



Mathematics

The faculty and graduate students of the Department of Mathematics are housed in Snow Hall, a recently renovated building centrally located on the campus. At present, there are more than 30 members of the mathematics graduate faculty and 60 graduate students, most of whom hold teaching assistantships. (Graduate faculty members and their areas of interest are listed under Graduate Faculty.)

The mathematics library is housed in Anschutz Library, which contains more than 20,000 volumes in mathematics and subscribes to more than 300 mathematical research journals.

Graduate Programs

The department offers Master of Arts and Doctor of Philosophy degree programs. Both programs feature a broad-based foundation and are sufficiently flexible to accommodate specialization in pure mathematics, applied mathematics, or statistics.

Computing Facilities

The department employs a full-time systems specialist to maintain a rapidly growing network of Sun, SGI, Linux, Macintosh, and Windows machines. General purpose computing facilities include at least one workstation in most offices and a lab of 15 Unix workstations. Installed software includes the GNU suite of compilers and tools, TeX, Mathematica, Matlab, and Maple V. All departmental computers are connected to a high-speed Ethernet network and the campus backbone, for full access to the Internet as well as local servers. Students whose work is appropriate are given access to the high-performance workstations in the Scientific Computation and Visualization

Lab, whose facilities include an SGI Onyx2 and SGI O2 workstations. Intensive computing also can be carried out on KU's Origin 2000 supercomputer.

Research Activity

The department's faculty and students are engaged in research activity in a variety of areas of pure and applied mathematics and statistics. These include algebra, analysis, algebraic and differential geometry, combinatorics, discrete geometry, set theory, topology, functional analysis, operator theory, probability theory, stochastic processes, statistics, deterministic and stochastic control theory, mathematical finance, differential equations, and numerical analysis.

Recent interdisciplinary work has involved projects in biology, computer science, economics, engineering, geology, medicine, and physics. Much of this work is facilitated by the Kansas Center for Advanced Scientific Computing and the KU Information and Telecommunication Technology Center. These centers bring together faculty and students from various departments at KU and other Kansas Regents institutions. Interdisciplinary work also is carried out with the KU Medical Center, the KU Natural History Museum and Biodiversity Research Center, the Kansas Geological Survey, and Sprint.

Graduate Faculty

- Bayer, Margaret.** Combinatorics, discrete geometry
- Brown, Robert.** Functional analysis, partial differential equations
- Byers, Ralph.** Numerical analysis
- Church, James.** Probability and statistics



Bozenna Pasik-Duncan has been recognized as a KU Woman of Distinction for her teaching and research contributions to the university.

- Cobb, E. Benton.** Statistics
- Creese, Thomas.** Analytic function theory, function algebras
- Duncan, Tyrone.** Stochastic processes, control theory
- Fleissner, William.** Set theory, topology
- Galvin, Fred.** Set theory, combinatorics
- Gavosto, Estela.** Several complex variables, complex dynamics
- Gay, Susan.** Mathematics education
- Himmelberg, Charles.** General topology, selector and fixed point theory
- Hu, Yaozhong.** Probability theory and applications
- Huang, Weizhang.** Numerical analysis, partial differential equations
- Huneke, Craig.** (Henry J. Bischoff Distinguished Professor) Commutative algebra, algebraic topology
- Katz, Daniel.** Commutative algebra
- Lang, Jeffrey.** Commutative algebra
- Lerner, David.** Differential geometry, general relativity, dynamical systems
- Liu, Weishi.** Dynamical systems
- Mandal, Satyagopal.** Commutative algebra
- Paschke, William.** Operator algebras
- Pasik-Duncan, Bozenna.** Stochastic adaptive control theory, stochastic processes, statistics
- Porter, Jack.** General topology, topological extensions
- Purnaprajna, Bangere.** Algebraic geometry
- Roitman, Judith.** Set theory, general topology, Boolean algebra
- Sheu, Albert.** C*-algebras, quantization, differential geometry, Lie groups
- Stahl, Saul.** Combinatorics, geometry
- Stanislova, Milena.** Partial differential equations, dynamical systems
- Stefanov, Atanas.** Harmonic analysis, partial differential equations, mathematical physics
- Torres, Rodolfo.** Harmonic analysis, partial differential equations, signal analysis
- Van Vleck, Erik.** Numerical analysis and dynamical systems
- Van Vleck, Fred.** Ordinary differential equations, control theory, multiple-valued functions
- Xu, Hongguo.** Numerical linear algebra

Qualifications for Admission

The essential requirements for admission to graduate work in mathematics at KU are a bachelor's degree from an accredited institution with a program of study in mathematics and a record of achievement that shows strong promise of success in the proposed graduate work. Submission of Graduate Record Examination scores is required for international applicants and highly recommended for all applicants. International students whose native language is not English must submit results of the Test of English as a Foreign Language or the International English Language Testing System.

Additional Information and Applications

For detailed information about graduate work and program options in mathematics and for application forms for admission and financial support, contact **The University of Kansas Director of Graduate Studies Department of Mathematics 1460 Jayhawk Blvd., Room 405 Lawrence, KS 66045-7523** Web site: www.math.ku.edu Online Graduate School application: www.graduate.ku.edu



Craig Huneke, Bischoff Distinguished Professor of Mathematics, meets regularly with his students to discuss research and to hold an occasional chess match.



MATHEMATICS

The University of Kansas

Tuition and Fees

Graduate tuition for the 2003-04 academic year is \$156.05 per credit hour for Kansas residents and \$419.80 per credit hour for nonresidents. Required Lawrence campus fees are \$47 per credit hour for students enrolled in 5 credit hours or fewer and \$287 per semester for those enrolled in more than 5 hours. All graduate teaching assistants appointed at half-time or more, regardless of residence, receive waivers of tuition. They pay only a portion of the required campus fee. Holders of Graduate School Honors Fellowships pay no tuition or fees.

Tuition and fees are set by the Kansas Board of Regents and are subject to change at any time. Current information is available from the Office of the University Registrar, 121 Strong Hall, (785) 864-4422, www.ku.edu/tuition or www.registrar.ku.edu/fees.

Financial Support

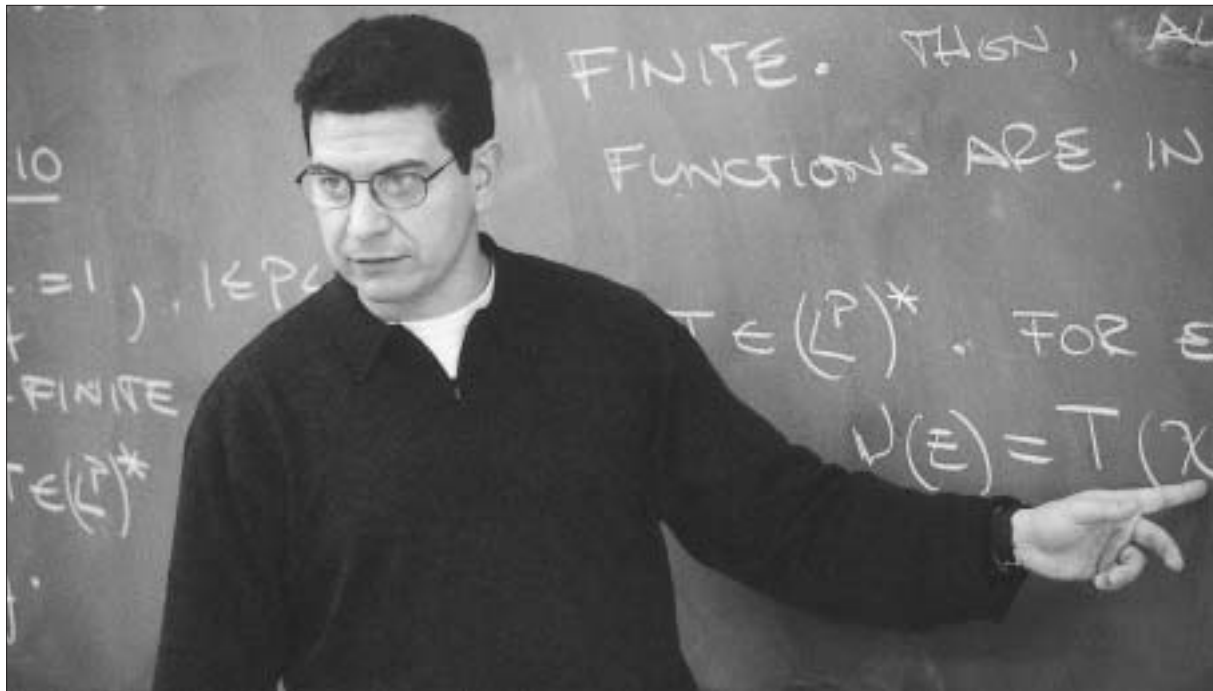
Graduate students may be supported by teaching assistantships, fellowships, and through faculty research grants. Additionally, a few tuition scholarships are available.

Outstanding students can compete for Graduate Honors Fellowships with stipends of \$14,000. Doctoral student awards are made during the first and fourth or fifth year of study. For master's students, the award is made for the first year of study only. Departments are expected to offer a half-time teaching or research assistantship for the two or three intervening years for the doctoral student and for one year for the master's student, provided the student maintains good academic standing and satisfactory employment performance.

Graduate teaching assistantships are available to new graduate students each year. Salaries for half-time teaching assistants (the usual appointment) for academic year 2003-04 ranged from \$14,180 to \$15,280, depending on the student's educational background and experience. A half-time teaching assistant normally teaches one 5-hour course or two 3-hour courses each semester. Summer support is also available from teaching assistantships, scholarships, and grants.

Housing

Information on off-campus housing is available from the Department of Student Housing, 422 West 11th St., Suite DSH, Lawrence, KS 66045-3312, (785) 864-4560, e-mail: housing@ku.edu. Information about Stouffer Place and Jayhawker Towers is available from Jayhawker Towers Apartments, 1603 West 15th St., Lawrence, KS 66044,



Rodolfo Torres received a 2003 Kemper Fellowship for Teaching Excellence.

(785) 864-8305. Current information is available online at www.housing.ku.edu.

The University

The University of Kansas is a major educational and research institution with 29,000 students and 2,100 faculty members. The university includes the main campus in Lawrence; the Medical Center in Kansas City, Kansas; the KU Edwards Campus in Overland Park; a clinical campus of the School of Medicine in Wichita; and educational and research facilities throughout the state. KU has 14 major academic divisions: the College of Liberal Arts and Sciences, the Graduate School, and the Schools of Allied Health, Architecture and Urban Design, Business, Education, Engineering, Fine Arts, Journalism and Mass Communications, Law, Medicine, Nursing, Pharmacy, and Social Welfare. Visit KU's Web site, www.ku.edu, or the Graduate School's Web site, www.graduate.ku.edu.

Research is an integral part of the university's educational process. KU has more than 40 special research facilities, in addition to those in individual departments and schools. KU set a record of \$258 million for total research expenditures in 2003. The National Science Foundation classifies KU as a major university receiving substantial research support. The Carnegie Foundation classifies KU as a research-extensive doctoral institution, a classification given to the top research universities.

Library collections contain more than 3.8 million printed volumes and many microforms, manuscripts, maps, and photographs. Watson Library houses most of KU's general collections in the social sciences and humanities. Scholars from all over the world use the Kenneth Spencer Research Library's valuable collections of rare and historic material. The Anschutz Library houses science collections as well as mathematics, geography, and the T.R. Smith Map Collection. Each library offers a mix of printed and electronic research materials, a professionally trained staff, and a wide range of services. An online catalog provides computer access to library holdings.

The university belongs to the American Association of Universities, a select group of higher education institutions in the United States and Canada. Members are chosen on the basis of national significance in graduate studies and research. In 2002-03, the university awarded 243 doctoral degrees in 60 academic areas.

KU offers many cultural and extracurricular activities. On the Lawrence campus, there are visits from distinguished lecturers, scholars, and artists; concerts, recitals, and chamber music; theatre and ballet performances; showings of classical, popular, and experimental films; special exhibitions in the Helen Foresman Spencer Museum of Art and the Natural History Museum and Biodiversity Research Center; and an endless variety of infor-

mal activities organized by individuals and groups of students. The Lied Center of Kansas, a 2,020-seat performing arts hall, offers a series of concerts and shows that bring outstanding performers to the KU campus each year. There are sports for spectators and participants with exciting Big 12 athletics, intramurals, and extensive recreational facilities.

KU's main campus occupies 1,000 acres on and around Mount Oread in Lawrence, a community of more than 80,000 among the forested hills of eastern Kansas. Lawrence offers shopping areas, malls, restaurants, entertainment, and recreational facilities within easy walking distance of the campus or on bus routes. Near Lawrence, there are four lake resort areas for boating, fishing, and swimming. Metropolitan Kansas City with its international airport, professional sports, ballet, opera, concerts, night spots, galleries, museums, and festivals is about 45 minutes away by interstate highway.

To request a copy of the *Graduate School Catalog*, call (785) 864-9036, or send e-mail to graduate@ku.edu.

The University of Kansas prohibits discrimination on the basis of race, color, religion, sex, national origin, age, ancestry, disability, veteran status, sexual orientation, marital status, and parental status.

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The Department of Mathematics is housed in Snow Hall, aptly named after the first mathematics professor at KU, who later became chancellor.