Master of Science in Mathematics – Actuarial Sciences

College of Arts and Sciences

Learn the knowledge and skills you need for both current and future job markets with an M.S. in Mathematics from Governors State University. With this degree, you will master two of the most valued workplace attributes — the ability to think critically and to solve problems.

FACT

The Society of Actuaries describes the work of an actuary as a combination of the "skills of a business executive, mathematician, and financial and investment manager. They address big problems with well-reasoned solutions that make business better. "
Source: Society of Actuaries Website, www.soa.org, 2015

In Demand

According to the U.S. Department of Labor, Bureau of Labor Statistics, the field is experiencing rapid growth. What's more, the actuarial field is global.
Source: Occupational Outlook Handbook 2012 – 13, Bureau of Labor Statistics

Outstanding Preparation

The program emphasizes problem solving and mathematical inquiry. Coursework covers a wide range of mathematics including abstract algebra, probability and statistics, combinatorics, advanced calculus, the history of mathematics, financial mathematics, and mathematical modeling, while emphasizing both the applied and theoretical aspects of these disciplines. The use of the most current mathematics technology will help you analyze and solve problems like an experienced mathematician. The graduate mathematics program with a sequence in actuarial sciences qualifies you to take the initial two actuarial examinations.

Unlimited Opportunity

Successful completion of coursework in the mathematics — actuarial major prepares you for employment in diverse careers where mathematical and business skills are required, including business, education, finance, government, health care, and insurance.

Faculty Advisor:

Dr. Dianna Galante
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Academic Program Coordinator
Faculty Advisor
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2016 – 17 Catalog Year

Special Admissions Requirement

In addition to the university admissions requirements, students must:

- Have a cumulative undergraduate grade point average of 2.75 (out of a possible 4.0). Students seeking admission to the GSU Master of Science in Mathematics program with a GPA lower than 2.75 may petition to the graduate program coordinator for admission.
- submit a letter of application including a statement of personal interest in pursuing a master's degree in mathematics,
- submit three professional or academic letters of reference

Students may apply for the Master of Science in Mathematics program at Governors State University with a baccalaureate degree in any field from an accredited university. An undergraduate major in mathematics, actuarial science, engineering, business, science, or computer science is recommended. Students must have completed, with a grade of "C" or higher, a three-semester sequence in calculus, a course in modern algebra, a course in linear algebra, and a course in analysis. Students may be conditionally admitted if they do not meet the undergraduate prerequisites for the graduate core courses.

Admission to Candidacy

As a benchmark toward graduation, students must apply for and be accepted to candidacy for the Master of Science degree in Mathematics. Mathematics students must apply for candidacy upon completion of 18 credit hours (6 of these credit hours must be in the Required Core Courses). Students applying for candidacy to graduate with the Master of Science degree in Mathematics must meet the following requirements:

1. Completion of a minimum of 6 hours in the required core, with a grade of "B" or better in each course;
2. Completion of a minimum of 12 additional hours of core or electives course work with a grade average of "B" or better, and no more than one course with a grade of "C" will be accepted; and

3. Establish a Graduate Committee. The Graduate Committee must include a project advisor (must be a tenured/tenure track Mathematics Faculty) and two other graduate faculty (one of which must be a faculty member from a graduate program in a related discipline or graduate program at Governors State University). A Graduate Committee may contain one outside member, who must be a tenured or tenure-track professor from a graduate program at an accredited university. Students apply for candidacy by completing a "Master of Science in Mathematics Program Application for Candidacy" form, including the student's courses and grades to date, date of intended graduate thesis/project/seminar, and a statement from the student's advisor regarding the student's prospects for completion within four years. The Master of Science in Mathematics Program faculty will review the application and vote on whether the student is admitted to candidacy, if additional coursework is required, or if the student will not be admitted to candidacy. Students who are denied admission to candidacy may appeal this decision to the College of Arts and Sciences Dean's Office.

Minimum Degree Requirements

In addition to the requirements for candidacy outlined above, Master of Science in Mathematics students must complete the following requirement in order to attain the Master's degree:

- the remaining elective courses such that the grade average for all elective courses is a "B" (3.00 of 4.00) or better, no more than one course with a grade of "C" will be accepted, and no grades below a "C" will be accepted; and
- the graduate thesis/project (MATH - 8900) or graduate seminar (MATH - 8950) and presentation (MATH - 8990) with a Pass ("P") grade, which is determined by a vote of the three-member graduate project committee.

Required core courses (9)

Students must complete the following

MATH - 8250 Mathematical Statistics (3)
MATH - 8505 Advanced Probability (3)
MATH - 8523 Financial Mathematics (3)

Selective Mathematics Courses - choose two (6 hours)

MATH - 6229 Advanced Calculus (3)
MATH - 6449 Linear Algebra II (3)
MATH - 6557 Probability (3)
MATH - 6637 Mathematics Laboratory (3)
MATH - 8219 Topics in Analysis (3)
MATH - 8623 Mathematical Modeling (3)
STAT - 6219 Statistical Methods (3)

Required Sequence Requirements (15)

ACCT - 6100 Foundations of Accounting & Finance (3)
ECON - 6100 Foundations of Economics (3)
FIN - 7101 Problems in Financial Management (3)
FIN - 7501 Investments (3)
FIN - 8501 Derivatives (3)

Required graduate thesis/project/seminar (4)

Required Graduate Capstone (4 hours)

MATH - 8800 Mathematics Internship (1-4)
OR

MATH - 8900 Graduate Thesis Project (3)
AND
MATH - 8990 Research Presentation (1)

Total Required - 34 Hours

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