doctoral program are:

Courses – Post Bac	Hours
Approved Master’s Level Course Work ¹	30
Technical Electives ^{1,2}	31
IE 700: Dissertation Research in IE	17
Total	78³

¹ Master’s Level Course Work and/or IE Electives must be chosen so that 18 hours of core courses are taken. The core courses are listed below.

IE 515: Operations Research Methods **or** IE 610: Foundations of Optimization
 IE 541: Simulation **or** IE 642: Statistical Methodology in Simulation
 IE 563: Experimental Design in Engineering **or** EM 661: Engineering Statistics II
 IE 580: Occupational Ergonomics **or** IE 581: Ergonomic Techniques
 IE 600: Advanced Manufacturing Methods **or** IE 630: Advanced Production Systems Design
 IE 650: Material Flow Systems Design **or** IE 657: Logistical Systems

² For students who do not have a previous degree in industrial engineering, one of the electives must be EM 613. All electives must be approved by the department.

³ Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic course work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student’s thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alexander, Suraj M.

Ph.D., Virginia Polytechnic
Institute & State University
Professor of Industrial
Engineering

Bae, Ki-Hwan

*Ph.D., Virginia Polytechnic
Institute and State University*

Assistant Professor of
Industrial Engineering

Bai, Lihui

Ph.D., University of Florida
Assistant Professor of
Industrial Engineering

Depuy, Gail W.

Ph.D., Georgia Institute of
Technology
Professor of Industrial
Engineering

Holman, G. Talley

Ph.D., Auburn University
Assistant Professor of
Industrial Engineering

Stucker, Brent

Ph.D., Texas A&M
University
Professor of Industrial
Engineering

Usher, John S.

Ph.D., North Carolina State
Professor of Industrial
Engineering
Chair of Industrial
Engineering

Yang, Li

*Ph.D., North Carolina State
University*

Assistant Professor of
Industrial Engineering

Wilhelm, Mickey R

Ph.D., University of Alabama
Professor of Industrial
Engineering
Dean of J.B. Speed School of
Engineering

Master of Science in Mechanical Engineering

Major: ME

Degree Awarded: MS

Unit: GS

Program Webpage: <http://www.louisville.edu/speed/mechanical/>

Program Information

Director of Graduate Studies

Dr. Peter M. Quesada, (502)852-5981, [Email Dr. Quesada](mailto:pquesada@louisville.edu)

General Information

The M.S. degree program is intended for persons having an accredited baccalaureate degree in mechanical engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the MS degree program should consult the Director of Graduate Studies in the Department of Mechanical Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.S. program in Mechanical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for the School of Interdisciplinary and Graduate Studies,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 (on a 4.00 scale).
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1100 in the old GRE scale or 302 in the new scale.
5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are

incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.

6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The following degree requirements are mandatory of all Master of Science candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the guidelines for the Preparation of a Thesis, which are located on the website of the School of Interdisciplinary and Graduate Studies.
4. All credit, including transfer credit, must be earned within six years prior to the completion of the degree.

The requirements for the Master of Science degree are discussed in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - M.S.

Remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background. The minimum curricular requirements for the master's program are:

Courses		Hours
ME Electives ¹		15
Technical Electives ^{1,2}		9
<u>Thesis Option:</u> ME 690: MS Thesis ³	<u>Non-Thesis Option:</u> ME Electives ¹	6
Total		30⁴

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level; at least 15 hours of coursework must be in ME.

² Technical Electives can be non-mechanical engineering courses; these must be approved by the student's research advisor or academic advisor.

³ For the thesis option, a student is required to select both an approved M.S. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in ME 690.

⁴ Candidates for the Master of Science degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Berfield, Thomas A.

Ph.D., University of Illinois
at Urbana-Champaign
Assistant Professor of
Mechanical Engineering

Bradshaw, Roger D.

Ph.D., Northwestern
University
Associate Professor of
Mechanical Engineering

Brehob, Ellen G.

Ph.D., The Pennsylvania
State University
Associate Professor of
Mechanical Engineering

Cobourn, W. Geoffrey

D.Sc., Washington
University
Professor of Mechanical
Engineering

Day, Michael L.

Ph.D., Purdue University
Professor of Mechanical

Engineering, Associate Dean
of Academic Affairs

Hnat, William P.

Ph.D., University of Akron
Professor of Mechanical
Engineering

Lian, Yongsheng

Ph.D., University of Florida
Assistant Professor of
Mechanical Engineering

Murphy, Kevin

Ph.D., Duke University
Professor of Mechanical
Engineering
Chair of Mechanical
Engineering

Panchapakesan, Balaji

Ph.D., University of
Maryland
Associate Professor of
Mechanical Engineering

Prater, Glen

Ph.D., The Ohio State
University

Professor of Mechanical
Engineering

Chair of Mechanical
Engineering

Quesada, Peter M.

Ph.D., University of
California, Berkeley
Professor of Mechanical
Engineering

Richards, Christopher

Ph.D., The Ohio State
University
Associate Professor of
Mechanical Engineering

Sharp, M. Keith

Sc.D., Massachusetts
Institute of Technology
Professor of Mechanical
Engineering

Williams, Stuart J.

Ph.D., Purdue University
Assistant Professor of
Mechanical Engineering

Doctor of Philosophy in Mechanical Engineering

Major: ME

Degree Awarded: Ph.D.

Unit: GS

Program Webpage: <http://louisville.edu/speed/mechanical/>

Program Information

Director of Graduate Studies

Dr. Peter M. Quesada, (502)852-5981, [Email Dr. Quesada](mailto:pquesada@louisville.edu)

General Information

The Ph.D. degree program is intended for persons having an accredited masters and/or baccalaureate degree in mechanical engineering, but is available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background course work. Students interested in the Ph.D. degree program should consult the Director of Graduate Studies in the Department of Mechanical Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Admission Standards

The admission standards for the Ph.D. program in Mechanical Engineering are as follows:

1. All admission applications for the program shall include:
 - a. a completed [application](#) for University of Louisville graduate admission,
 - b. an application fee,
 - c. results from the Graduate Record Examination (GRE),
 - d. at least two letters of recommendation, and
 - e. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution or current enrollment in an undergraduate Speed School program.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale). A minimum graduate grade point average of 3.25 is also required for unconditional admission.
4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score of 1100 in the old GRE scale or 302 in the new scale.

5. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts and/or official score reports). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.
6. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the potential for acceptable graduate performance has been clearly demonstrated by other means.
7. International students whose primary language is not English must show English language proficiency by either:
 - a) total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test, or
 - b) successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 - c) demonstration of a degree award from an acceptable English language institution.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms status may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. Students who are not enrolled for a period of more than 12 months will

be considered to have withdrawn from the program. Students who seek to return after such a period of time must contact the graduate program director.

Degree Requirements

The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. The following degree requirements are mandatory of all doctoral candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. At least two years of study must be spent at the University of Louisville.
3. One year must be spent in full-time residency (a minimum of 18 hours within a 12-month period or four terms of continuous part-time enrollment).
4. The applicant for a Doctor of Philosophy degree must pass an oral and/or written qualifying examination.
5. Admission to candidacy must not be later than the end of the ninth month prior to the awarding of the degree. Students enter Degree Candidacy upon completion of all course work, qualifying exams, required research credit hours and other co-curricular requirements. Students who are enrolled in Degree Candidacy are considered full-time students. Enrollment in Degree Candidacy status must be continuously maintained year round (i.e. Fall, Spring, and Summer) until the degree is awarded.
6. A dissertation is required of all candidates.
7. All candidates must pass a final oral examination. This is to be a defense of the dissertation and a demonstration of the candidate's mastery of his/her field.
8. Ordinarily the equivalent of three years of full-time graduate study is a minimum. However, the candidate must complete all requirements for the degree within four calendar years after passing the qualifying examination.

The requirements for the Doctor of Philosophy degree are explained in more detail at: [http://louisville.edu/graduatecatalog/toc#Requirements for Graduate Degrees](http://louisville.edu/graduatecatalog/toc#Requirements_for_Graduate_Degrees).

Curriculum

Graduate Studies - Ph.D.

Normally, it is expected that the student will complete a Master's degree before being admitted to the Ph.D. Program. However, qualified applicants may be admitted directly to the doctoral program after receiving a baccalaureate degree. These students will be required to complete an additional 30 hours of coursework at the 500 and 600 level under an individual plan developed in conjunction with the department's Director of Graduate Studies. Also, remedial work may be specified for those applicants who, in the opinion of the faculty, do not have a sufficient background.

The minimum curricular requirements for the doctoral program are:

Courses – Post Bac	Hours
Approved Master’s Level Course Work	30
Advanced Mathematics ^{1,2}	6
ME Electives ²	12
Technical Electives ²	12
ME 700: Dissertation Research ³	18
Total	78⁴

¹ ME 565 and ME 566 or other 500-600 level courses with mathematics content with approval of the Director of Graduate Studies.

² At least one half of the total required 30 hours of Ph.D. coursework must be completed at the 600-level. The Advanced Mathematics, ME Electives and Technical Electives must support the candidate's research effort and constitute an integrated program of study. The student's advisor and the Director of Graduate Studies must approve course plans. Students are allowed to take at most (6) hours of Independent Study (ME 588/688) as part of the 30 hours of coursework..

³ Upon completion of course and dissertation hours the student must register for DOCT 600 (Doctoral Candidacy) in order to stay active in the ME Program.

⁴ Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic work attempted in Graduate Studies.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student’s thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following departmental faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

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at Urbana-Champaign*

Assistant Professor of
Mechanical Engineering

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*Ph.D., Northwestern
University*

Associate Professor of
Mechanical Engineering

Brehob, Ellen G.

*Ph.D., The Pennsylvania
State University*

Associate Professor of
Mechanical Engineering

Cobourn, W. Geoffrey

D.Sc., Washington University

Professor of Mechanical
Engineering

Day, Michael L.

Ph.D., Purdue University

Professor of Mechanical
Engineering

Associate Dean of Academic
Affairs

Hnat, William P.

Ph.D., University of Akron

Professor of Mechanical
Engineering

Lian, Yongsheng

Ph.D., University of Florida

Assistant Professor of
Mechanical Engineering

Murphy, Kevin

Ph.D., Duke University

Professor of Mechanical
Engineering

Chair of Mechanical
Engineering

Panchapakesan, Balaji

*Ph.D., University of
Maryland*

Associate Professor of
Mechanical Engineering

Prater, Glen

Ph.D., The Ohio State

University

Professor of Mechanical
Engineering

Quesada, Peter M.

*Ph.D., University of
California, Berkeley*

Professor of Mechanical
Engineering

Richards, Christopher

*Ph.D., The Ohio State
University*

Associate Professor of
Mechanical Engineering

Sharp, M. Keith

*Sc.D., Massachusetts
Institute of Technology*

Professor of Mechanical
Engineering

Williams, Stuart J.

Ph.D., Purdue University

Assistant Professor of
Mechanical Engineering

Master of Engineering in Bioengineering

Major: BE

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://www.louisville.edu/speed/bioengineering/>

Program Information

General Information

The Bachelor of Science in Bioengineering degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Bioengineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

Embodying the University, Speed School of Engineering and Department of Bioengineering missions of providing an excellent education through research, innovation and a rigorous curriculum, the Department of Bioengineering Master of Engineering degree program will produce graduates who:

1. Demonstrate advanced level academic expertise and practical engineering experience necessary to function as bioengineering professionals in a modern, ever-changing world. (Advanced Knowledge and Life-long Learning)
2. Display competence by being selected for employment by industrial, academic or government entities or further professional/graduate studies. (Career Opportunities)
3. Understand the broad, social, ethical and professional issues of contemporary engineering practice. (Awareness and Responsibility)

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

- u. An ability to apply Mathematics, Life Sciences, Physical Sciences, and Engineering to advanced bioengineering problems
- v. An ability in proficiently designing and validating experiments, systems, components, or processes to meet desired needs

- w. An ability for proficiently identifying, formulating, and solving advanced bioengineering problems
- x. An ability for proficient contemporary technical and scientific comprehension and lifelong learning
- y. An ability for proficient technical and scientific communication
- z. An ability to use advance techniques, skills, and modern engineering tools necessary for bioengineering practice

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.75 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.50 to 2.75 may be admitted upon petition and approval of the chair and faculty of the department.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses". The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014- Spring 2015 catalog year. The Master of Engineering in Bioengineering degree requires the following over and above the Bachelor of Science in Bioengineering Degree.

Courses		Hours
BE 621: Bioinstrumentation		4
BE 654: Advanced Physiology for Engineers		3
IE 563: Experimental Design in Engineering		3
BE Electives ^{1,2}		9
Technical Electives ^{1,3}		6
<u>Thesis Option:</u> BE 697: MEng Thesis ⁴	<u>Non-Thesis Option:</u> BE 691: Biomedical Rotation Technical Elective ^{1,3}	6
Total		31⁵

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level.

² BE Electives must be chosen from the following approved list:

BE 505, 550, 593, 611, 612, 640, 653, 658, 680, 681, 683, 693

³ The Technical Electives must be chosen from the following approved list. Only three credits from EM and six credits from BIOC or MATH may be used towards degree requirements.

BIOC 545, 547, 602

CECS 535, 619, 628, 632, 641, 643, 660

ECE 520, 521, 530, 533, 543, 544, 618, 620, 635, 641, 643, 655, 675

EM 525, 582, 613, 628, 661

IE 580, 581, 631, 681, 683

MATH 501, 502

ME 512, 548, 555, 565, 606, 612, 638, 644, 650, 651, 652, 653, 654, 656, 657, 658, 659

⁴ For the thesis option, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in BE 697.

⁵ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Bioengineering	133
Graduate Studies	31
Master of Engineering in Bioengineering	164

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an Ad hoc appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Bertocci, Gina E.

Ph.D., University of Pittsburgh
Professor of Bioengineering

El-Baz, Ayman S.

Ph.D., University of Louisville
Assistant Professor of Bioengineering

Friebos, Hermann B.

Ph.D., University of California-Irvine
Assistant Professor of Bioengineering

Giridharan, Guruprasad A.

Ph.D., University of Utah
Assistant Professor of Bioengineering

Keynton, Robert S.

Ph.D., University of Akron
Professor of Bioengineering
Chair of Bioengineering

Koenig, Steven C.

Ph.D., The University of Texas at Austin
Professor of Bioengineering

O'Toole, Martin

Ph.D., University of Louisville
Assistant Professor of Bioengineering

Soucy, Patricia

Ph.D., Johns Hopkins University

Assistant Professor of Bioengineering

Steinbach, Jill

Ph.D., Arizona State University

Assistant Professor of Bioengineering

Voor, Michael J.

Ph.D., Tulane University
Associate Professor of Bioengineering and Orthopedic Surgery

Master of Engineering in Chemical Engineering

Major: CHE

Degree Awarded: MEng.

Unit: GS

Program Webpage: <http://louisville.edu/speed/chemical>

Program Information

General Information

The Bachelor of Science Degree in Chemical Engineering will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Chemical Engineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. program is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The purpose of the five-year Master of Engineering Program is to bring together the faculty, staff, and capital resources to meet the following program educational objectives:

1. Educate and train graduates with the academic background and practical experiences necessary to function as chemical engineering professionals at an advanced level in a modern, ever-changing world in accordance with the mission of the department
2. Produce graduates who demonstrate competence by being selected for employment by high level industrial, academic and government entities
3. Provide our graduates with the foundation for the development of a successful career and with the understanding that life-long learning is necessary to this development
4. Ensure that our graduates understand the broad societal, ethical and professional issues of the engineering profession

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

- a. an ability to apply knowledge of mathematics, science and engineering to identify, formulate and solve advanced chemical engineering problems

- b. an ability to design and conduct experiments demonstrating chemical engineering principles, as well as to analyze and interpret resulting data
- c. an ability to design a system, component, or process relevant to chemical engineering practice to meet desired needs subject to realistic constraints such as economics, environmental compliance and sustainability, health and safety, manufacturability, and social, political, and ethical implications
- d. an ability to function on multi-disciplinary or multi-functional teams
- e. an ability to identify, formulate, and solve chemical engineering problems
- f. an understanding of the professional and ethical responsibility of the practicing chemical engineer
- g. an ability to communicate effectively in writing, orally, and via modern computer technology
- h. the broad education necessary to understand the impact of chemical engineers and engineering solutions in a global, economic, environmental, and societal context
- i. a recognition of the need for, and an ability to engage in life-long learning
- j. a knowledge of contemporary issues, especially those pertinent to the practice of chemical engineering
- k. an ability to use the techniques, skills, and modern engineering tools necessary for chemical engineering practice

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.25 to 2.50 may be admitted upon petition and approval of the chair and faculty of the department.
4. An applicant who has earned more than one D grade in a CHE prefix course will not be admitted to Graduate Studies until any excess D grades have been improved.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses". The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Chemical Engineering degree requires the following over and above the Bachelor of Science in Chemical Engineering Degree.

Courses		Hours
CHE 595: Seminar in CHE		1
CHE 610: Advanced Thermodynamics		3
CHE 620: Transport Phenomena		3
CHE 641: Advanced Reactor Design		3
CHE 686: CHE Analysis		3
Technical Electives ¹		12
Thesis Alternative: CHE 697: MEng Thesis ²	Non-thesis Alternative: CHE 698: Engr Project I CHE 699: Engr Project II	6
Total		31³

- ¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level. Technical Electives need not necessarily be CHE courses, but the student's research advisor or academic advisor must approve non-CHE courses.
- ² For the thesis alternative, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CHE 697.
- ³ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Chemical Engineering	134
Graduate Studies	31
Master of Engineering in Chemical Engineering	165

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Amos, Delaina A.
Ph.D., University of California, Berkeley
Associate Professor of
Chemical Engineering

Berson, R. Eric
Ph.D., University of Louisville

Associate Professor of
Chemical Engineering
Fu, Xiao-An
Ph.D., Case Western Reserve University

Associate Professor of
Chemical Engineering

Kang, Kyung A.
Ph.D., University of California, Davis
Professor of Chemical
Engineering
Pinto, Neville
Ph.D., The Pennsylvania State University

Professor of Chemical
Engineering
Dean, Speed School of
Engineering
Starr, Thomas L.
*Ph.D., University of
Louisville*
Professor of Chemical
Engineering

Associate Dean, Speed
Research Administration
Sunkara, Mahendra K.
*Ph.D., Case Western Reserve
University*
Professor of Chemical
Engineering
Watters, James Charles
Ph.D., University of

Maryland
Professor of Chemical
Engineering
Chair of Chemical
Engineering
Willing, Gerold A.
Ph.D., Auburn University
Associate Professor of
Chemical Engineering

Master of Engineering in Civil Engineering

Major: CE

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://speed.louisville.edu/speed/civil/>

Program Information

General Information

The Bachelor of Science in Civil Engineering degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Civil Engineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The purpose of the five-year Master of Engineering Program is to bring together the faculty, staff, and capital resources to meet the following program educational objectives:

1. In accordance with our mission statement, provide instruction and associated activities necessary for our graduates to grow from technical competency to professional proficiency
2. Foster an appreciation in our graduates for professional development and life-long learning
3. Provide an educational experience that inspires our graduates to exhibit leadership and team-building skills
4. Promote service by our graduates to the profession, and to society

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates.

- a. Develop in students an ability to apply knowledge from math, science and engineering
- b. Develop an ability to organize and conduct laboratory and field work
- c. Develop an ability to analyze and interpret data

- d. Develop student competence in the design of systems, components, and processes to meet specific needs
- e. Provide experience and guidance in working on teams, having a diverse technical makeup
- f. Train students to identify, formulate, and solve engineering problems
- g. Instill in students an understanding of professional and ethical responsibilities, both in education and in practice
- h. Develop and practice effective oral communication
- i. Develop and practice effective written and graphic communication
- j. Provide a breadth of course work and perspectives which create an understanding of the impact of engineering in society, both local and global
- k. Create an awareness in students of the need for life-long learning, whether through formal education or via many other means
- l. Expose students to contemporary issues pertinent to the practice of civil engineering
- m. Through both instruction and practice, develop in students an ability to use the techniques, skills and modern engineering tools commonly used in civil engineering practice

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. There is no petition process for students with cumulative baccalaureate grade-point averages below a 2.50.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register

for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.

3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses”. The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Civil Engineering degree requires the following over and above the Bachelor of Science in Civil Engineering Degree.

Courses		Hours
CEE 680: Capstone Design		3
Specialty Area Courses: ¹ Facilities Engineering ² or Public Works Engineering ³		21
<u>Thesis Option:</u> CEE 697: MEng Thesis ⁴	<u>Non-thesis Option:</u> Technical Electives ⁵	6
Total		30⁶

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level.

² Facilities Engineering includes courses in the geotechnical/structural area. The 21 hours must be chosen from the following approved list:
CEE 520, 522, 552, 604, 620, 621, 625, 650, 652, 653, 654

³ Public Works Engineering includes courses in the geotechnical/transportation/water resources area. The 21 hours must be chosen from the following approved list:
CEE 509, 534, 535, 552, 560, 561, 570, 571, 572, 573, 604, 650, 652, 653, 654, 660, 662, 665, 670, 673, 674, 675, 694

⁴ For the thesis option, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CEE 697.

⁵ Technical Electives for the non-thesis option must be approved by the CEE department.

Total	Hours
Bachelor of Science in Civil Engineering	134
Graduate Studies	30
Master of Engineering in Civil Engineering	164

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Bhaskar, Nageshwar R.
Ph.D., The Ohio State
University
Professor of Civil &
Environmental Engineering

French, Mark N.
Ph.D., University of Iowa
Professor of Civil &
Environmental Engineering

Kim, Young Hoon
*Ph.D., Texas A&M
University*

Assistant Professor of Civil
& Environmental
Engineering

McGinley, W. Mark
Ph.D., University of Alberta,

Edmonton
Professor of Civil &
Environmental Engineering

Mohsen, J. P.
Ph.D., University of
Cincinnati
Professor of Civil &
Environmental Engineering
Chair of Civil &
Environmental Engineering

Parola, Arthur C.
Ph.D., The Pennsylvania
State University
Professor of Civil &
Environmental Engineering

Rockaway, Thomas D.
Ph.D., Georgia Institute of

Technology
Assistant Professor of Civil
& Environmental
Engineering

Sun, Zhihui
Ph.D., Northwestern
University
Assistant Professor of Civil
& Environmental
Engineering

Zhao, Qian
*Ph.D., Georgia Institute of
Technology*
Assistant Professor of Civil
& Environmental
Engineering

Master of Engineering in Computer Engineering Computer Science

Major: CECS

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://louisville.edu/speed/computer/>

Program Information

General Information

The Bachelor of Science in Computer Engineering and Computer Science degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Computer Engineering and Computer Science degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The purpose of the five-year Master of Engineering Program is to bring together the faculty, staff, and capital resources to meet the following program educational objectives:

1. Educate and train MEng graduates with the advanced level academic background and practical engineering experience necessary to function as computer engineering and computer science professionals in a modern, ever-changing world
2. Produce graduates who demonstrate competence by being selected for employment by industrial, academic, or government entities, or pursue further professional/graduate studies
3. Provide our graduates with the foundation for the development of a successful career and with the understanding that life-long learning is necessary to this development
4. Ensure that our graduates understand the broad social, ethical, and professional issues of contemporary engineering practice

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

- a. an ability to apply knowledge of mathematics, science, and engineering in the field of computer engineering and computer science

- b. an ability to design and conduct experiments, as well as to analyze and interpret data in the field of computer engineering and computer science
- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability in the field of computer engineering and computer science
- d. an ability to function on multidisciplinary teams
- e. an ability to identify, formulate and solve problems in the field of computer engineering and computer science
- f. an understanding of professional and ethical responsibility in the field of computer engineering and computer science
- g. an ability to communicate effectively
- h. the broad education necessary to understand the impact of computer engineering and computer science in a global, economic, environmental, and societal context
- i. a recognition of the need for and an ability to engage in life-long learning in the field of computer engineering and computer science
- j. knowledge of contemporary issues in the field of computer engineering and computer science
- k. an ability to use the techniques, skills, and engineering tools for the practice of computer engineering and computer science

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.25 to 2.50 may be admitted upon petition and approval of the chair and faculty of the department.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.

2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses". The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Computer Engineering and Computer Science degree requires the following over and above the Bachelor of Science in Computer Engineering and Computer Science Degree.

Courses		Hours
CECS/ECE 510: Computer Design		3
ECE 511: Computer Design Lab		1
CECS/IE 563: Experimental Design or CECS 620: Combinatorial Optimization		3
CECS 622: Discrete Systems		3
CECS 625: Parallel Programming		3
CECS Electives ¹		12
<u>Thesis Option:</u> CECS 697: MEng Thesis ²	<u>Non-Thesis Option:</u> CECS 696: Project CECS Elective ¹	6
Total		31³

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level. Electives must be approved by the academic advisor.

- ² For the thesis option, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in CECS 697.
- ³ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Computer Engineering and Computer Science	132
Graduate Studies	31
Master of Engineering in Computer Engineering and Computer Science	163

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Altiparmak, Nihat
Ph.D., University of Texas at San Antonio
Assista Professor of
Computer Engineering &
Computer Science
Badia, Antonio E.
Ph.D., Indiana University

Associate Professor of
Computer Engineering &
Computer Science
Chang, Dar-Jen
Ph.D., University of Michigan
Associate Professor of

Computer Engineering &
Computer Science
Desoky, Ahmed H.
Ph.D., North Carolina State University
Associate Professor of
Computer Engineering &
Computer Science

Elmaghraby, Adel S.

Ph.D., University of Wisconsin

Professor of Computer Engineering & Computer Science

Chair of Computer Engineering & Computer Science

Frigui, Hichem

Ph.D., University of Missouri-Columbia

Professor of Computer Engineering & Computer Science

Imam, Ibrahim N.

Ph.D., Auburn University
Professor of Computer

Engineering & Computer Science

Kantardzic, Mehmed

Ph.D., University of Sarajevo, Bosnia

Professor of Computer Engineering & Computer Science

Kumar, Anup

Ph.D., North Carolina State University

Professor of Computer Engineering & Computer Science

Lauf, Adrian

Ph.D., Vanderbilt University
Assistant Professor of

Computer Engineering & Computer Science

Nasraoui, Olfa

Ph.D., University of Missouri-Columbia

Professor of Computer Engineering & Computer Science

Rouchka, Eric Christian

D.Sc., Washington University

Associate Professor of Computer Engineering & Computer Science

Yampolskiy, Roman V.

Ph.D., University of Buffalo

Associate Professor of Computer Engineering & Computer Science

Master of Engineering in Electrical Engineering

Major: EE

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://louisville.edu/speed/electrical>

Program Information

General Information

The Bachelor of Science in Electrical and Computer Engineering degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Electrical and Computer Engineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The purpose of the five-year Master of Engineering Program is to bring together the faculty, staff, and capital resources to meet the following program educational objectives:

1. Graduates of the Master of Engineering in Electrical Engineering program shall be prepared for successful and productive engineering careers, possess technical competency, and be effective team members and effective communicators.
2. Graduates of the Master of Engineering in Electrical Engineering program shall be prepared for the successful pursuit of graduate studies and have the ability to engage in lifelong learning in electrical engineering and related fields.
3. Graduates of the Master of Engineering in Electrical Engineering program shall possess a sense of professionalism, with emphasis on professional ethics and an awareness of professional licensing, and shall participate in the affairs of the profession.

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

1. the ability to apply knowledge of the physical sciences, mathematics, and engineering fundamentals to the solution of electrical engineering problems

2. the ability to design and conduct experiments in electrical engineering, and to analyze and interpret the data generated by those experiments
3. the ability to design components, devices, and systems to meet specific needs in electrical engineering, within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
4. the ability to function effectively on multi-disciplinary teams which may involve people from diverse backgrounds
5. the ability to identify, formulate, and solve problems in electrical engineering
6. an understanding of professional and ethical responsibilities
7. the ability to demonstrate effective:
 - a. oral communication in the field of electrical engineering
 - b. written communication in the field of electrical engineering
8. attainment of the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
9. the ability to recognize and respond to the need for life-long learning for a successful career in electrical engineering
10. an understanding of contemporary technical and professional issues in the practice of electrical engineering
11. the ability to use the techniques, skills, and tools of modern engineering effectively in the practice of electrical engineering

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.25 to 2.50 may be admitted upon petition and approval of the chair and faculty of the department.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses". The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Electrical & Computer Engineering degree requires the following over and above the Bachelor of Science in Electrical & Computer Engineering Degree.

Courses			Hours
ECE Electives ^{1,2,3}			18
Technical Electives ^{1,2,3,4}			6
<u>Thesis/Paper Option:</u> ^{2,3,5} ECE 697: MEng Thesis or ECE 698: MEng Paper	<u>Project Option:</u> ^{2,3} ECE 699: MEng Project ¹ ECE Electives ^{1,3}	<u>Course Option:</u> ^{2,3} Research/Project Course/ECE 696 ^{1,6} ECE Electives ^{1,3}	8
Total			32⁷

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis or paper, are 600-level.

- ² A minimum of nine hours must be classified as Design Electives. Design Electives must be chosen from the following approved list of regular courses: ECE 510/511, 512/513, 515/514, 516, 520/521, 533/534, 550/551, 560/561, 564/565, 613, 614, 618/635, 619/645, 620/655, 633/634, 636/637, 651, 661, 662, 664, 667.
- ³ Requires approval of the student's faculty advisor.
- ⁴ Technical Electives may be taken within or outside the Department. All selections require the approval of the student's faculty advisor; courses outside the Department also require approval of the Director of Undergraduate and Professional Programs of the ECE Department. Only three hours may be at the 500-level.
- ⁵ For the thesis/paper option, a student is urged to select both an approved M.Eng. thesis/paper topic and the director and members of the thesis/paper committee during the first term of Graduate Studies. The thesis/paper director must give approval for enrollment in ECE 697/698.
- ⁶ A list of approved research/project courses is maintained by the Department.
- ⁷ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Electrical Engineering	134
Graduate Studies	32
Master of Engineering in Electrical Engineering	166

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alphenaar, Bruce William
Ph.D., Yale University
Professor of Electrical &

Computer Engineering
Chair of Electrical &
Computer Engineering

Amini, Amir
Ph.D., University of Michigan

Professor of Electrical &
Computer Engineering
Cohn, Robert W.
*Ph.D., Southern Methodist
University*
Professor of Electrical &
Computer Engineering
Farag, Aly A.
Ph.D., Purdue University
Professor of Electrical &
Computer Engineering
Graham, James H.
Ph.D., Purdue University
Professor of Electrical &
Computer Engineering
Harnett, Cindy K.
Ph.D., Cornell University
Associate Professor of
Electrical & Computer
Engineering
Horowitz, Barry
*Ph.D., Polytechnic Institute
of Brooklyn*
Professor of Electrical &
Computer Engineering

Inanc, Tamer
*Ph.D. The Pennsylvania State
University*
Associate Professor of
Electrical & Computer
Engineering
Li, Hongxiang
*Ph.D., University of
Washington*
Assistant Professor of
Electrical & Computer
Engineering
Lilly, John H.
*Ph.D., Rensselaer
Polytechnic Institute*
Professor of Electrical &
Computer Engineering
McIntyre, Michael
Ph.D., Clemson University
Assistant Professor of
Electrical & Computer
Engineering
McNamara, Shamus
*Ph.D., University of
Wisconsin-Madison*

Associate Professor of
Electrical & Computer
Engineering
Naber, John F.
*Ph.D., Virginia Tech
University*
Professor of Electrical &
Computer Engineering
Walsh, Kevin M.
*Ph.D., University of
Cincinnati*
Professor of Electrical &
Computer Engineering
Welch, Karla Conn
Ph.D., Vanderbilt University
Assistant Professor of
Electrical & Computer
Engineering
Zurada, Jacek M.
*Ph.D., Technical University
of Gdansk*
Professor of Electrical &
Computer Engineering

Master of Engineering in Engineering Management

Major: EM

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://louisville.edu/speed/industrial/>

Program Information

General Information

The Department of Industrial Engineering of the J. B. Speed School of Engineering offers an online program in Engineering Management. The program is designed to build upon the mathematical and analytical expertise gained from prior engineering or related scientific education as well as upon his or her professional experience gained in the course of active engineering employment. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award master's degrees.

Admission Standards

The admission standards for the M.Eng. program in Engineering Management are as follows:

1. All admission applications for the program shall include:
 1. a completed [application](#) for University of Louisville graduate admission,
 2. an application fee,
 3. at least two letters of recommendation, and
 4. official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the Bachelor of Science degree or its equivalent in engineering or related scientific field from an accredited institution.
3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 2.75 on a 4.00 scale.
4. Admission in good standing shall be made only if all admission credentials have been received, evaluated and approved and all academic requirements met. A student may be admitted provisionally if academic requirements are met but application materials are incomplete (usually missing letters of recommendation or official transcripts). Students have one semester to furnish any credentials missing at the time of admission and may not enroll for a second consecutive term in provisional status.
5. Any conditional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the program chair and the Speed School Associate Dean for Academic Affairs. This will allow consideration of special circumstances in which the

potential for acceptable graduate performance has been clearly demonstrated by other means.

6. International students whose primary language is not English must show English language proficiency by either:
 1. total score of 80 or higher on the Test of English as a Foreign Language (TOEFL) Internet-based test or 6.5 or higher on the IELTS, or
 2. successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville, or
 3. demonstration of a degree award from an acceptable English language institution.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 3.00 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 3.00 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work from the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.

- The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Engineering Management degree requires the following courses.

Courses	Hours
EM/IE Electives ¹	21
Technical Electives ¹	9
Total	30 ²

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level. Technical Electives may be taken within or outside the Department and up to 6 hours may be from Business Administration programs. All selections require the approval of the student's faculty advisor.

² Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 3.00 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses cannot have been used to also satisfy B.S. degree requirements.

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on

a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alexander, Suraj M.

Ph.D.; Virginia Polytechnic
Institute & State University
Professor of Industrial
Engineering

Bae, Ki-Hwan

*Ph.D.; Virginia Polytechnic
Institute and State University*
Assistant Professor of
Industrial Engineering

Bai, Lijian

Ph.D., University of Florida
Assistant Professor of
Industrial Engineering

Depuy, Gail W.

Ph.D., Georgia Institute of
Technology
Professor of Industrial
Engineering

Holman, G. Talley

Ph.D., Auburn University
Assistant Professor of
Industrial Engineering

Stucker, Brent

Ph.D., Texas A&M
University
Professor of Industrial
Engineering

Usher, John S.

Ph.D., North Carolina State
Professor of Industrial
Engineering
of Industrial Engineering
Chair

Yang, Li

*Ph.D., North Carolina State
University*

Assistant Professor of
Industrial Engineering

Wilhelm, Mickey R.

Ph.D., University of Alabama
Professor of Industrial
Engineering

Master of Engineering in Industrial Engineering

Major: IE

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://louisville.edu/speed/industrial/>

Program Information

General Information

The Bachelor of Science in Industrial Engineering degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Industrial Engineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The objectives of the five-year Master of Engineering Program are to produce ethically responsible graduates who are:

1. successful in the professional practice of industrial engineering
2. effective communicators and team players, and, involved in professional service and lifelong learning

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

- a. an ability to apply knowledge of mathematics, science, and engineering
- b. an ability to design and conduct experiments, as well as to analyze and interpret data
- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. an ability to function on multi-disciplinary teams
- e. an ability to identify, formulate, and solve engineering problems
- f. an understanding of professional and ethical responsibility

- g. an ability to communicate effectively
- h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. a recognition of the need for, and an ability to engage in life-long learning
- j. a knowledge of contemporary issues
- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- l. an ability to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy.

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.25 to 2.50 may be admitted upon petition and approval of the chair and faculty of the department.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the

approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master's degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses". The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Industrial Engineering degree requires the following over and above the Bachelor of Science in Industrial Engineering Degree.

Courses		Hours
IE 581: Ergonomics		3
IE 630: Production Systems		3
IE 650: Material Flow		3
IE 657: Logistical Systems		3
6XX Technical Elective ¹		3
Technical Electives ¹		9
Thesis Option: IE 697: MEng Thesis ²	Non-Thesis Option: IE 699: Masters Project ³ Technical Elective ¹	6
Total		30⁴

¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level. All electives must be approved by the department.

² For the thesis option, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in IE 697.

³ For the non-thesis option, a student is required to select both an approved M.Eng project topic and project advisor during the first term of Graduate Studies.

⁴ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Industrial Engineering	131
Graduate Studies	30
Master of Engineering in Industrial Engineering	161

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Alexander, Suraj M.

Ph.D.; Virginia Polytechnic Institute & State University
Professor of Industrial Engineering
Acting Chair of Industrial Engineering

Bae, Ki-Hwan

Ph.D.; Virginia Polytechnic Institute and State University
Assistant Professor of Industrial Engineering

Bai, Lihui

Ph.D.; University of Florida
Assistant Professor of Industrial Engineering

DePuy, Gail W.

Ph.D., Georgia Institute of Technology
Professor of Industrial Engineering

Holman, G. Talley

Ph.D., Auburn University
Assistant Professor of Industrial Engineering

Stucker, Brent

Ph.D., Texas A&M University
Professor of Industrial Engineering

Usher, John S.

Ph.D., North Carolina State

Professor of Industrial Engineering
Associate Dean for Administration, Planning and Faculty Affairs

Yang, Li

Ph.D., North Carolina State University
Assistant Professor of Industrial Engineering

Wilhelm, Mickey R.

Ph.D., University of Alabama
Professor of Industrial Engineering
Dean Emeritus of J.B. Speed School of Engineering

Master of Engineering in Mechanical Engineering

Major: ME

Degree Awarded: MEng.

Unit: SP

Program Webpage: <http://louisville.edu/speed/mechanical/>

Program Information

General Information

The Bachelor of Science in Mechanical Engineering degree will provide a student with the basis to be able to complete the Master of Engineering (M.Eng.) in Mechanical Engineering degree. The Master of Engineering degree is accredited by the Engineering Accreditation Commission of ABET, Inc.

Since the M.Eng. is accredited as part of a five-year program with one-year of co-op experience, it is not typically well-suited for students who have not matriculated through the preceding four years at Speed School. Therefore, almost all students who earn an undergraduate degree at a school or university other than the University of Louisville pursue the M.S. degree instead of the M.Eng. degree.

Master of Engineering Program Educational Objectives

The purpose of the five-year Master of Engineering Program is to bring together the faculty, staff, and capital resources to meet the following program educational objectives:

1. Succeed as practicing mechanical engineers in government, industry, academia, and other economic sectors
2. Use their knowledge and skills in mathematics, science, engineering, and other disciplines to identify, define, and solve problems, and to anticipate the global, societal, and environmental impact of their solutions
3. Understand the importance of professional licensure, and act upon that understanding by pursuing registration
4. Comply with professional ethics codes, practice sustainable engineering, undertake professional development, and engage in life-long technical learning
5. Display skills in teamwork, communication, critical thinking, and leadership
6. Demonstrate an engineering knowledge base of greater depth and breadth than that expected of baccalaureate-only graduates, helping them understand and influence contemporary technological issues as engineering innovators and managers

Master of Engineering Student Outcomes

In order to achieve these objectives, the Master of Engineering has the following outcomes set for its graduates. Graduates will demonstrate:

- a. the ability to apply knowledge of mathematics, science, and engineering to the solution of problems encountered in mechanical engineering practice
- b. an ability to design and conduct experiments assessing phenomena encountered during mechanical engineering practice, along with the ability to analyze and interpret the resulting data
- c. an ability to design mechanical engineering systems, components, or processes that meet specified requirements
- d. an ability to function on multidisciplinary teams in both leadership roles and as an individual contributor
- e. the ability to identify and describe mechanical engineering problems, formulate constraints, devise and assess alternative approaches, and implement an optimal solution that satisfies specified performance, cost, time, and safety requirements
- f. a solid understanding of professional and ethical responsibility in the field of mechanical engineering, as well as a record of adherence to those standards during academic coursework and cooperative education internships
- g. the ability to communicate effectively in writing, during interpersonal discussions, and through formal multimedia presentations, along with the ability to use these skills within the context of mechanical engineering practice
- h. an understanding of the impact of mechanical engineering solutions in a global and societal context.
- i. an understanding of the need for, and an ability to engage in lifelong learning
- j. a knowledge of contemporary issues, along with a knowledge of how such issues influence technology evolution and implementation
- k. an ability to use the techniques, skills, and modern engineering tools necessary for the practice of mechanical engineering
- l. an ability to apply masters-level knowledge in a specialized area related to mechanical engineering

Admission Standards

Students desiring to pursue the Master of Engineering degree must formally apply for admission to Graduate Studies in the School of Engineering. The application form is available from Speed School Academic Affairs and should be returned to the same office. It is also available online at <http://louisville.edu/speed/academics/forms>. The application should be submitted prior to completion of undergraduate Departmental Studies, typically not earlier than one semester before completion of baccalaureate requirements.

The requirements for admission or readmission to Graduate Studies – Master of Engineering are:

1. Completion of a program of studies equivalent to that obtained through Engineering Fundamentals and Departmental Studies for the field of specialization in which the student desires to receive the Master of Engineering degree;
2. Recommendation by the faculty and chair of the student's department for admission or readmission to Graduate Studies;
3. Cumulative baccalaureate grade point average of 2.50 for all prior academic course work completed in the program. However, those students with cumulative baccalaureate grade-point averages from 2.25 to 2.50 may be admitted upon petition and approval of the chair and faculty of the department.

A student becomes a candidate for the Master of Engineering degree upon admission to Graduate Studies and initial registration as a graduate student.

Residency

All graduate students are expected to make steady and satisfactory progress toward the completion of degrees. A candidate for the Master of Engineering degree who does not register for credit hours must maintain active registration by paying a fee each semester for M.Eng. residency until the degree is awarded (i.e., the candidate must maintain continuous registration, including summer terms, in Graduate Studies). Failure to pay the M. Eng. residency fee will be cause to cancel a student's candidacy. Students who are not enrolled for a period of more than 12 months will be considered to have withdrawn from the program. In order to be restored to candidacy, the student must have the recommendation of the department chair, receive the approval of the Associate Dean and pay the fee for each of the semesters during which the candidacy was void.

Academic Performance

The J.B. Speed School of Engineering has established the following performance policies:

1. The minimum grade point average requirement for good standing and satisfaction of degree requirements is 2.75 for all academic work completed while in graduate studies.
2. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms may be considered for dismissal from the program.
3. Students receiving graduate assistantships (teaching, research or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.
4. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the university catalog may be subject to academic dismissal from their programs.

Eligibility for Master of Engineering degree graduate honors is based upon the grade point average for the five year degree program and not just courses taken while in Graduate Studies. Speed School has the following distinctions:

- Degree with Honors: 3.25
- Degree with High Honors: 3.50
- Degree with Highest Honors: 3.75

Degree Requirements

The following degree requirements are mandatory of all Master of Engineering candidates:

1. The Program of Study must be completed with a 2.75 GPA or better for all academic work attempted in Graduate Studies.
2. Masters students must take at least 24 hours of course work at the University of Louisville to satisfy the residency requirement for the master’s degree. A maximum of six hours of graduate credit may be transferred from accredited institutions.
3. Students following the Thesis Option must follow the Procedures and Standards for Master of Engineering Theses”. The guidelines are located online at <http://louisville.edu/speed/academics/policies/MEngThesisGuidelines.pdf>.
4. The total requirements must be completed within six years after admission into Graduate Studies. The time limit imposed by the rule may be extended in individual cases upon recommendation of the department chair and approval of the Associate Dean for Academics.

Curriculum

Graduate Studies – M.Eng.

This Program of Study was approved for students entering Graduate Studies in the Summer 2014 - Spring 2015 catalog year. The Master of Engineering in Mechanical Engineering degree requires the following over and above the Bachelor of Science in Mechanical Engineering Degree.

Courses		Hours
ME 644: Mechatronics		3
ME Electives ¹		12
Technical Electives ^{1,2}		9
Thesis Option: ME 697: MEng Thesis ³	Non-Thesis Option: ME 645: MEng Project ME Elective ¹	6

Total	30⁴
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¹ Electives must be chosen so that at least one-half of the credits counted toward the degree, exclusive of thesis, are 600-level. Electives are selected with the assistance of the student's academic advisor.

² Technical Electives can be non-mechanical engineering courses; these must be approved by the student's academic advisor.

³ For the thesis option, a student is required to select both an approved M.Eng. thesis topic and the director and members of the thesis committee during the first term of Graduate Studies. The thesis director must give approval for enrollment in ME 697.

⁴ Candidates for the Master of Engineering degree must have a minimum final cumulative grade point average of 2.75 for all academic course work attempted in Graduate Studies. A maximum of six hours of graduate level courses taken as an undergraduate may be used to satisfy M.Eng. degree requirements; these courses should not have been used to also satisfy B.S. degree requirements.

Total	Hours
Bachelor of Science in Mechanical Engineering	134
Graduate Studies	30
Master of Engineering in Mechanical Engineering	164

Departmental Faculty

The Graduate Faculty of the J.B. Speed School of Engineering will be responsible for the teaching, training, and mentoring of graduate students and postdoctoral students within the Speed School. Membership in the Graduate Faculty shall be required to teach a course for which graduate credit is available and will be required to serve on a graduate student's thesis or dissertation committee in either an advisory or chairmanship capacity. The Graduate Faculty of other units may serve as external members of the committees. Additionally, membership in the Graduate Faculty will be required to act as mentors for the supervision of research by students working toward degrees authorized through the Graduate Program within the J.B. Speed School of Engineering.

Members of the Graduate Faculty with an *Ad hoc* appointment can be approved by the Associate Dean of Academic Affairs to teach a graduate course or serve as an advisor or chair (mentor) on a graduate thesis or dissertation committee for a limited and specified period of time upon request from the Departmental Chair.

The following faculty have permanent appointments as Graduate Faculty of the J.B. Speed School of Engineering:

Berfield, Thomas A.
*Ph.D., University of Illinois
at Urbana-Champaign*

Assistant Professor of
Mechanical Engineering

Bradshaw, Roger D.
*Ph.D., Northwestern
University*

Associate Professor of
Mechanical Engineering

Brehob, Ellen G.

*Ph.D., The Pennsylvania
State University*

Associate Professor of
Mechanical Engineering

Cobourn, W. Geoffrey

D.Sc., Washington University

Professor of Mechanical
Engineering

Day, Michael L.

Ph.D., Purdue University

Professor of Mechanical
Engineering

Associate Dean of Academic
Affairs

Hnat, William P.

Ph.D., University of Akron

Professor of Mechanical
Engineering

Lian, Yongsheng

Ph.D., University of Florida

Assistant Professor of
Mechanical Engineering

Murphy, Kevin

Ph.D., Duke University

Professor of Mechanical
Engineering

Chair of Mechanical

Engineering

Panchapakesan, Balaji

Ph.D., University of

Maryland

Associate Professor of
Mechanical Engineering

Prater, Glen

Ph.D., The Ohio State

University

Professor of Mechanical
Engineering

Quesada, Peter M.

Ph.D., University of

California, Berkeley

Professor of Mechanical
Engineering

Richards, Christopher

Ph.D., The Ohio State

University

Associate Professor of
Mechanical Engineering

Sharp, M. Keith

Sc.D., Massachusetts

Institute of Technology

Professor of Mechanical
Engineering

Williams, Stuart J.

Ph.D., Purdue University

Assistant Professor of
Mechanical Engineering

Graduate Certificate in African American Theatre

Major: GCAAT

Degree Awarded: CERT

Unit: GA

Program Webpage: <http://louisville.edu/theatrearts/academics/graduate-studies/graduate-certificate-in-african-american-theatre>

Program Information

The first (and only) graduate program in African American Theatre in the region.

Requires 15 hours of graduate credit—nine (9) hours in African American Theatre, three (3) hours of theatre-related Community Service, and three (3) hours of Electives.

Can be completed as a “stand alone” program or in conjunction with another graduate program (any area).

Specially designed for:

- Teachers, Government and Community Agency Professionals
- Graduate Students (at U of L or another institution)
- Persons preparing for professional careers in the theatre arts
- Community Residents

Curriculum

History, Theory and Literature (6 credits) 6

TA 566 Advanced African American Theatre History

and one of the following:

TA 664 Approaching African American Theatre

TA 563 Advanced African American Women in Theatre

TA 565 Advanced Theatre of the African World

Performance/Design (3 credits)

One of the following:

TZ 532 Advanced Directing the Black Experience 3

Electives (3 credits) 3

one of the following:

TA 650 Theatre Internship

TA 655 Independent Study

PAS Approved courses in Pan African Studies

TA 654 Community Service in the Arts

Independent Study (3 credits)

3

Minimum total hours

15

Departmental Faculty

Baron Kelly

Associate Professor

Nefertiti Burton

Associate Professor

Johnnie Jones

Assistant Professor

Amy Steiger

Assistant Professor

Graduate Certificate in Asian Studies

Major: ASSTCAS

Degree Awarded: CERT

Unit: GA

Program Webpage: <http://louisville.edu/asianstudies/graduate-certificate-in-asian-studies>

Program Information

The Graduate Certificate in Asian Studies is a graduate-level interdisciplinary program housed in the College of Arts and Sciences, with Dr. John McLeod of the Department of History as Director. It allows you to learn more about the peoples of China, India, and Japan from the perspectives of art history, geography, history, religious studies, political science, sociology, and theatre arts. The fifteen-hour program may be completed as a “stand alone” program, or in conjunction with other graduate programs, for example the MA in History or Political Science, or the PhD in Art History or Humanities.

You must take 15 credit hours in graduate courses with an Asian emphasis. At least three of the five required courses must be at the 600 level, and the five courses must be drawn from at least three of the following disciplines: Anthropology, Art History, Classical and Modern Languages, Geography, History, Humanities, Political Science, Sociology, Theatre Arts, or Women’s and Gender Studies. A minimum of three credit hours must be in the Division of Humanities (exclusive of language courses), and at least 3 hours must be in the Division of Social Sciences.

To complete the Graduate Certificate, you must demonstrate reading knowledge in one of the following: Chinese, Japanese, or another language designated as an Asian language by the Program Director.

With the approval of the Program Director, an internship in a community or local business may be substituted for three (3) credit hours of classwork. To be eligible for this substitution, the internship must involve work that is primarily connected with Asia or Asian-Americans in some way.

Curriculum

ARTH 531	Studies in Asian Art	3
AST 641	Clash of Civilizations in the 21 st Century	3
HIST 561	U.S. and Vietnam -WR	3
HIST 584	Women in East Asia	3
HIST 591	Civilizations of Ancient and Medieval India - WR	3
HIST 592	Civilizations of Modern India - WR	3
HIST 598	Nationalism and Modernity in East Asia	3
SOC 520	Sociology of South Asia	3

TA 567 Asian Theatre

3

Departmental Faculty

Jason Abbott

Professor, Political Science

Moon-he Baik

Associate Professor, Fine Arts

Ying Kit Chan

Professor, Fine Arts

Margaret D'Silva

Professor, Communications

Shiping Hua

Professor, Political Science

Delin Lai

Assistant Professor, Fine Arts

Yuxin Ma

Associate Professor, History

John McLeod

Professor, History

Patrick Pranke

Assistant Professor, Humanities

Wei Song

Associate Professor, Geography and Geosciences

Li Zeng

Associate Professor, Classical and Modern Languages

Jianhua Zhao

Assistant Professor, Anthropology

Haifeng Zhang

Assistant Professor, Geography and Geosciences

Charles Ziegler

Professor, Political Science

Graduate Certificate in Autism and Applied Behavior Analysis

Major: AABACAA

Degree Awarded: CERT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/bcba-certificate>

Program Information

The University of Louisville's Graduate Certificate in Autism and Applied Behavior Analysis provides practitioners with advanced knowledge in autism research and behavioral analytic approaches to skill development and the treatment of challenging behavior.

Students receive rigorous academic work within the program's carefully designed course sequence that is taught by faculty with practical and research experience in autism and applied behavior analysis.

Upon completion of the program's approved courses, students with a masters degree must complete a 1,500 hour practicum to be eligible to sit for the Board Certified Behavior Analyst Certification Exam. For more information on certification, go to www.bacb.com.

Certification in applied behavior analysis demonstrates a level of competency in research-based principles for education and the treatment of challenging behavior.

The reported increase in the number of children with autism suggests growth in the availability of positions for behavior analysts. Therefore, teachers with certifications in special education and applied behavior analysis will likely be more competitive for teaching positions.

Curriculum

Prerequisites for entry into the program:

- EDSP 644 Applied Behavior Analysis (taken within the past three years with a grade of "B" or better);
- EDSP 670 Autism: Introduction and Understanding (taken within the past three years with a grade of "B" or better);
- Professional certification license in a field related to autism (e.g., special education, psychology, speech language pathology, occupational therapy, or social work).

Course Sequence:

EDSP 671 Autism: Methods and Teaching Strategies	3
EDSP 669 Single Subject Research Methods and Designs	3
EDSP 646 AAC and a Behavior Analytic Approach to Communication	3

Midpoint Assessment

EDSP 650 Advanced Applied Behavior Analysis	3
EDSP 651 Behavior Consultation	3
EDSP 673 Supporting Individuals with HFA/Asperger's Syndrome	3
Total minimum hours	3
Exit Requirements	18

Departmental Faculty

Debra Bauder
Associate Professor
Justin Cooper
Assistant Professor
Ginevra Courtade
Assistant Professor

Monica Delano
*Associate Professor and
Director Doctoral Program*
Timothy Landrum
*Professor and Chair of
Special Education
Department*

Amy Lingo
Associate Professor
Rob Pennington
Assistant Professor
Terry Scott
Professor
Thomas Simmons
Associate Professor

Graduate Certificate in Clinical Investigation Sciences

Major: CISCCCI

Degree Awarded: CERT

Unit: GH

Program Webpage: <http://louisville.edu/sphis/academics/certificate-in-clinical-investigation-sciences.html>

Program Information

The Certificate in Clinical Investigation Sciences is offered in the School's Clinical Research, Epidemiology and Statistics Training (CREST) Program.

The Certificate in Clinical Investigation Sciences provides individuals with skills required for a career in a clinical research setting. The CREST curriculum integrates biostatistical and epidemiologic methods in a problem-based learning format with additional instruction in health services and outcomes research and social and behavioral science.

Admission

Applicants should have a minimum of 3.0 on a 4.0 scale and, in most cases, should have completed a professional doctoral degree (e.g., DMD, D.O., M.D.) or academic degree from an accredited institution or its equivalent. Other applicants with research experience may be considered (e.g., research coordinator).

The following are additional requirements for admission:

1. Graduate application (see <http://louisville.edu/graduate/apply>) submitted to the School of Interdisciplinary and Graduate Studies (SIGS).
2. Non-refundable application fee.
3. At least two letters of recommendation written within past twelve months (can be submitted with form at <http://louisville.edu/graduate/apply>)
4. Curriculum vitae/resume
5. All postsecondary transcripts (may require foreign credential evaluation if not from accredited U.S. institution).
6. Statement of goals submitted to the department office (must include desired academic and degree program). Personal statement, a one-page essay that discusses the student's background and his or her long-term goals in clinical research
7. Foreign credential evaluation is required for each degree not from an accredited U.S. institution. This requirement may be waived, with approval by the dean, for degrees not considered to be relevant to evaluation of the applicant or whose transcript requires no foreign credential evaluation.
8. A baccalaureate degree or its equivalent from an accredited institution is required for admission.

9. International students for whom English is not their primary language must show English language proficiency by one of:
- (Award of a degree from an accredited U.S. institution)
 - Official TOEFL score of 100 or higher (iBT, or Internet-Based Test), 250 or higher (CBT, or Computer-Based Test), or 600 or higher (PBT, or Paper-Based Test)
 - Official documentation of passing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville

Curriculum

The typical progression through the Certificate curriculum is:

- Program of Study (Year 1)
- Complete research paper (Summer, Year 1)

Advisor/Program of Study

Upon matriculation in the program, each student will meet with the CREST Program Coordinator and develop a program of study based on the selection of the Certificate program curriculum. The program of study may be modified as the student's needs change or course availability is altered.

Certificate Requirements

Coursework

- 17 total credit hours of required coursework
- 5 credit hours of epidemiology coursework
- 5 credit hours of coursework in research design and statistics
- 3 credit hours of coursework in outcomes and ethics
- 1 credit hours of mentored research
- 3 credit hours of electives

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
Fall I	PHCI-611	Introduction to Clinical Epidemiology	2
	PHST-500	Mentored Research	3
		Elective	3
	Semester Total		
Spring I	PHCI-601	Epidemiological Methods	1
	PHCI-624	Clinical Trials I	2
	PHCI-632	Ethical Conduct of Research	2
	PHEP-602	Epidemiological Methods	3

<i>Required Coursework</i>			
<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i>Credit-Hours</i>
	PHCI-699	Mentored Research	1
	Semester total		9
Certificate Total			17

PHCI-699 Mentored Research

Each student in the Certificate Program is required to prepare a research paper as part of the mentored research course. The research paper can be a literature review or a research project. Data collection is not required. The paper is to be submitted in completed form to the program coordinator at least two weeks before the end of the semester in which the candidate expects to graduate.

Elective

The choice of the elective course in Fall I must be approved by the faculty advisor and program director.

Departmental Faculty

Susan Muldoon, Ph.D., MPH
Assistant Professor

Graduate Certificate in Data Mining

Major: DTMGCDMNON

Degree Awarded: CERT

Unit: GS

Program Webpage:

<http://louisville.edu/speed/computer/academics/programs/certificates/certificates.html>

Program Information

To address the need for trained professionals in the interdisciplinary field of data mining, the Department of Computer Engineering and Computer Science (CECS) and the Department of Mathematics faculty have developed a joint certificate program in data mining. The certificate will consist of 18 hours, with two required courses from CECS, two required courses from Mathematics, and two elective courses selected from a list of relevant elective courses in CECS and Mathematics.

Admission Requirements

For continuing studies as non-degree student:

- Undergraduate Degree in technically related field or technical experience
- Knowledge of calculus
- Graduate application and \$60.00 application fee

For degree status (those who want to continue for MS or Ph.D)

Additional Requirements:

- GRE scores
- Two letters of recommendation

Curriculum

Required courses and activities

Two required Computer Engineering courses:

CECS 535 Introduction to Databases

CECS 632 Data Mining

Two required Mathematics courses:

Math 665 Advanced Linear Statistical Models

Math 667 Methods of Classification

Two elective courses chosen from the following list of courses:

CECS 522 Performance Evaluation of Computer Systems
CECS 545 Artificial Intelligence
CECS 563 Experimental Design in Engineering
EDAP 711 Doctoral Professional Seminar: First Year
CECS 619 Design and Analysis of Computer Algorithms
CECS 621 Web Mining for E-Commerce and Information Retrieval
CECS 622 Simulation and Modeling of Discrete Systems
CECS 630 Advanced Databases and Data Warehousing
CECS 645 Advanced Artificial Intelligence
CECS 660 Introduction to Bioinformatics
MATH 560 Introduction to Statistical Data Analysis
MATH 561 Probability Theory
MATH 562 Mathematical Statistics
MATH 566 Nonparametric Statistics
MATH 567 Sampling Theory
MATH 568 Time Series Analysis

Departmental Faculty

Dr. Mehmed Kantardzic

Professor, Computer Engineering and Computer Science

Dr. Pat Cerrito

Professor, Mathematics

Graduate Certificate in Diversity Literacy

Major: DILICDL

Degree Awarded: CERT

Unit: GA

Program Webpage: <http://louisville.edu/philosophy/diversity-literacy>

Program Information

The Certificate in Diversity Literacy will provide a unique opportunity for students who have already earned bachelor's degrees to enhance their knowledge and skills of the theory and practice of inclusion and equity, including what diversity means, what its personal and social effects are, and how it shapes lives, workplaces, and pedagogy. This knowledge base and skill set will allow, for example, educators to become more inclusive in their pedagogy, employees to work more effectively in multicultural teams, and managers to become better supervisors by better understanding their cultural assumptions and those of their employees.

Admission Requirements

Anyone who has earned a baccalaureate degree from an accredited college or university may apply.

The following materials will be necessary to complete an application:

- Official transcripts of prior undergraduate and graduate work;
- Two letters of recommendation;
- A 2-3 page essay describing the applicant's interest in the program and how it will benefit her or his course of study and/or career path.

Curriculum

Program Requirements:

The curriculum for this certificate consists of 18 total hours, structured as follows:

- PHIL 690 (Fundamentals of Diversity)
- 4 electives in courses with a diversity focus. These electives must include at least three dimensions of diversity (race/ethnicity, gender, class, religion, disability, sexual identity, and language), and at least one must be in the humanities and one in the social sciences.

- Capstone Course in Diversity Literacy
- Both the Fundamentals of Diversity and Capstone in Diversity Literacy courses will be offered as blended courses, meaning that 25% of the meeting time will be in the classroom and 75% will be online.

Eligible Electives:

Special topics courses and courses from outside of A&S may be substituted with the approval of the Director.

ANTH 503 Central Africa & the Politics of Development
 ANTH 627 Political Economy and Culture
 ANTH 624 Black Cultural Traditions
 COMM 630 Communication and Multiculturalism
 ENGL 520 World Englishes
 ENGL 549 Studies in Post-Colonial and/or Ethnic Literature
 ENGL 550 Studies in African-American Literature
 ENGL 554 Women's Personal Narratives
 ENGL 570 Language and Social Identity
 ENGL 567 Post-Colonial Voices
 ENGL 575 Genre Studies in African American Lit
 ENGL 577; PAS 577 Harlem Renaissance
 ENGL 660 African-American Lit
 FREN 506; WGST 571 Francophone Women Writers
 GOEG 510; LALS 510 Urbanism in the Global South
 GEOG 529 Geography of Urban Issues
 HIST 506 Women in 19th Century
 HIST 512 History of Jews in America
 HIST 583; WGST 531/631 Women in the 20th Century in Europe and the US
 HIST 584; WGST 584 Women in East-Asian History
 HIST 588; WGST 530/630 Feminism in Western Civilization
 HIST 590 Studies in African History
 HIST 592 Civilizations of Modern India
 HIST 593 American Images of the Middle East
 HUM 513 Topics in Comparative Religions
 HUM 512/612 Topics in Contemporary Religious Thought
 HUM 513/613 Topics in Comparative Religions
 HUM 514/614 Perspectives on Religious Co-Existence and Culture
 HUM 515/615 Topics in Gender and the Humanities
 JA 523 Race and Gender Issues in Criminal Justice
 LALS 680 Issues in Latin American and Latino Studies
 LING 520; ENGL 520 World Englishes
 PAS 515/615 Advanced Seminar on Race
 PAS 520/620 The Black Family

PAS 528 History of African-American Education
 PAS 532 Slavery and Slave Trade
 PAS 542/643; WGST 543/643 Black Women Voices
 PAS 562/662; WGST 640 Women's Health in Africa
 PAS 619 African-American History Seminar
 PAS 620 Black Literature and Culture
 PHIL 516/616; PAS 616 African-American Philosophy
 PHIL 519/619 Topics in Philosophy of Race & Racism
 PHIL 557/657 African Philosophy
 PHIL 582/682 WGST 582/682: Gender, Race, and Culture in Health Care
 POLS 563 WGST 558: Women in Developing Countries
 POLS 656 WGST 556/656: Feminist Theory
 PSYCH 566 Race and Gender in Psychological Research
 SOC 512/612; WGST 512/612 Gender, Race, Work, and Welfare
 SOC 636 Sociology of Human Sexuality
 SOC 680 Seminar in Social Stratification
 SOC 685 Race and Ethnicity
 SPAN 554 Hispanic Culture through Film and Media
 SPAN 644 Origins and Development of Hispanic Culture
 SPAN 648 Contemporary Issues in the Hispanic World
 TA 532 Advanced Directing the Black Experience
 TA 547 Advanced Black Aesthetic on Stage
 TA 562 Advanced Black Dramatic Literature
 TA 563 Advanced African-American Women in Theater
 TA 566 Advanced History of African-American Theater
 TA 656 Advanced Theater of the African World
 TA 664 Approaching African-American Theater
 WGST 512/612; SOC 512/612: Gender, Race, Work, & Welfare
 WGST 513/PAS 513: US Social Justice Movements
 WGST 545/645; PAS 645: Southern Women, Black and White
 WGST 547 Language, Race, Class, Gender
 WGST 513 US Social Justice Movements
 WGST 520/620 Women's Personal Narratives
 WGST 522/622 The Body in Popular Media
 WGST 523 Gender & Popular Music
 WGST 532/632 History of American Sexualities
 WGST 533/633 Women in 19th-Century America
 WGST 535; HSS 564 Women's Health Issues
 WGST 538; SPAD 529 American Women in Sports
 WGST 545/645; PAS 645 Southern Women, Black and White
 WGST 547 Language, Race, Class, Gender
 WGST 615/SOC 642 Seminar in the Sociology of Disabilities

Departmental Faculty

David S. Owen, Ph.D.

Associate Professor

Director of Diversity Programs for the College of Arts and Sciences

Director of the Certificate in Diversity Literacy

Graduate Certificate in Environmental Engineering

Major: CENVNON

Degree Awarded: CERT

Unit: GS

Program Webpage: <http://speed.louisville.edu/civil/academics/degree/>

Program Information

Certificate Program only. Not a degree program. Awarded only with completion of a graduate degree program (M. Eng., M.S., Ph.D.) at Speed School of Engineering.

Admission Requirements:

1. Admission to the Speed School of Engineering Division of Higher Studies (M.Eng.) or the Graduate School (M.S. or Ph.D) in Engineering.
2. Approval of an Application for the Environmental Engineering Certificate Program, link <http://louisville.edu/speed/civil/academic/EnvironEngCertApp.pdf>

Curriculum

Course Description	Hours	Total
Environmental Engineering Electives (500-level)	0-6	
Environmental Engineering Electives (600-level)	6-12	12

Courses are to be selected from the following:

CEE 509	Environmental Process Systems
CEE 534	Industrial Waste Management
CEE 535	Solid Waste Management
CEE 561	Environmental Analysis of Transportation Systems I
CEE 570	Applied Hydraulics
CEE 571	Applied Hydrology
CEE 572	Open Channel Hydraulics
CEE 573	Groundwater Hydrology
CEE 670	Advanced Hydraulics
CEE 673	Advanced Hydrology
CEE 674	Water Resource Systems
CEE 675	Surface Water Quality
CHE 509	Environmental Process Systems
CHE 620	Transport Phenomena I
CHE 637	Advanced Stagewise Processes
CHE 638	Advanced Absorption

CHE 650	Membrane Separations
CHE 662	Advanced Process Control
CHE 533	Chemical Engineering Safety and Health
CHE 534	Industrial Waste Management
CHE 535	Pollution Prevention (Waste Reduction Treatment and Disposal)
CHE 572	Plant Process and Project Design
ME 580	Air Pollution Control
CHEM 622	Analytical Separations
BIOL 521	Stream Ecology
BIOL 522	Aquatic Ecology
BIOL 568	Conservation Biology
BIOL 662	Ecosystems Ecology

Note:

Graduate courses not shown in the list above require approval from the Certificate Program Director.

Certificate courses do not constitute a degree program, but may be applied toward M.Eng., M.S., or Ph.D. degree requirements.

Other requirements:

Completion of graduate degree program at Speed School of Engineering (M.Eng., M.S., or Ph.D.).

Departmental Faculty**Bhaskar, Nageshwar R.**

Ph.D., The Ohio State University

Professor of Civil & Environmental Engineering

Cohn, Louis F.

Ph.D., Rensselaer Polytechnic Institute

Professor of Civil & Environmental Engineering

French, Mark N.

Ph.D., University of Iowa

Professor of Civil & Environmental Engineering

Harris, Roswell A.

Ph.D., Vanderbilt University

Professor of Civil & Environmental Engineering

McGinley, W. Mark

Ph.D., University of Alberta, Edmonton

Professor of Civil & Environmental Engineering

Mohsen, Jafar P.

Ph.D., University of Cincinnati

Professor of Civil & Environmental Engineering
Chair of Civil & Environmental Engineering

Parola, Arthur C.

Ph.D., The Pennsylvania State University

Professor of Civil & Environmental Engineering

Rockaway, Thomas D.

Ph.D., Georgia Institute of Technology

Assistant Professor of Civil & Environmental Engineering

Sun, Zhihui

Ph.D., Northwestern University

Assistant Professor of Civil & Environmental Engineering

Ullrich, Charles Robert

Ph.D., North Carolina State University

Professor of Civil & Environmental Engineering

Graduate Certificate in Health Professions Education

Major: HPENON

Degree Awarded: CERT

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/gc-hpe>

Program Information

The Certificate in Health Professions Education (CHPE) is offered through a partnership between the College of Education and Human Development and the School of Medicine. The program is designed specifically for faculty, future faculty, residents and graduate students in the health sciences including medicine, nursing, dentistry, public health, clinical and allied health professions. The program includes four graduate-level credit courses (12 total credit hours), and the Certificate is an academic credential offered through the U of L Graduate School.

All courses are part of the College of Education and Human Development (CEHD) graduate curriculum and may be applied to other degree programs such as a Masters degree. Each course is grounded on the plan for the corresponding course taught in the CEHD but is focused primarily for healthcare educators. For example, instructional techniques include working not only in the classroom, but also at the bedside, and in the clinic. Class projects are designed for the healthcare environment.

Program courses follow the Belknap Campus semester schedule, but meet on the Health Sciences Campus. Courses are taught in the evening and are web-enhanced with approximately 1/3 of weekly work assignments completed online. Students enrolled in other education degree programs may substitute a more advanced statistics course for ELFH 600, if they prefer. Students enrolled in other education degree programs may substitute a more advanced statistics course for the ELFH 600, if they wish to do so.

Program Purpose: To promote effective clinical teaching and student instruction in a variety of Health Science Center settings and to develop skill in designing education research for presentation and publication.

Admission Requirements: This program is unofficial until admitted to Graduate School non-degree status. Requires a minimum of 2.75 GPA.

Curriculum

The current course sequence is as follows.

ELFH 600, Introduction to Research Methods (Fall 2012): A project based course with emphasis on how to teach research problem identification, research methodologies, including

qualitative methodology, and introductory statistics. This course is designed for those with a minimum level of research experience.

ELFH 606, Program Evaluation and Planning (*Spring 2013*): The purpose of this course is to provide learners with a preliminary understanding of the field of program evaluation. The course will focus on the theories, techniques and current methods of program evaluation.

ELFH 683, Introduction to College Teaching (*Fall 2013*): The course focus is on syllabus development, teaching and assessment strategies, student rights, the role of research and publication in the academic arena.

ELFH 661, Adult Development and Learning (*Spring 2012*): The purpose of this course is to assist learners in a critical analysis of the theoretical framework of adult learning throughout the lifespan and the developmental issues of adults.

Departmental Faculty

Meera Alagaraja, Ph.D.

Assistant Professor

Roger Buskill

Instructor

Jason Curry

Instructor

Rod Githens, Ph.D.

*Assistant Professor and
Director, Human Resource
Education Graduate
Program*

Ann Herd, Ph.D.

Term Assistant Professor

Sharon Kerrick, Ph.D.

Term Assistant Professor

Pradeep Kotamraju, Ph.D.

*Term Assistant Professor and
Deputy Director, National
Research Center for Career
and Technical Education*

Pat Leitsch, Ph.D.

Assistant Professor

Antonette McDonald, Ph.D.

*Instructor and Program
Manager, B.S. in Workforce
Leadership Program*

Donna Pearson, Ph.D.

*Term Assistant Professor and
Assistant Director, National*

*Research Center for Career
and Technical Education*

Michael Rowland, Ph.D.

*Term Assistant Professor and
Coordinator, Health
Professions Education
Program*

Brad Shuck, Ed.D.

Assistant Professor

James Stone, Ed.D.

*Professor, Distinguished
University Scholar and
Director, National Research
Center for Career and
Technical Education*

Certificate in Latin American and Latino Studies

Major: LALS

Degree Awarded: CERT

Unit: GA

Program Webpage: <http://louisville.edu/latinamericanstudies>

Program Information

The Graduate Certificate in Latin American and Latino Studies (LALS) is an interdisciplinary program, involving multiple departments within the College of Arts and Sciences, which provides a specialized concentration focusing on Latin America and Latinos in the US. This program, housed within the School of Interdisciplinary and Graduate Studies, offers students a wide range of course options that examine Latin American societies from the perspective of their history, social structure, economic and political structures, literature, art, and culture. The fifteen-hour program may be completed as a "stand alone" program, or in conjunction with other graduate programs.

Admissions Requirements and Process

Applicants need to have completed an undergraduate baccalaureate degree granted by a United States institution of higher education or its equivalent in another country. To be accepted into the LALS Graduate Certificate Program, students must meet the standard criteria for general admission to the University of Louisville School of Interdisciplinary and Graduate Studies, and supply all standard documentation required for admission. Students wishing to pursue the graduate certificate in conjunction with a graduate degree program in another UofL department should first apply and be admitted to the degree program before applying for admission to the LALS Graduate Certificate Program. The Director of the Latin American and Latino Studies Program will interview each student as part of the application process and an Admissions Committee will review applications and decide if a student may be recommended to the LALS Graduate Certificate Program.

Curriculum Requirements

1. The minimum requirement for completion of the LAS graduate certificate is 15 credit hours.
2. Three of the five required courses must be taken at the 600 level.
3. Of the 15 required credit hours, students must take courses with a substantial Latin American content from at least three different disciplines. These may include the following disciplines, but could include others if a course is offered with a substantial Latin American content: Anthropology, Art History, History, Humanities, Linguistics, Modern Languages, Pan-African Studies, Political Science, Portuguese, and Spanish, and Women's and Gender Studies.
4. Of the 15 required credit hours, students must take at least one course from the following list: LAS 680 Issues in Latin America, Spanish 670: Special Topics (seminar with a Latin

- American topic), Political Science 647: Seminar on Latin America, or History 503/PAS 510: Race Class, and Identity in Latin America.
5. Students must meet a minimum language requirement of three hours of Spanish or Portuguese at the 200 level or above, or demonstrate equivalent language proficiency.
 6. A single course may satisfy more than one requirement.
 7. Substitutions may be made at the discretion of the Director of Latin American and Latino Studies.
 8. Course work toward the graduate certificate in LALS may also count toward the student's graduate degree.
 9. Students may not apply 500-level courses taken for undergraduate credit.

Curriculum

Additional courses with substantial Latin American content, which are not listed below, may also be taken to fulfill the requirements for the LALS Graduate Certificate. This list is updated regularly on the LALS Website: <http://louisville.edu/latinamericanstudies>

Anthropology

- ANTH 314 Topics in Old and New World Archaeology
ANTH 316 Ancient Civilizations of Mesoamerica
ANTH 325 Modern Latin American Societies
ANTH 333 Globalizing Inequalities
ANTH 338 Anthropology of Refugees
ANTH 548 Special Topics in Cultural Anthropology

Art History

- ARTH 342/542 Mexican Art and Literature
ARTH 365 Mexican Art and Architecture
ARTH 544 Pan-African Art Form and Content

Communication

- COMM 440/690 Intercultural Communication
COMM 510 Health Communication in Belize
COMM 510/690-01 Mass Media in Latin America
COMM 690-75 Metaphors of Cultural Communication
COMM 690-77 Theories of Culture

English

- ENGL 369 Minority Traditions in American Literature
ENGL 373 Women in Literature
ENGL 549 Studies in Post-Colonial and/or Ethnic Literature
ENGL 554 Women's Personal Narratives
ENGL 682 Seminar in Linguistics Cultural Metaphors
ENGL 682 Seminar in Linguistics Theories of Culture

History

- HIST 310 Studies in History
HIST 331 Colonial Latin America
HIST 332 Latin America 1820-Present

- HIST 333 Women in Latin American History
 HIST 503 Race, Class, and Identity in Latin America
 HIST 533 Revolution and Reform in Twentieth-Century Latin America
 HIST 534/612 The US and Latin America
 HIST 535 The History of Mexico Pre-Columbian to the Present
 HIST 535/611 The History of America
 HIST 622 Latin America Since 1945

Honors

- HON 336 Honors Seminar in Humanities
 HON 436 Honors Seminar in Social Sciences
 HON 446 Honors Seminar in Social Sciences (WR)

Humanities

- HUM 380 Culture of Iberia-Latin America
 HUM 382 Native American Cultures
 HUM 562 Studies of Hispanic Culture
 HUM 682 Seminar in Linguistics Cultural Metaphors
 HUM 682 Seminar in Linguistics Theories of Culture

Latin American and Latino Studies

- LAS 310 Introduction to Latin American and Latino Studies
 LAS 313 Panamanian Culture
 LAS 314 Special Topics in Latino Studies
 LAS 400 Latin American Studies Internship
 LAS 401 Latino Studies Internship
 LAS 680 Issues in Latin American and Latino Studies
 LAS 681 Latin American and Latino Studies Graduate Internship

Law

- LAW 886 International Law
 LAW 992 Immigration Law

Linguistics

- LING 690 Seminar in Linguistics Theories of Culture
 LING 690 Seminar in Linguistics Cultural Metaphors

Marketing

- MKT 370/670 Global Marketing

Modern Languages

- ML 260 Hispanic Contributions to the World
 ML 313 Special Topics in Language, Literature, or Culture
 ML 356 Masterpieces of Latin American Literature
 ML 357 Latin American Literature Today
 ML 358 Mexican Literature Today
 ML 551 Special Topics
 ML 599 Independent Study

Pan-African Studies

- PAS 206 Introduction to Caribbean Studies
 PAS 219 Survey of Brazilian Music
 PAS 227 Survey of American Diversity

PAS 247	Language, Protest and Conflict in the Global Community
PAS 329	Slave Trade and Slavery
PAS 346	African Language in Diaspora
PAS 360	African Diaspora in the Caribbean and Latin America
PAS 396	History of the Caribbean
PAS 505	The Black Atlantic
PAS 510	Race, Class and Identity in Latin America
PAS 532	Slave Trade and Slavery in the African World
PAS 533	The History and Popular Culture of the African Diaspora
PAS 542/643	Black Women's Voices
PAS 547	Language, Race, Class, Gender
PAS 581	Pan-African Art Form and Content
PAS 621	Religion in African Diaspora

Political Science

POLS 315	Race, Law and Politics
POLS 330	International Relations
POLS 331/506	International Organization
POLS 332	International Law
POLS 337	Law, Diplomacy, and Power The Foreign Relations of the United States
POLS 370	Comparative Political Development in Latin America
POLS 371	Latin America in the World
POLS 506	Topics in International Relations
POLS 530	International Negotiation
POLS 563	Women in Developing Countries
POLS 647	Seminar on Latin America
POLS 649	Seminar in Comparative Politics

Sociology

SOC 210	Race in the US
SOC 323	Diversity and Inequality
SOC 392	Faces of Global Poverty
SOC 454	Social Stratification
SOC 464	Race and Ethnicity
SOC 512/612	Gender, Race, Work, and Welfare
SOC 685	Seminar in Race and Ethnicity

Spanish

SPAN 313	Special Topics
SPAN 403	Foundations of Latin America
SPAN 404	Cultural and Literary Perspectives on Modern Latin America
SPAN 499	Special Topics
SPAN 524	Introduction to Hispanic Linguistics
SPAN 527	Latin American Literature Colonial Period through 19th Century
SPAN 528	Contemporary Spanish-American Theater
SPAN 529	Spanish-American Poetry
SPAN 530	Spanish-American Narrative
SPAN 554/654	Hispanic Culture through Film and Media

SPAN 599	Special Topics
SPAN 624	Studies in Hispanic Linguistics
SPAN 634	Spanish of the Workplace
SPAN 644	Origins and Development of Hispanic Culture
SPAN 648	Contemporary Issues in the Hispanic World
SPAN 670	Special Topics

Theater Arts

TA 326	Cultural Diversity in Performance
TA 365	Theater of the African World
TA 555/665	Tools for a Global Theater

Women's and Gender Studies

WGST 333	Women in Latin American History
WGST 343	Faces of Global Poverty
WGST 401	Community Internship
WGST 520	Women's Personal Narratives
WGST 558	Women in Developing Countries
WGST 593	Topics in Women's and Gender Studies in Humanities

Departmental Faculty

Rhonda L. Buchanan

Professor, Director of Latin American and Latino Studies

Enid Trucios-Haynes

Professor of Law at the Louis B. Brandeis School of Law

Fabian Crespo

Assistant Professor

Lisa Markowitz

Associate Professor

Dennis Menezes

Associate Professor

Gregory Hutcheson

Associate Professor

Manuel Medina

Associate Professor

Clare Sullivan

Associate Professor

Lisa C. Wagner

Associate Professor

Joy Hart

Professor

Robert St. Clair

Professor

Gabriela Nuñez

Assistant Professor

Christopher Fulton

Associate Professor

Margath Walker

Assistant Professor

Christine Ehrick

Associate Professor

Adrian Archuleta

Assistant Professor

Edgardo Mansilla

Instructor, Executive

Director Americana

Community Center (ACC)

Theresa Rajack-Talley

Associate Professor

Joy Carew

Associate Professor

James Hudson, Dean

College of Arts and Sciences

Denise Martin

Associate Professor

Julie Bunck

Associate Professor

Tricia Gray

Visiting Assistant Professor

Graduate Certificate in Logistics and Distribution

Major LADCLDNON

Degree Awarded CERT

Unit GS

Program Webpage <http://louisville.edu/org/lodi/certificateframes.htm>

Program Information

The Graduate Certificate Program in Logistics and Distribution is offered jointly by the College of Arts and Sciences, the College of Business, and The J. B. Speed School of Engineering. It provides qualified applicants a high-quality program for structured graduate study in this truly interdisciplinary field. The program is designed primarily for people who are currently working in logistics and distribution organizations in the Louisville area, or for those who aspire to gain general knowledge in the field that may lead to career opportunities in logistics and distribution. As a result, the outcomes of the program are to provide, (1) a highly skilled workforce for regional employers; (2) a sought-after academic credential for employee-students; and (3) a career advancement credential for both employers and employees in the logistics and distribution sector.

Admission Requirements

Students who apply for admission to the certificate in logistics and distribution program are expected to meet the following typical U of L Graduate School standards

- Submission of a University of Louisville Graduate School Application,
- At least two letters of recommendation,
- The possession of at least a baccalaureate degree,
- The submission of an official transcript for each prior degree earned,
- A minimum 2.75/4.0 undergraduate cumulative grade point average, and
- Submission of scores on the Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT)

Curriculum

The curriculum of the Certificate in Logistics and Distribution requires the completion of a total of 18 semester hours of coursework, consisting of six 3-semester hour courses. These courses are

MKT 525	Distribution Management	3
MATH 588	Discrete Mathematics for Logistics and Distribution Applications	3
ACCT 526	Finance and Accounting Applications in Logistics and Distribution	3
IE 621	Facilities Planning	3
IE 651	Warehousing and Transportation	3
MKT 527	Logistics Management	3

Departmental Faculty

Sunderesh S. Heragu

*Professor, Department of
Industrial Engineering*

Thomas Riedel

*Professor and Chairman,
Department of Mathematics
Associate Director, Logistics
and Distribution Institute
(LoDI)*

**Suraj M. Alexander Ph.D.,
P.E.**

*Professor, Department of
Industrial Engineering*

Craig Anthony (Tony)

Arnold

*Professor of Law
Boehl Chair in Property and
Land Use
Affiliated Professor of Urban*

*Planning Chair of the Center
for Land Use and
Environmental Responsibility*

Lihui Bai

*Assistant Professor,
Department of Industrial
Engineering*

Lijian Chen

*Professor, Department of
Industrial Engineering*

Beth R. Davis-Sramek

*Assistant Professor,
Marketing*

Robert W. Forbes

Director, Center for GIS

Anup Kumar

*Professor, Computer
Engineering and Computer
Science*

*Director, Mobile Information
Networks and Distribution
Systems (MINDS) Lab*

Olfa Nasraoui

*Associate Professor,
Computer Engineering and
Computer Science
E-Commerce Endowed Chair
Founding Director of
Knowledge Discovery &
Web Mining Lab*

Wei Song

*Assistant Professor,
Geography and Geosciences*

John S. Usher

*Professor and Chairman,
Department of Industrial
Engineering*

Graduate Certificate of Medieval and Renaissance Studies

Major MRSTCMR

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/history>

Program Information

Requirements for the Graduate Certificate in Medieval and Renaissance Studies

1. A total of eighteen (18) hours in courses approved for graduate credit in accordance with the policies of the Graduate School.
2. Nine (9) credits hours from the list of "Approved Medieval and Renaissance Courses" must be taken in the student's home department. These credit hours may also count towards the student's graduate degree. In cases where the student's home department does not offer a sufficient number of Medieval and Renaissance courses, the student may develop an alternative course of study with the approval of the Program Director.
3. Nine (9) credits hours from the list of "Approved Medieval and Renaissance Courses" must be taken outside of the student's home department. These credits must be distributed as follows three (3) credits from the list of courses designated by the program as "History and Culture Courses"; three (3) credits from the list of courses designated by the program as "Textual Studies Courses"; three (3) credits from the list of courses designated by the program as "Arts and Music Courses." Substitutions must be approved by the Program Director.
4. Attendance at lectures and participation in workshops conducted each semester by visiting faculty selected by the Graduate Programs Committee.
5. Student must demonstrate reading knowledge at the M.A. level in one of the following Latin, Greek, French, Italian, Hebrew, German, Spanish, Portuguese, or Arabic. Reading knowledge in other languages may be used to fulfill this requirement at the discretion of the Program Director. Reading knowledge may be demonstrated either by taking a language exam or by earning a "B" or above in a graduate level language course. Fulfillment of this requirement may overlap with the completion of a language requirement in the student's home department.
6. At least six (6) hours must be at the 600 level.
7. A single course may fulfill more than one of these requirements.
8. Independent Studies may not count towards the fulfillment of these requirements.
9. 500-level courses taken for undergraduate credit may not count towards the fulfillment of these requirements. As is standard practice, those students enrolled in 500-level courses for credit towards the certificate must complete the requirements for graduate-level work specified by the instructor.
10. Coursework towards the Graduate Certificate in Medieval and Renaissance Studies may count towards the student's graduate degree.

Curriculum

History and Culture

- HIST 551 Studies in Medieval History
- HIST 555 English Medieval History, 1066-1500
- HIST 571 The Renaissance
- HIST 572 The Age of Reformation
- HIST 575 Tudor England, 1485-1603
- HIST 591 Civilizations of Ancient and Medieval India
- HIST 651 Studies in Medieval History
- HIST 662 Seminar in Early Modern European History
- HUM 592 Perspectives on Medieval Culture
- HUM 593 Perspectives on Early Modern Culture

Textual Studies

- ENG 515 Introduction to Old English
- ENG 523 History of the English Language
- ENG 541 Studies in Old and Middle English Literature
- ENG 542 Studies in Tudor and Elizabethan Literature
- ENG 561 Chaucer
- ENG 562 Shakespeare
- ENG 563 Milton
- ENG 591 History of Criticism Plato to the New Criticism
- ENG 624 Old and Middle English language and Literature
- ENG 631 Renaissance Drama
- ENG 632 Shakespeare
- ENG 633 Sixteenth Century Poetry and Prose
- ENG 634 Seventeenth Century Poetry and Prose
- ENG 671 History of Rhetoric I
- PHIL 608 Aquinas
- HUM 581 Dante
- HUM 661 Humanistic Studies I (Ancient and Medieval)
- LAT 551 Introduction to Medieval Latin
- LAT 552 Studies in Medieval Latin
- SPAN 111 Studies in Medieval Spanish Literature
- SPAN 113 Studies in Spanish Golden Age Literature
- SPAN 644 Origins and Development of Spanish Culture
- LING 523 History of the English Language

Arts and Music

- ARTH 561 Studies in Medieval Art
- ARTH 562 Medieval Architecture
- ARTH 571 Studies in Renaissance Art
- ARTH 661 Topics in Medieval Art
- ARTH 671 Topics in Renaissance Art

MUS 652 Foundations of Music Theory

MUS 681 Music Notation to C. 1550 History, Transcription, and Editing

NOTE: Many departments offer courses related to Medieval and/or Renaissance studies as "special topics" courses. These courses may be counted towards the requirements of the Graduate Certificate at the discretion of the Program Director.

Departmental Faculty

Dr. Blake R. Beattie

Associate Professor of History

Graduate Certificate in Network and Information Security

Major NUPR

Degree Awarded CERT

Unit GS

Program Webpage <http://louisville.edu/speed/computer/programs/certificates/nis>

Program Information

The Network and Information Security graduate certificate program consists of 12 hours with two required courses from Computer Engineering and Computer Science department and two elective courses selected from a list of relevant elective courses in CECS department.

An undergraduate degree is required. Students enrolling in these courses will need to have sufficient background to be successful. Therefore, they will need to have completed the required course prerequisites, or have equivalent knowledge from courses taken at other universities, or from work experience. The student specifically should have taken equivalent to CECS 311, CECS 420, and CECS 310 courses. The work experience in the industry can be used as substitute if it uses or provides experience in area of operating systems, networking and legal and ethical issues.

Students will need to supply all documentation required for admission to the University either as student or as non-degree seeking status. Students will need to supply documentation demonstrating background knowledge sufficient to satisfy course prerequisites. This may include transcripts of the courses taken, course catalogue description and documentation from work regarding the experience in the particular areas as outlined above.

Curriculum

Required Courses

Total of 12 credit hours are required with 2 required courses and 2 elective courses.

The two required CECS courses are

CECS 564 Introduction to Cryptology

CECS 566 Information Security

The two elective courses can be chosen from the following list of courses

CECS 568 Computer Forensic

CECS 613 Network Security

CECS 694 Information Assurance

CECS 617 Mobile Computing

CECS 632 Data Mining
CECS 694-75 Advanced Cryptography
CECS 694 Database Security.

Departmental Faculty

Dr. Mehmed Kantardzic
CECS Graduate Coordinator

Dr. Anup Kumar
Certificate program Coordinator

Graduate Certificate in Pan-African Studies

Major PAS

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/panafricanstudies>

Program Information

Admission

Admission to the graduate certificate in Pan-African Studies is open, potentially, to any student who has completed at a minimum baccalaureate degree. Post-baccalaureate students wishing to pursue the certificate outside the framework of a graduate degree program must apply for admission through and meet the general requirements for admission to the Graduate School. These requirements include the submission of

- An official transcript reflecting previous degrees earned;
- At least two letters of recommendation; and
- Graduate Record Examination (GRE) scores of the General Test Section.

If resource limitations necessitate the imposition of restrictions, the PAS Graduate Programs Committee will select students based on the following criteria 1) undergraduate record; 2) letters of recommendation; 3) personal interview; and 4) GRE scores.

Graduate students wishing to pursue the certificate program in Pan-African Studies in conjunction with a graduate degree must meet the requirements for admission to that degree program and should then apply for the certificate program by consulting the PAS Director of Graduate Studies after admission. Depending on the structure of the degree program, coursework toward the certificate may be either additional hours beyond those required for the degree or elective hours toward the degree, or a combination of the two. The PAS Director of Graduate Studies shall then inform the student's degree program chair and work to coordinate the completion of degree and graduate certificate program requirements.

Exceptions

Exceptions to these standards are not anticipated. However, a "Graduate Programs Committee" (comprised of three PAS faculty, one representative from the College of Education and Human Development and one from another Arts and Sciences department) will be responsible for dealing with exceptional cases as they arise.

Responsibility

The Department of Pan-African Studies Director of Graduate Studies will review and evaluate each applicant's qualifications for admission and make recommendations to the Chair. The

Graduate Programs Committee referenced above will be convened only to review exceptional cases.

Curriculum

Requirements for the Graduate Certificate in Pan-African Studies

- A total of fifteen (15) hours in courses approved for graduate credit in accordance with the policies of the Graduate School.
- Nine (9) credit hours must be chosen from the list of "Approved PAS Courses" (available in the Department of Pan-African Studies) three (3) credit hours from the "Historical Studies" area; three (3) credit hours from the "Cultural Studies" area; and three (3) credit hours from the "Social Studies" area. Substitutions must be approved by the Director of Graduate Studies.
- Six (6) credit hours must be chosen from the list of "Approved Electives" (available in the Department of Pan-African Studies"). For students pursuing graduate degrees, at least one course must be outside of the department in which the student is pursuing the degree. Substitutions must be approved by the Director of Graduate Studies.
- At least three hours must be at the 600 level.
- A single course may satisfy more than one of these requirements.

Course work toward the graduate certificate in Pan-African Studies may also count toward the student's graduate degree.

Note: Students may not apply 500-level courses taken for undergraduate credit.

Departmental Faculty

Tomarra Adams, Ph.D.

Assistant Professor

Latrica Best, Ph.D.

Assistant Professor

W. Carson Byrd, Ph.D.

Assistant Professor

Joy G. Carew, Ph.D.

Associate Professor

Robert L. Douglas, Ph.D.

Professor Emeritus

Tyler Fleming, Ph.D.

Assistant Professor

Pearlie Johnson, Ph.D.

Assistant Professor

Ricky L. Jones, Ph.D.

Professor

Department Chair

Yvonne V. Jones, Ph.D.

Associate Professor

Co-Director of Graduate

Studies

Shirletta Kinchen, Ph.D.

Assistant Professor

Michael Brandon

McCormack, ABD

Assistant Professor

Theresa A. Rajack-Talley,

Ph.D.

Associate Professor

Kaila Story, Ph.D.

Associate Professor

Co-Director of Graduate

Studies

William Tkweme, Ph.D.

Assistant Professor

Graduate Certificate in Police Executive Leadership Development

Major PELDNON

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/justiceadministration/>

Program Information

Admission to the Program

Applicants must meet the standards for conditional admission to the Master of Science in Administration of Justice, including an earned Bachelor's degree and appropriate letters of recommendation. They must also achieve a qualifying score on the Southern Police Institute's admission examination and be recommended by the Chief Executive Officer of their supporting agency. Applications are reviewed for eligibility by the Southern Police Institute's faculty who are members of the University's Graduate Faculty and the Department of Justice Administration.

The curriculum of the Administrative Officers Course (AOC) of the Southern Police Institute may be taken only by students regularly enrolled in the Institute.

Curriculum

The curriculum of the Administrative Officers Course (AOC) of the Southern Police Institute may be taken only by students regularly enrolled in the Institute.

JA 576 - Managing Organizational Performance	3
JA 612 - Criminal Justice Administration Police	3
JA 625 - Legal Aspects of Criminal Justice Management	3
JA 665 - Special Topics in Justice and Criminology	3
Total Hours	12

The Southern Police Institute offers two twelve-week courses annually.

Departmental Faculty

William F. Walsh
*Director of Southern Police
Institute*
Professor

Gennaro Vito
Professor
Terry Edwards
Associate Professor

Alex Ferguson
*Associate Director of
Southern Police Institute*

Graduate Certificate in Public History

Major PHISCHI

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/history/ph.html>

Program Information

The graduate certificate in public history is a specialized program of study that trains students for careers in museums, archives, historical interpretation, and historic preservation. Students may pursue the certificate (1) in combination with a MA in history or a closely-related field, or (2) as an independent credential. Students enrolled in the program take seminars in history and electives in history and related fields. All students are also required to complete an internship at a historical institution.

Admissions

Students seeking the Certificate in Public History as a stand -alone program should go to <http://louisville.edu/graduate/apply> and select the A&S non-degree seeking option and then the Public History program.

Students who are already enrolled in the History masters program will need to follow the same admission procedure stated above at <http://louisville.edu/graduate/apply>, apply for a fee waiver and mark the option that says you are already enrolled. Your previous materials will be considered and you will only need to submit to graduate admissions an additional faculty recommendation for the program and a 500 word (or less) personal statement regarding your interest in the Public History program.

Curriculum

Course requirements

Introduction to Public History	3
Public History Practicum (Internship)	3
One 600 level non-public history course in the Department of History	3, 3
Two public history electives at 500 or above level	3, 3
Total	18

[Students in the history department MA program may apply up to six hours of appropriate courses to their graduate degree]

Sample of public history electives:

- Introduction to Archives
- Oral History
- Introduction to Historic Preservation
- Museum Studies
- Curatorial Methods
- Introduction to Nonprofit Management
- Design and Craft Theory (Material Culture Studies)

Departmental Faculty

A. Glenn Crothers, Ph.D.

Associate Professor

**Carrie Daniels, EdM,
MSLIS**

Associate Professor

Carol Ely, Ph.D.

Adjunct Professor

Benjamin Hufbauer, Ph.D.

Associate Professor

Tracy K. K'Meyer, Ph.D.
Professor

Lara Kelland, Ph.D.

Assistant Professor

Peter Morrin, M.F.A.

Associate Professor

Caroline C. Sheffield, Ph.D.
Assistant Professor

Daniel J. Vivian, Ph.D.

Assistant Professor

Graduate Certificate in Real Estate Development

Major RED CRE

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/upa/graduate-certificate-in-real-estate-development.html>

Program Information

The Department of Urban and Public Affairs offers a Graduate Certificate in Real Estate Development designed to equip graduates with the skills needed to make better real estate decisions with respect to investment considerations and site analysis and planning. The program will be particularly attractive to planning students desiring to work in the private sector; however, the program will also be appealing to students enrolled in other graduate programs at the university or who wish to complete the GCRED on a stand-alone basis. The program may be completed in conjunction with the Master of Urban Planning program without the need to take any additional course work beyond what is required for the MUP program. For MUP students, the GCRED courses satisfy the requirements for the specialization in Housing and Community Development.

Applicants must have a bachelor's degree (any major is acceptable), and provide a completed application form, a transcript of all undergraduate work, and two letters of recommendation. Admission is competitive and generally requires a minimum undergraduate GPA of 3.00. Those applicants whose native language is not English and who do not hold a degree from a university where the language of instruction is English must complete the Test of English as a Foreign Language (TOEFL) with a score of at least 78 on the internet-based test.

Curriculum

The program requires 18 credit hours, and may be completed in one year as a full-time student or up to four years as a part-time student. Courses may be waived by the Program Coordinator based on previous study; however, substitute course work will be required. The following 3-credit courses are required

Courses	Description	Credit Hours
PLAN 605	Land Use and Planning Law	3
PLAN 614	Real Estate Market Analysis	3
PLAN 631	Real Estate Principles	3
PLAN 633	Real Estate Development	3
PLAN 634	Real Estate Finance and Investment	3
PLAN 636	Site Planning	3

Generally, PLAN 631 should be completed prior to PLAN 634 and PLAN 633. PLAN 633, which serves as a capstone course for the program, should be taken in the final semester or year of study. Although the program does not require an internship, GCRED students who are also in the MUP program may wish to complete the required planning internship by working in a real estate development firm.

Departmental Faculty

Steven C. Bourassa, Ph.D.
*KHC Real Estate Research
Professor
Coordinator, Graduate
Certificate Program in Real
Estate Development*

Sumei Zhang, Ph.D.
*Assistant Professor of Urban
and Public Affairs*
Tony Arnold, J.D.
*Boehl Chair in Property and
Land Use*

J. Michael McCoy, M.L.A.
*Lecturer in Urban and Public
Affairs*
William J. Cahaney, M.A.
*Lecturer in Urban and Public
Affairs*

Certificate in Translation

Major TRANCTR

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/modernlanguages/>

Program Information

Translators work with a written text, transferring the content from one language to another. Translating well requires not only knowledge of both languages but also understanding of the source and target cultures. It is an exacting art that demands creative expression, philological precision, minute knowledge of historical and cultural contexts, and a nuanced sense of style in both the source and target languages.

The certificate program provides the rigorous academic training necessary for the professionalization of the prospective translator. It will prepare a student to begin to work for an agency or as an independent contractor. Such a program could serve as a gateway to specialized translation studies in legal, medical, and technical translation.

It will provide students who are already highly proficient in both languages the background in theory, technical resources, and research skills necessary to translate effectively. With the establishment of this certificate, U of L will provide graduate students, post-baccalaureate students, and members of the community seeking professional development and additional credentials the opportunity to acquire

- an introduction to theories in the field of translation
- specific skills in various fields
- hands-on professional experience

Curriculum

The certificate requires completion of a minimum of 21 credit hours focusing on comparative grammar, professional writing skills, culture, translation history and theory, nonliterary translation, and computer translation and terminology management.

The minimum requirement for the completion of the graduate certificate in Spanish Translation is 21 hours.

1. All students must take SPAN 638 (Translation Theory and Practice), TRAN/SPAN 662 (Translation Workshop), and TRAN/SPAN 667 (Computers in Translation).
2. Students must complete a three-hour internship or directed study.
3. Coursework towards the Graduate Certificate in Spanish Translation may count towards the student's graduate degree. (Consult the Director of Graduate Studies in the particular degree program.)

4. For students in the MA program in Spanish, up to six hours of courses may count toward both the certificate requirements and the MA requirements.
5. Students may complete an optional medical concentration by fulfilling a one-hour introductory course to clinical research, a three-hour course on medical terminology and by doing their internship in the medical field.

Departmental Faculty

Lluis Baixauli Olmos

Assistant Professor

Simona Bertacco

Assistant Professor

Rhonda Buchanan

Professor

Bonnie Fonseca-Greber

Assistant Professor

Carlton Hornung

Professor

Mary Makris

Associate Professor

Madalena Sanchez

Zampaulo

Consultant

Julio Ramirez

Professor

Jesse Roman

Professor

Irma Ramos

Assistant Professor Term

Clare Sullivan

Associate Professor

Program Director

Graduate Certificate in Women's and Gender Studies

Major WGST

Degree Awarded CERT

Unit GA

Program Webpage <http://louisville.edu/wgs/graduate-sudies/graduate-certificate.html>

Program Information

The Women's and Gender Studies (WGS) graduate certificate is a 15-hour program for students who have completed a B.S. or B.A. degree in any field. Students with no prior course work in WGS may be required to take classes in preparation for admission to the certificate program.

Program admission procedure

Admission to the graduate certificate in Women's & Gender Studies is open to any student who has completed a B.A. or B.S. degree with a 3.0 overall GPA. Students may pursue the certificate outside the framework of a graduate degree program or in conjunction with a graduate degree program in another UofL department. Students wishing to pursue the certificate must apply for admission through the Graduate School by

1. Completing a Graduate School application form and sending in the application fee
2. Submitting an official transcript reflecting previous degrees earned

Students must also send directly to Women's and Gender Studies a one-to-two page letter of intent, describing how the WGS graduate certificate will further their personal or professional goals.

Students wishing to pursue the graduate certificate in conjunction with a graduate degree program in another UofL department should first apply and be admitted to the degree program before applying for admission to the WGS graduate certificate program.

Curriculum

1. Students must complete a total of 15 hours in courses approved for graduate credit in accordance with the policies of the Graduate School, approved by the WGS chairperson.
2. One course among the 15 hours must be WGST 601, WGST 602, or WGST 603.
3. At least two courses must be at the 600-level.
4. Courses must be chosen from both humanities and social sciences disciplines, with consultation of WGS chairperson.
5. Students pursuing the WGS certificate in conjunction with a graduate degree program must take at least one course outside of the department in which the student is pursuing the degree.
6. A single course may satisfy more than one requirement.

7. Course work toward the graduate certificate in WGS may also count toward the student's graduate degree.

Departmental Faculty

Nancy M. Theriot

Professor and Chairperson

Karen Christopher

Associate Professor

Cate Fosl

Associate Professor

Dawn Heinecken

Associate Professor

Tomarra Adams

*Affiliated Faculty
Assistant Professor, Pan
African Studies*

Ann Allen

*Affiliated Faculty
Professor, History*

Annette Allen

*Affiliated Faculty
Associate Professor,
Humanities*

Beth Boehm

*Affiliated Faculty
Professor, English*

Mary Esi Bani

*Affiliated Faculty
Associate Professor, Pan
African Studies*

Barbara Burns

*Affiliated Faculty
Professor, Psychology*

Thomas B. Byers

*Affiliated Faculty
Professor, English*

Karen Chandler

*Affiliated Faculty
Associate Professor, English*

Anne Caldwell

*Affiliated Faculty
Associate Professor, Political
Science*

Julia Dietrich

*Affiliated Faculty
Professor, English*

Christine Ehrick

*Affiliated Faculty
Associate Professor, History*

Cate Fosl

Associate Professor

Rinda Frye

*Affiliated Faculty
Associate Professor, Theatre
Arts*

Patricia Gagne

*Affiliated Faculty
Associate Professor, Sociology*

Alan Golding

*Affiliated Faculty
Professor, English*

Trish Gray

*Affiliated Faculty
Term Appointment, Political
Science*

Susan Griffin

*Affiliated Faculty
Professor, English*

Karen Hadley

*Affiliated Faculty
Associate Professor, English*

Dawn Heinecken

Professor

Susan Herlin

*Affiliated Faculty
Associated Professor, Emerita,
History and Pan African
Studies*

Suzette Henke

*Affiliated Faculty
Professor, English*

Katherine Johnson

*Affiliated Faculty
Assistant Professor, University
Libraries*

Cheryl Kolander

*Affiliated Faculty
Professor, HPES*

Karen L. Kopelson

*Affiliated Faculty
Assistant Professor, English*

Gul Marshall

*Affiliated Faculty
Assistant Professor, Sociology*

Carol Mattingly

*Affiliated Faculty
Associate Professor, English*

Diane Pecknold

Associate Professor

Wendy Pfeffer

*Affiliated Faculty
Professor, Classical and
Modern Languages*

Natalie Polzer

*Affiliated Faculty
Assistant Professor,
Humanities*

Nancy Potter

*Affiliated Faculty
Associate Professor,
Philosophy*

Theresa Rajack-Talley

*Affiliated Faculty
Associate Professor, Pan
African Studies*

Anu Sabhlok

*Affiliated Faculty
Assistant Professor,
Geography and Geosciences*

Edwin S. Segal

*Affiliated Faculty
Professor, Emeritus,
Anthropology*

Arthur Slavin

*Affiliated Faculty
Professor, Emeritus,
Humanities*

Mary Ann Stenger

*Affiliated Faculty
Associate Professor,
Humanities*

Tamara Yohannes

*Affiliated Faculty
Term appointment, English*

RANK I Program in Elementary Education

Major: ERED

Degree Awarded: NON

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/rank>

Program Information

Program Admission Procedure

- Hold Certification in P-5 and a Masters degree or Rank II equivalency
- Admission to the School of Interdisciplinary and Graduate Studies

Curriculum

Rank I in Elementary Education Professional Program (Fulfills the requirements for the M.Ed. in Elementary Education)

EDAP 606 Orientation and Readings (take in first semester of enrollment)	3
ELFH 600 Introduction to Research Methods & Statistics	3
Leadership and change: (select one of the following courses)	3
EDAP 607 Leadership and Change	
ELFH 603 Administrative Leadership in a Reform Environment	
EDAP 624 Curriculum Theory	
EDAP 625 Social and Ethical Development of Teaching	
Success for All Learners: (select one of the following courses)	3
EDAP 642 Literacy Learning & Cultural Differences	
EDAP 626 Affirming Diversity	
EDTP 503 Developing Cross-Cultural Competence	
AREA OF EMPHASIS	12
EDAP 680 Capstone Course	3
Elective	3
Exit Requirement: Portfolio or Master's Thesis (EDAP 699)	
Minimum total hours	30

Midpoint Requirement: M.Ed. candidates are required to submit a mid-program portfolio at the completion of 15 credit hours of coursework. The faculty advisor will assess the candidate's portfolio, which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met, a candidate will be prohibited from course registration beyond 15 credit hours.

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. Only 6 hours taken in non-degree status may be applied to a Masters degree, with advisor's approval.
4. To complete the program, students must have a minimum grade point average of 3.0. No credit shall be accepted for carrying a grade lower than "C".
5. To obtain Rank I, a total of 60 hours of graduate coursework beyond the Bachelors degree must be earned.

Rank I Program in Elementary Education Advanced Practitioner (For students who have earned a Masters degree)

Leading Change (Select one of the following courses) 3

EDAP 606 Orientation and Readings (take in first semester of enrollment)

EDAP 607 Leadership and Change

EDAP 624 Curriculum Theory

EDAP 625 Social and Ethical Development of Teaching

ELFH 603 Administrative Leadership in a Reform Environment

ELFH 600 Introduction to Research Methods & Statistics **OR**

FROM Leadership and change category

The Multicultural Learner: (select one of the following courses) 3

EDAP 642 Literacy learning & Cultural Differences

EDTL 626 Affirming Diversity

EDTP 503/403 Developing Cross-Cultural Competence

SOC 630 Sociology of Education

WMST 532 History of American Sexualities

WMST 556 Feminist Theory

PAS 529 Teacher Institute on African-American Issues

Area of Emphasis 12

EDAP 680 Capstone Course 3

Electives 9

Exit Requirement: Portfolio or National Board Certification

Minimum total hours 30

Midpoint Requirement: Candidates are required to submit a mid-program portfolio at the completion of 15 credit hours of coursework. The faculty advisor will assess the candidate's portfolio, which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met, a candidate will be prohibited from course registration beyond 15 credit hours.

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the faculty advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. Only 6 hours taken in non-degree status may be applied toward a Master's degree, with faculty advisor's approval.
4. To complete the program, a minimum grade point average of 3.0 is required. No credit shall be accepted for carrying a grade lower than a "C".
5. To obtain Rank I, a total of 60 hours of graduate credit beyond the Bachelors degree must be earned.

Departmental Faculty

Jenny Bay-Williams

Professor, Mathematics Education

Chair of Middle and Secondary Education Department (MISE)

Nina Beck

Instructor, Early Childhood Education

Latricia Bronger

Instructor, Middle and Secondary Education

Peggy Brooks

Instructor

Kentucky Teacher Internship Program Coordinator

E. Todd Brown

Associate Professor, Mathematics Education

Sherri Brown

Associate Professor, Science Education

Assistant Chair of Early Childhood and Elementary Education Department (ECEE)

William Bush

Professor, Mathematics Education

Director of Center for Research in Mathematics and Science Teacher Division

Janet Calvert

Instructor, Alternative Certification

Coordinator of Alternative Certification Program

Betty Doyle

Instructor, Early Childhood Education

Claudia George

Instructor, Science Education

Penny Howell

Assistant Professor, Literacy and Middle Grades Education

Jill Jacobi-Vessels

Assistant Professor, Early Childhood Education

Deborah Jinkins

Instructor, Early Childhood Education

Karen Karp

Professor, Mathematics Education

Diane Kyle

Professor, Elementary Curriculum

Chair of Early Childhood and Elementary Education Department (ECEE)

Ann Larson

Professor, English Education
Vice Dean

Stefanie Livers

Instructor, Mathematics Education

Maggie McGatha

Associate

Professor, Mathematics Education

Assistant Chair of Middle and Secondary Education Department (MISE)

Lori Norton-Meier

Associate Professor, Reading Education

Susan Peters

Assistant Professor, Mathematics Education

Bob Ronau

Professor, Mathematics Education

Gina Schack

Professor, Gifted Education

Caroline Sheffield
Assistant Professor, Social Studies Education

Christine Sherretz

Assistant Professor, Literacy Education

Melissa Shirley

Assistant Professor, Science Education

Steve Swan

Instructor, Instructional Technology and Special Education

Shelley Thomas

Assistant Professor, Social Studies Education

Thomas Tretter
*Associate Professor, Science
Education*
Director of Gheens Science
Hall and Rauch Planetarium

Ingrid Weiland
*Assistant Professor, Science
Education*

Jean Wolph
Instructor, Literacy
Director of Louisville
Writing Project

Rank I Program in Middle Grades Education

Major: MSED

Degree Awarded: NON

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/rank>

Program Information

Program Admission Procedure

- Hold Certification in a 5-9 grade level area and a Masters degree or Rank II equivalency
- Admission to School of Interdisciplinary and Graduate Studies

Curriculum

Rank I Program in Middle Grades Education Advanced Practitioner (For students who have earned a Masters degree)

Leading Change (Select one of the following)	3
EDAP 606 Orientation and Reading (take in first semester of enrollment)	
ELFH 600 Introduction to Research Methods & Statistics	
Leadership and Change (Select one of the following)	3
EDAP 607 Leadership and Change	
ELFH 603 Administrative Leadership in a Reform Environment	
EDAP 624 Curriculum Theory	
EDAP 625 Social and Ethical Development of Teaching	
The Multicultural Learning (Select one of the following)	3
EDAP 624 Literacy Learning & Cultural Differences	
EDAP 626 Affirming Diversity	
EDTP 503 Developing Cross-Cultural Competence	
SOC 630 Sociology of Education	
WGST 532 History of American Sexualities	
WGST 556 Feminist Theory	
PAS 529 Teacher Institute on African-American Issues	
Area of Emphasis	12
Electives	9
Minimum total hours:	30
Exit Requirement: Portfolio or National Board Certification	

Midpoint Requirement: Candidates are required to submit a mid-program portfolio at the completion of 15 credit hours of coursework. The faculty advisor will assess the candidate's portfolio, which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met, a candidate will be prohibited from course registration beyond 15 credit hours.

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree, with faculty advisor's approval.
4. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C".

Rank I in Middle Grades Education Professional Program (Fulfills the requirements for the M.Ed. in Middle Grades Education)

EDAP 606	Orientation and Readings (take in first semester of enrollment)	3
ELFH 600	Introduction to Research Methods & Statistics	3
Leadership and change: (select one of the following courses)		3
EDAP 607	Leadership and Change	
ELFH 603	Administrative Leadership in a Reform Environment	
EDAP 624	Curriculum Theory	
EDAP 625	Social and Ethical Development of Teaching	
Success for All Learners: (select one of the following courses)		3
EDAP 642	Literacy Learning & Cultural Differences	
EDAP 626	Affirming Diversity	
EDTP 503	Developing Cross-Cultural Competence	
AREA OF EMPHASIS		12
EDAP 680	Capstone Course	3
Elective		3
Exit Requirements: Portfolio or Master's Thesis (EDAP 699)		2-5
Minimum total hours		30

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. A maximum of six hours taken in non-degree status can be applied toward a Masters degree, with advisor's approval.
4. To complete the program, students must have minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than "C".

5. To obtain Rank I, a total of 60 graduate credit hours including a Masters degree must be earned.

Departmental Faculty

Jenny Bay-Williams

*Professor, Mathematics
Education
Chair of Middle/Secondary
Education Department*

Nina Beck

*Instructor; Early Childhood
Education*

Peggy Brooks

*Instructor
Kentucky Teacher Internship
Program Coordinator*

E. Todd Brown

*Associate Professor,
Mathematics Education*

Sherri Brown

*Associate Professor, Science
Education
Assistant Chair of Early
Childhood and Elementary
Education Department*

William Bush

*Professor, Mathematics
Education
Director of Center for
Research in Mathematics and
Science Teacher Division*

Janet Calvert

*Instructor, Alternative
Certification
Coordinator of Alternative
Certification Program*

Betty Doyle

*Instructor, Early Childhood
Education*

Claudia George

Instructor, Science Education

Penny Howell

*Assistant Professor, Literacy
and Middle Grades
Education*

Jill Jacobi-Vessels

*Assistant Professor, Early
Childhood Education*

Deborah Jinkins

*Instructor, Early Childhood
Education*

Karen Karp

*Professor, Mathematics
Education*

Diane Kyle

*Professor, Elementary
Curriculum
Chair of Early Childhood and
Elementary Education
Department*

Ann Larson

*Professor and Vice
Dean, English Education*

Stefanie Livers

*Instructor, Mathematics
Education*

Maggie McGatha

*Associate
Professor, Mathematics
Education
Assistant Chair of Middle
and Secondary Education
Department*

Lori Norton-Meier

*Associate Professor, Reading
Education*

Susan Peters

*Assistant Professor,
Mathematics Education*

Bob Ronau

*Professor, Mathematics
Education*

Gina Schack

Professor, Gifted Education

Caroline Sheffield

*Assistant Professor, Social
Studies Education*

Christine Sherretz

*Assistant Professor, Literacy
Education*

Melissa Shirley

*Assistant Professor, Science
Education*

Steve Swan

*Instructor, Instructional
Technology, Special
Education*

Shelley Thomas

*Assistant Professor, Social
Studies Education*

Thomas Tretter

*Associate Professor, Science
Education*

*Director of Gheens Science
Hall and Rauch Planetarium*

Ingrid Weiland

*Assistant Professor, Science
Education*

Jean Wolph

*Instructor, Literacy
Director of Louisville
Writing Project*

Rank I Program in Secondary Education

Major: SE

Degree Awarded: NON

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/rank>

Program Information

Program Admission Procedure

- Hold Certification in an 8-12, P-12, or 5-12 area and Masters of Rank II equivalency.
- Admission to School of Interdisciplinary and Graduate Studies.

Curriculum

Rank I Program in Secondary Education Advanced Practitioner

(For students who have earned a Masters degree)

Inquiry (3 hours)	3
ELFH 600 Introduction to Research Methods & Statistics	
Advocacy	
Leadership (3 hours)	3
EDAP 606 (take in first semester of enrollment)	
ELFH 603 Administrative Leadership in a Reform Environment	
EDAP 624 Curriculum Theory	
EDAP 625 Social and Ethical Development of Teaching	
EDAP 677 Teacher Leader: Coaching	
The Multicultural Learner (3 hours)	3
EDAP 642 Literacy learning & Cultural Differences	
EDAP 626 Affirming Diversity	
EDTP 503 Developing Cross-Cultural Competence	
SOC 630 Sociology of Education	
PAS 529 Teacher Institute on African-American Issues Or other diversity course in consultation with advisor	
AREA OF EMPHASIS	12
EDAP 680 Capstone Course	3
Electives (6 hours)	6
Minimum total hours:	30
Exit Requirements: Portfolio or National Board Certification.	

Midpoint Requirement: Candidates are required to submit a mid-program portfolio to a faculty advisor at the completion of 15 credit hours of coursework. The faculty advisor will assess the candidate's portfolio which must be at the target or satisfactory level. If this mid-point portfolio requirement is not met, a candidate will be prohibited from course registration beyond 15 credit hours.

Notes

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.
3. A maximum of 6 hours taken in non-degree status can be applied toward a master's degree (upon approval of advisor).
4. To complete the program, students must have a minimum 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than a "C." Rank I in Secondary Education Professional Program (Fulfills the requirements for the M.Ed. in Secondary Education)

Rank I in Secondary Education Professional Program

(Fulfills the requirements for the M.Ed. in Secondary Education)

Inquiry (6 hours)	6
EDAP 606 Orientation and Readings	
ELFH 600 Introduction to Research Methods & Statistics	
Leadership and change (3 hours)	3
EDAP 607 Leadership and Change	
ELFH 603 Administrative Leadership in a Reform Environment	
EDAP 624 Curriculum Theory	
EDAP 625 Social and Ethical Development of Teaching	
Diversity (3 hours)	3
EDAP 642 Literacy Learning & Cultural Differences	
EDTL 626 Affirming Diversity	
EDTP 503 Developing Cross-Cultural Competence	
AREA OF EMPHASIS	12
EDAP 680 Capstone Course	3
Electives	3
Minimum total hours	30

Notes:

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts.

3. A maximum of six hours taken in non-degree status can be applied toward a Rank I-Med degree (upon approval of advisor).
4. To complete the program, students must have a minimum of a 3.0 cumulative grade point average. No credit shall be accepted for carrying a grade lower than a "C."

Departmental Faculty

Jenny Bay-Williams

Professor, Mathematics Education

Chair of Middle/Secondary Education Department

Nina Beck

Instructor; Early Childhood Education

Peggy Brooks

Instructor

Kentucky Teacher Internship Program Coordinator

E. Todd Brown

Associate Professor, Mathematics Education

Sherri Brown

Associate Professor, Science Education

Assistant Chair of Early Childhood and Elementary Education Department

William Bush

Professor, Mathematics Education

Director of Center for Research in Mathematics and Science Teacher Division

Janet Calvert

Instructor, Alternative Certification

Coordinator of Alternative Certification Program

Betty Doyle

Instructor, Early Childhood Education

Penny Howell

Assistant Professor, Literacy and Middle Grades Education

Jill Jacobi-Vessels

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Deborah Jinkins

Instructor, Early Childhood Education

Karen Karp

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Diane Kyle

Professor, Elementary Curriculum

Chair of Early Childhood and Elementary Education Department

Ann Larson

Professor, English Education

Vice Dean

Stefanie Livers

Instructor, Mathematics Education

Maggie McGatha

Associate Professor, Mathematics Education

Assistant Chair of Middle and Secondary Education Department

Lori Norton-Meier

Associate Professor, Reading Education

Susan Peters

Assistant Professor, Mathematics Education

Bob Ronau

Professor, Mathematics Education

Gina Schack

Professor, Gifted Education

Caroline Sheffield

Assistant Professor, Social Studies Education

Christine Sherretz

Assistant Professor, Literacy Education

Melissa Shirley

Assistant Professor, Science Education

Steve Swan

Instructor, Instructional Technology, Special Education

Shelley Thomas

Assistant Professor, Social Studies Education

Thomas Tretter

Associate Professor, Science Education

Director of Gheens Science Hall and Rauch Planetarium

Ingrid Weiland

Assistant Professor, Science Education

Jean Wolph

Instructor, Literacy
Director of Louisville Writing Project

Rank I Program in Special Education - Advanced Practitioner P-12

Major: SPE

Degree Awarded: NON

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/rank>

Program Information

Rank I programs are planned graduate level programs designed for Kentucky teachers seeking rank change for salary purposes. *Rank I programs are not degree programs.* They are recognized only in the state of Kentucky. By state regulation, Rank I status is sixty (60) semester hours of approved graduate credit including a Master's degree.

Admission Requirements:

Students may apply to the program by first going to the School of Interdisciplinary and Graduate Studies, <http://louisville.edu/graduate/apply>.

- Official transcripts with a GPA of 2.75 in the Bachelor's degree and a GPA of 3.0 in the Master's degree.
- Teaching certificate
- TOEFL (Students holding a baccalaureate or advanced degree from an accredited institution in the U.S. are exempt from this requirement.)

Curriculum

Inquiry (3 hours) 3

EDAP 606 Orientation in Reading (take first semester of enrollment)

EDSP 639 Research in Special Education

Advocacy (6 hours) 6

Leadership (Select one of the following) (3 hours)

EDSP 597 Issues in Special Education

EDAP 606 Orientation and Readings (take in first semester of enrollment)

EDAP 607 Leadership and Change

EDAP 624 Curriculum Theory

EDAP 625 Social and Ethical Development of Teaching

ELFH 603 Administrative Leadership in a Reform Environment

ELFH 613 Administration and Supervision in Special Education

Diversity (Select one of the following) (3 hours)

EDSP 537 Language Learning
 EDSP 545 Exceptional Child in the Regular Classroom
 EDAP 642 Literacy Learning and Cultural Differences
 EDTP 626 Affirming Diversity
 EDTP 503 Developing Cross-Cultural Competence
 SOC 630 Sociology of Education
 WMST 532 History of American Sexualities
 WMST 556 Feminist Theory
 PAS 529 Teaching Institute on African-American Issues

Action (3 hours) 3

EDSP 669 Single Subject Research
 Design

Area of Emphasis (at least 15 hours) 15

Electives (3 hours) 3

Minimum Hours Required 30

Midpoint Requirement: M.Ed. candidates are required to submit a mid-program portfolio at the completion of 15 credit hours of coursework. The faculty advisor will assess the candidate's portfolio, which must at the target or satisfactory level. If this mid-point portfolio requirement is not met, a candidate will be prohibited from course registration beyond 15 credit hours.

Exit Requirement: Portfolio or National Board Certification

Notes:

1. Minimum of 18 hours in 600-level courses is required.
2. Transfer credit must be officially accepted by the advisor (maximum of 6 hours) - final acceptance is dependent upon receipt of official transcripts
3. A maximum of 6 hours taken in non-degree status can be applied toward a Masters degree (upon approval of advisor).
4. To complete the program, students must have a minimum grade point average of 3.0. No credit shall be accepted for carrying a grade lower than "C".
5. Successful completion of the appropriate PRAXIS Exam(s) is required if adding teacher certification in LBD or MSD.
6. The Rank I classification shall require the completion of 60 semester hours approved graduate level credit including a Masters degree.

Praxis Disclaimer: "Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.kyepsb.org or www.ets.org/praxis.ky for current requirements."

Departmental Faculty

Debra Bauder

*Associate Professor, Assistive
Technology*

Ginevra Courtade

*Assistant Professor,
Moderate and Severe
Disabilities*

Monica Delano

Assistant Professor, Autism

Nicole Fenty

*Assistant Professor, Reading
Education*

Tim Landrum

*Associate Professor,
Behavior Disorders
Director of Doctoral Program*

Amy Lingo

*Associate Professor,
Learning and Behavior
Disorders
Assistant Chair of Special
Education Department*

Sheri Moore

*Associate Professor,
Interdisciplinary Early*

*Childhood Education,
Special Education*

Robert Pennington

Assistant Professor, Autism

Terry Scott

*Professor, Behavior
Disorders
Chair of Special Education
Department*

Thomas Simmons

*Associate Professor,
Moderate and Severe
Disabilities*

Rank I Program in Instructional Computer Technology (P-12)

Major: IT

Degree Awarded: NON

Unit: GE

Program Webpage: <http://louisville.edu/education/degrees/med-it>

Program Information

Admission Requirements:

- Admission to the School of Interdisciplinary and Graduate Studies
- Hold teacher certification and a Masters degree
- Admission to Instructional Technology program (requires EDAP 585: Intro to Educational Technology with B+ minimum or equivalent course/experience)
- Meeting with faculty advisor to discuss KYETS, UofL Program Themes, Conceptual Framework, and ISTE Technology Facilitation Standards
- Set purpose for Rank I program

Curriculum

Inquiry (Critical Thinker) (3 hours)

ELFH 600 Introduction to Research Methods and Statistics 3

Advocacy (Professional Leader) (3 hours)

EDAP 677 Teacher Leadership: Mentoring and Coaching 3

EDAP 642 Literacy, Learning, and Cultural Differences **OR**

EDSP 618 Instructional Technology for Students with Special Needs

Action (Problem Solver) (3 hours)

EDAP 680 Capstone Seminar ² 3

Area of Emphasis (18 hours)

EDAP 688 Designing a Technology Integrated Curriculum ¹ 3

EDAP 689 Using the Internet in P-12 Teaching ¹ 3

EDAP 587 Teaching and Learning Online ¹ 3

EDAP 601 Teaching with Emerging Technologies ^{1, 2} 3

EDAP 585 Intro to Education Technology: Integrating Technology into Instruction 3

EDAP 624 Curriculum Theory 3

EDAP 629 Teaching Mathematics with Technology, P-8 3

EDAP 687 Literacy, Teaching and Technology 3

Course approved by Advisor

Minimum total hours**30**¹ Denotes courses that are required for the Instructional Technology endorsement.² Denotes courses that must be taken in the last 6 hours of program study.

Mid-Point Assessment: Review program on KY Experienced Teacher standards, U of L Program Themes, Conceptual Framework, and ISTE Technology Facilitation Standards (2002) half of required KETS and ISTE Technology Facilitation standards and indicators met within portfolio work.

Degree Assessment: Minimum GPA of 3.0; no grade lower than “C”, acceptable portfolio.

Endorsement Assessment:

1. All Endorsement coursework completed.
2. No lower than 3.0 GPA in endorsement courses, no credit accepted for grade lower than C.
3. Review of Portfolio which includes Post-Program Self-Assessment.

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Education**Chair of the
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Education***Latricia Bronger***Instructor, Middle and
Secondary Education***Peggy Brooks***Instructor
Coordinator of the Kentucky
Teacher Internship Program***E. Todd Brown***Associate Professor,
Mathematics Education***Sherri Brown***Associate Professor, Science
Education
Assistant Chair of Early
Childhood and Elementary
Education Department***William Bush***Professor, Mathematics
Education**Director of Center for
Research in Mathematics and
Science Teacher Division***Janet Calvert***Instructor, Alternative
Certification
Coordinator of Alternative
Certification Program***Betty Doyle***Instructor, Early Childhood
Education***Claudia George***Instructor, Science Education***Penny Howell***Assistant Professor, Literacy
and Middle Grades
Education***Jill Jacobi-Vessels***Assistant Professor, Early
Childhood Education***Deborah Jinkins***Instructor, Early Childhood
Education***Karen Karp***Professor, Mathematics
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Elementary Education
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Education***Maggie McGatha***Associate Professor,
Mathematics Education
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Education***Susan Peters***Assistant Professor,
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Christine Sheffield

*Assistant Professor, Literacy
Education*

Melissa Shirley

*Assistant Professor, Science
Education*

Steve Swan

*Instructor, Instructional
Technology and Special
Education*

Shelley Thomas

*Assistant Professor, Social
Studies Education*

Thomas Tretter

*Associate Professor, Science
Education*

Director of Gheens Science
Hall and Rauch Planetarium

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