University of Kentucky Mathematics Graduate Program

Visit http://www.math.uky.edu/grad for more information.
Contact for Math Alliance Graduate Program Group, Russell Brown, russell.brown@uky.edu

At the University of Kentucky we have strong programs in the areas of algebra, analysis/partial differential equations, applied math, combinatorics, numerical analysis, and topology. Our program is designed to give students a solid foundation to prepare them for a successful career, whether in academics, industry or government service.
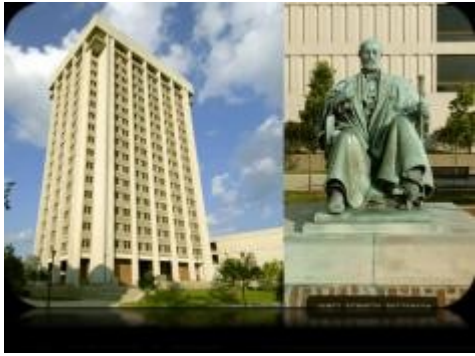
Our course of study is rigorous, but our atmosphere is friendly and encourages close collaboration between faculty and students. There are many opportunities for our students to enrich their background for a research, educational, or business career. Students are encouraged to talk in one of the department's many research seminars, including a Graduate Student Colloquium , run by the Graduate Student Council, and to attend national/international conferences as well as regional meetings. Our students have opportunities to teach a variety of courses and to work in our special instructional and outreach programs. The overall goal is for our students to excel in research and teaching of mathematics and to ultimately become well-rounded leaders in their field.

Our Degree Programs

The Department of Mathematics offers programs leading to the Master of Arts (M.A.), Master of Science (M.S.), and the Doctor of Philosophy (Ph.D) degrees. Courses of study are available in algebra, analysis, discrete mathematics, numerical analysis, partial differential equations and topology.

The Ph.D degree is a five-year program culminating in an original piece of mathematical research for a thesis and eventual publication in a scholarly journal. While the thesis is in a specific area, the coursework leading up to thesis work is designed to provide sufficient breadth to prepare our students for successful careers. All students pursue coursework from our six core areas of Algebra, Analysis, Discrete Mathematics, Numerical Analysis, Partial Differential Equations, and Topology. By the end of the third year, our students must pass the Preliminary Examinations based upon three of these core areas. Subsequent coursework consists of seminar courses in topics of current research.

The M.A. degree program is based predominantly upon a three-course sequence in algebra, analysis, and topology, and is usually elected by prospective junior college and secondary school teachers. It is a thirty credit-hour program (ten courses) which may be taken with or without a thesis.

Our Research Facilities

Offices for faculty, graduate students and staff are conveniently located in the [Patterson Office Tower](). The [Science Library]() contains a comprehensive collection of books and journals in mathematics, statistics and related areas. The department provides computer facilities for faculty and students through individual desktop PCs and additional computational facilities for those with more specialized needs.

The University of Kentucky is a member of the [Mathematical Sciences Research Institute (MSRI),]() the renowned international research institute in Berkeley, California, offering fully funded summer programs for advanced graduate students.

Financial Aid and Cost of Study

Teaching Assistantships and Fellowships are awarded on a competitive basis and include a full tuition scholarship, and health insurance. Most students also receive additional support of a teaching assistantship or a research assistantship in the summer. Applications that are completed by January 15 will automatically be considered for supplemental fellowships of up to $3,000 such as the Max Steckler Award, or the Fugate-Wells Fellowship. In addition, several full fellowships which do not require teaching are available for exceptionally well-qualified candidates. There are a number of Research Assistantships with no teaching duties that are intended for advanced students who are working on specific research projects.

Students supported by fellowships or teaching assistantships receive a tuition scholarship which pays all tuition. Students are responsible for a health service fee, a campus recreation fee, and textbook costs.

Graduate Students

The mathematics department, with approximately sixty-five graduate students, from the U. S. and abroad, places great emphasis on building a community of graduate students and faculty. Our programs have enjoyed high graduation rates. Each year, about 7 students receive Ph.D.'s and about 10 earn Master's degrees. Our doctoral graduates have an excellent placement record, with most of them going on to a career in academics. An increasing number of

our students interested in applied mathematics find related employments in industry or government service.

The Faculty

The department has a faculty of over thirty-five mathematicians who collaborate closely with students in courses, research and other projects. Our faculty has achieved national prominence in mathematical research and education; you can learn more about our department by visiting the About UK Mathematics page, and learn more about the research interests of our faculty by visiting the Faculty Research Group pages. Research interests of faculty include areas of pure mathematics such as algebraic combinatorics, polytopes, algebraic geometry, commutative algebra, quadratic forms, algebraic topology, elliptic cohomology, mathematical physics, complex analysis, functional analysis, potential theory, non-linear partial differential equations, inverse problems, harmonic analysis, geometric scattering theory and more. In addition, we have an active applied program with interests in areas such as numerical linear algebra, numerical solution of partial differential equations, mathematical biology, and game theory/mathematical economics.

Lexington and the Bluegrass Region

Metropolitan Lexington is in the heart of the Bluegrass region and has a population of over 300,000. The area is known for its white-fenced horse farms, thoroughbred racing, a vibrant cultural life, and unspoiled natural beauty. Well served by the convenient Bluegrass Airport, the city is 80 miles south of Cincinnati, Ohio and 75 miles east of Louisville, Kentucky. Lexington is located near the Red River Gorge which provides opportunities for hiking, climbing, and other outdoor activities. Lexington is also one of the South's leading medical centers. All these amenities, combined with a very modest cost of living, make Lexington a very pleasant community for working and living.

The University

The University of Kentucky, a land-grant university founded in 1865 and a Carnegie Doctoral/Research university, is the principal center for graduate and professional study in Kentucky. The University's 670 acre campus is located just south of downtown Lexington. Approximately 30,000 students are enrolled on campus, and nearly 8,000 of them are pursuing a graduate or professional degree.

Information Requests, Contacts

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If you will be in Lexington, please feel free to visit the department and learn about our program.
Contact the Director of Graduate Studies to arrange an appointment.