



Mathematics

at Benedictine University

Why study mathematics at Benedictine?

When you choose to become a Mathematics major at Benedictine University, you will benefit from a program that emphasizes general knowledge and principles, and develops your intellectual capabilities. You will be guided in developing your abilities in mathematical reasoning and problem-solving. You will learn the basic techniques and models of the mathematical sciences.

Students will be challenged and study under experienced faculty who have doctoral degrees in the areas of applied mathematics, functional analysis, hyperbolic geometry, abstract algebra, biomathematics and statistics.

Students can become a teaching assistant, tutor high school and college students and perform undergraduate research as part of Benedictine's summer program as well as throughout the year. You may be able to participate in an internship in your field of interest, or you may gain the experience of performing research at off-campus locations such as Fermilab, Argonne National Laboratory or universities offering summer undergraduate research programs.

Benedictine University participates in the science education programs of the Associated Colleges of the Chicago Area. The annual student symposium in April provides a forum to present results of research or an interesting mathematical problem to students and faculty from member colleges. Benedictine University students have traditionally presented a significant percentage of all student papers at the symposium.

You will be able to participate in the Math Club, an organization that plans academic and social activities throughout the year. You may be eligible for the student chapters of the Mathematical Association of America or mathematics honors societies Kappa Mu Epsilon or Pi Mu Epsilon.

What careers are available with a degree in Mathematics?

A degree in Mathematics at Benedictine University offers you great flexibility in choosing a career. Benedictine's Mathematics graduates are prepared to pursue productive careers in government, education, industry or business in such areas as actuarial science, statistics, quality control, teaching at the secondary level, research, mathematical modeling and other applications in both science and business. More than 125 Benedictine graduates are active as high school mathematics teachers.

A major in Mathematics prepares you for graduate work in mathematics, computer science and other sciences. Students who choose to concentrate in Actuarial Science are prepared to take the first two exams required toward fellowship in the Society of Actuaries.

What facilities are available?

The Department of Mathematics is housed in the Birck Hall of Science, which includes advanced laboratories, computer classrooms and faculty offices. These systems are used exclusively for student instruction and faculty research.

Recommended Program

Bachelor of Science in Mathematics

FRESHMAN

Writing Colloquium	3
Calculus for Physical Sciences I	5
Social Scientific I: Individuals, Organizations and Societies (QIO) course	3
Physical Scientific (QPS) course	3
	14

Research Writing	3
Calculus for Physical Sciences II	4
Computer Science elective	4
Life Scientific (QLS) course	3
	14

JUNIOR

Abstract Algebra I or Real Analysis I	3
Mathematics Sequence course or elective	3
Literary and Rhetorical (QLR) course	3
Electives	6
	15

Mathematics Sequence course or elective	3
Human Dignity and the Common Good (IDS 301)	3
Electives	9
	15

SOPHOMORE

Basic Speech	3
Calculus for Physical Sciences III	4
Philosophical (QPL) course	3
Religions/Theological (QRT) course	3
Catholic and Benedictine Intellectual Traditions (IDS 201)	3
	16

Linear Algebra	3
Differential Equations	4
Artistic and Creative (QCA) course	3
Social Scientific II: Political, Global and Economic Systems (QPE) course	3
Historical (QHT) course	3
	16

SENIOR

Abstract Algebra I or Real Analysis I	3
Mathematics elective	3
Electives	9
	15

Mathematics Sequence course or elective	3
Electives	12

How does the program work?

When you choose to become a Mathematics major, you will take a minimum of 37 semester credit hours from mathematics courses that include three semesters of calculus, differential equations, linear algebra, real analysis and abstract algebra. You will complete a mathematics sequence of two courses in an area of interest. The remainder of the major will be filled out by taking electives from the list below. Proficiency in your field is demonstrated by passing a comprehensive examination during your junior or senior year.

Elective offerings in Mathematics

- Discrete Mathematics
- Introduction to Proofs
- Modern Geometry
- Abstract Algebra II
- Real Analysis II
- Complex Variables
- Fourier Analysis
- Vector Analysis
- Probability and Statistics I
- Probability and Statistics II
- Cryptology
- Mathematical Modeling in Biology