

Mathematics at the University of California, Riverside

ABOUT THE DEPARTMENT OF MATHEMATICS

The Department of Mathematics focuses on providing a solid scientific education to enable its graduates to enter a variety of careers. A bachelor's degree in mathematics is highly regarded in industry and provides students with a wide range of job possibilities. It can also prepare students for a postgraduate program in mathematics, allowing them to pursue a career in higher education or to enter at a more senior level of the career ladder in industry.

CAREER PATHS

Career opportunities exist for graduates at all degree levels to work for industry in computer programming, operations research, numerical analysis, and other branches of mathematics.

Mathematics has long been essential in the natural sciences and is now finding increasing application to the social sciences.

A bachelor's degree in mathematics can also

furnish an excellent foundation for graduate work in biology, physics, engineering, law, business administration, or the social sciences.

EXPANDED OPPORTUNITIES

Most upper-division classes are quite small, allowing great opportunity for one-on-one contact with faculty members, who are worldwide experts in their fields. Projects conducted in small groups will lead students to explore areas of modern mathematics that are close to the cutting edge of current research.

Research opportunities are available to students informally through various courses as well as more formally through research grants. Many faculty members have mentored undergraduate students through University-wide research grants, including those for disadvantaged students.

The department hosts an undergraduate math club and a spacious undergraduate collaboration room, providing space for private study, group work, and tutoring.

Because the math department also has large and active master's and Ph.D. programs, most undergraduates find themselves interacting quite a lot with graduate students. Informally, the graduate students serve as role models, advisors, and sympathizers with the challenges of studying mathematics.

DEGREE PROGRAMS

The math department has the following undergraduate degree options:

- B.A. in Mathematics
- B.S. in Pure Mathematics
- B.S. in Applied Mathematics with options in Biology, Chemistry, Economics, Environmental Sciences, General Applied Mathematics, or Physics
- B.S. in Computational Mathematics
- B.S. in Mathematics for Secondary School Teachers

All B.S. degrees require the following eight mandatory lower-division courses:

Calculus (3 quarters), Multivariable Calculus (2 quarters), Ordinary Differential Equations, Introduction to Computer Science, and Applied Linear Algebra.

The B.S. degree options differ in the upper-division coursework. For example, a B.S. in Pure Mathematics requires Linear Algebra (2 quarters); Introduction to Set Theory; Introduction to Topology (2 quarters); Advanced Calculus; Complex Analysis (2 quarters); Modern Algebra; and other upper-division math electives.

A B.S. in Applied Mathematics with Economics concentration requires Optimization; Applied Linear Algebra and Linear Algebra (2 quarters); Game Theory; Ordinary and Partial Differential Equations (3 quarters); and Probability and Mathematical Statistics (2 quarters). It also requires five lower-division and five upper-division Economics courses.

CALIFORNIA TEACH – SCIENCE/MATHEMATICS OPTION

Students with a talent for science, math, or engineering can translate that ability into a teaching career in California through the California Teach–Science/Mathematics Initiative (CaTEACH-SMI).

Through CaTEACH-SMI, students receive advising and mentoring to prepare for entrance into an intern teaching credential program while coordinating with academic advisors for completion of STEM degree requirements.

For more information contact smi@ucr.edu or visit the Resource Center at 1104 Pierce Hall or at smi.ucr.edu.

On the front

The vibrations of the Koch snowflake drum (courtesy of Prof. Michel Lapidus, Cheryl Griffith, John W. Neuberger, and Robert Renka)



ADVISING

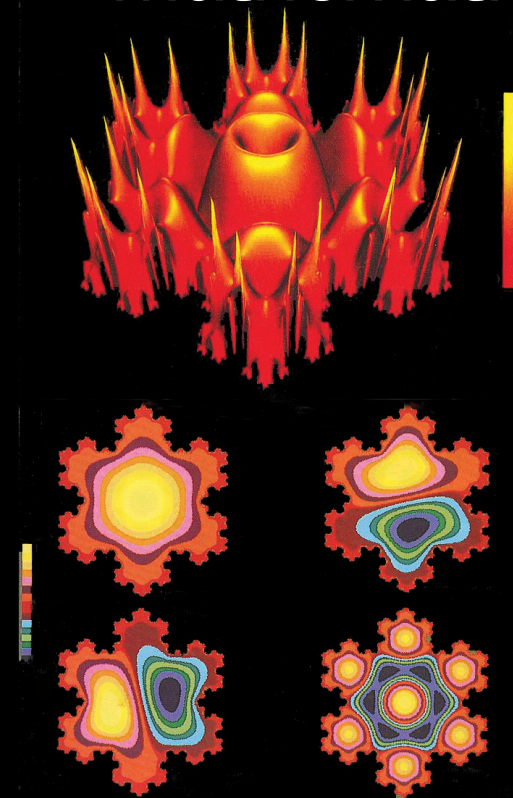
Current course requirements are available online in the UCR Catalog at catalog.ucr.edu. For help in selecting courses, and for information about policies and procedures, contact a professional academic advisor:

CNAS Undergraduate Academic Advising Center
1223 Pierce Hall
Phone: (951) 827-7294
Website: myadvising.ucr.edu

For advice about careers, graduate programs, and letters of recommendation, contact:

Undergraduate Faculty Advisor James Kelliher
Email: james.kelliher@ucr.edu
Department website: mathdept.ucr.edu

Undergraduate studies in **Mathematics**



Growing great science
Making new discoveries
Building great minds