

Mathematics for Secondary Education

PROGRAM OVERVIEW The focus of the program is to provide the necessary mathematics content and methods for students to become mathematics teachers at the middle-high school level.

In addition to receiving this degree in the College of Arts and Sciences, students must also complete the secondary education major in the School of Education. Students will learn theory and application of mathematics in a range of lower and upper level classes, as well teaching methodology appropriate for teaching at the secondary level. In addition, students will learn how to use appropriate technology in teaching.

FACULTY The Department of Mathematics and Computer Science includes 10 full-time faculty members. All have doctorates in computer science, mathematics, or mathematics education. Scholarly interests of faculty members in the department include computer graphics and other software-related areas, wireless networks, linear algebra, graph theory, history of mathematics, mathematical modeling, applied mathematics, abstract algebra, and topics in mathematics education, including use of technology. Faculty honors include college and university outstanding teaching awards, an outstanding mentor award, Thomas F. Sheehan and Windsor distinguished professorships, Burlington Northern Teaching Award for Innovative Teaching, and a Stalnaker Lecturer. All full-time faculty are engaged in teaching classes from the introductory to advanced levels.

Part-time faculty in the department teach primarily lower-level classes in college algebra and calculus, including calculus for business majors, and calculus I. Specifically in mathematics education, a part-time instructor with special qualifications in secondary teaching methodology will teach Math 145, Methods of Teaching Secondary School Mathematics.

ACADEMIC PREPARATION Students should have a strong general high school preparation, including mathematics, but no specific classes are required.

REQUIREMENTS FOR MAJOR This major, which is 41 credits, is designed to furnish students with the mathematics content necessary for secondary certification in mathematics; in order to teach secondary mathematics, students will also need to complete the secondary education major offered in the School of Education.

Due to the sequential nature of most of these mathematics courses and the specific scheduling of the upper level courses, students must work with an advisor in the mathematics department.

REQUIREMENTS FOR MINOR The minor, 29 credits, provides the courses necessary for mathematics as a secondary teaching field. A student must have a departmental minor adviser and complete the following courses: Mathematics 50, 54, 70, 80, 101, 153, 157, Computer Science 65, and either Statistics 71 or Statistics 131. Mathematics 45 and Mathematics 145 are also recommended.

DRAKE CURRICULUM The Drake Curriculum, required of all undergraduates, is designed to help students meet personal and professional goals as they acquire fundamental knowledge and abilities in ten Areas of Inquiry, including communication, critical thinking, artistic experience, historical consciousness, information and technology literacy, international and multicultural experiences, scientific and quantitative literacy, values and ethics and engaged citizenship. Students work closely with their academic advisers to craft a program of study in general education that prepares students for civic and professional leadership.

The Drake Curriculum also requires first-year seminars, which foster development of critical thinking and written and oral communication skills through a topical focus; and a Senior Capstone, in which students demonstrate the capacity to bring information, skills and ideas to bear on one project.

INTERNSHIPS & OPPORTUNITIES Students will complete a semester of student teaching as part of the secondary education major.

CAREER OPTIONS This program primarily prepares students to teach mathematics at the secondary level.

HONORS The Kappa Mu Epsilon Mathematics Awards are given for achievement on the annual Basil E. Gillam Freshman Mathematics Contest, which honors a long-time former department chair. In addition, each year an upper level student is chosen as Outstanding Student in Mathematics Education.

STUDENT ORGANIZATIONS AND ACTIVITIES Mathematics majors are encouraged to participate in Kappa Mu Epsilon, national honorary society in mathematics.

HOW TO REACH US

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