

MATHEMATICS, BACHELOR OF SCIENCE

College: College of Science and Health

Department: Mathematical and Computational Sciences

Student Type: Traditional Undergraduate

Degree: Bachelor of Science

Campus: Lisle Campus

Progression in the Mathematics Program

To progress in the Mathematics program students must complete the introductory sequence of MATH 2210 Calculus I, MATH 2211 Calculus II, and MATH 2212 Calculus III with a GPA of 2.500 or above and a grade of "C" or better in each of these courses. A transfer student must meet these requirements through equivalent transfer courses. Additionally, a transfer student must earn a GPA of 2.500 or above in all major classes during the first semester at Benedictine in order to progress in the Mathematics program.

If it is determined at any time that a student cannot progress in the Mathematics program or cannot graduate with a Mathematics degree, the student will be required to change his or her major and seek academic advising outside of that program.

Requirements - Major

Students seeking a major in Mathematics must complete, with a grade of "C" or better, a minimum of 38 semester credit hours of mathematics coursework at the 2000 level or above, including:

Code	Title	Hours
MATH 2200	Applications of Calculus I	4
	or MATH 2210 Calculus I	
MATH 2211	Calculus II	4
MATH 2212	Calculus III	4
MATH 2240	Discrete Mathematics	4
MATH 2260	Differential Equations	4
MATH 3300	Linear Algebra	3
MATH 4331	Abstract Algebra I	3
MATH 4341	Real Analysis I	3
	3000 level or above courses	6
	Select one of the following:	3
MATH 4399	Mathematics Seminar	
MATH 4373	Probability and Statistics II ¹	
Total Hours		38

¹ In either of these courses, students must complete a written report and an oral presentation on a topic related to the subject matter of the course.

Students will also complete the following cognates in Computer Science:

Code	Title	Hours
CMSC 1180	Introduction to Computing	2
CMSC 1182	Science Applications Laboratory	1

CMSC 2200	Computer Programming	3
Total Hours		6

MATH 3397 Mathematical Research, will count for 3000-level coursework up to a maximum of 3 semester credit hours after the student has completed 15 semester credit hours at the 3000 level. Students must also take a comprehensive mathematics examination and achieve the proficiency level set by the department.

Requirements - Concentration

Students seeking a concentration in Actuarial Science must satisfy the requirements for a math major and complete the following courses with a "C" or better:

Code	Title	Hours
MATH 3370	Theory of Interest	3
MATH 3371	Probability and Statistics I	3
MATH 4373	Probability and Statistics II	3
ECON 2101	Principles of Macroeconomics	3
ECON 2102	Principles of Microeconomics	3
Total Hours		15

Actuarial Science students are encouraged to minor in one of the following areas: Accounting, Business and Economics, Economics, Finance, International Business and Economics, Management and Organizational Behavior or Marketing. In addition to completing a minor in one of the above areas, students are encouraged to take the actuarial exams as early as possible, usually in their sophomore or junior year. It is strongly recommended that students pass the first two actuarial exams (Probability and Financial Mathematics) before graduation.

Requirements - Teaching License

Students who desire to be licensed to teach mathematics at the secondary level (grades 9-12) are to declare themselves as Mathematics majors and Education minors and register with the Benedictine University Education Program as teaching licensure candidates. Advising is then a joint responsibility of the Department of Mathematics and the School of Education. Students must complete MATH 3310 Modern Geometry, MATH 3371 Probability and Statistics I and MATH 4373 Probability and Statistics II as part of the major requirements and CMSC 1180 Introduction to Computing and CMSC 2200 Computer Programming in addition to the other course requirements for a major in Mathematics. Education minors do not need to meet the CMSC 1182 Science Applications Laboratory requirement. Students must also complete the requirements of the Teacher Licensure Program in Education which includes the Education minor (See Education [Elementary Education, Special Education and Minors in Education and Special Education] (<http://catalog.ben.edu/lisle-undergraduate/academic-programs/education/>) section).

Objectives

Students in the Mathematics program will achieve the following student learning outcomes (SLO):

Student Learning Outcome 1: Demonstrate knowledge and understanding of the core content in mathematics.

• University SLO: 1. Disciplinary Competence and Skills

Student Learning Outcome 2: Communicate mathematical concepts, both orally and in writing.

- University SLO: 3. Communication Skills

Student Learning Outcome 3: Understand, and write, a mathematical argument.

- University SLO: 3. Communication Skills

Student Learning Outcome 4: Make connections between the various areas of mathematics.

- University SLO: 1. Disciplinary Competence and Skills

Student Learning Outcome 5: Apply mathematics to other disciplines using mathematical modeling and problem solving.

- University SLO: 5. Analytical Skills

Student Learning Outcome 6: Use technology to solve mathematical problems.

- University SLO: 4. Information Fluency