DEPARTMENT OF MATHEMATICAL SCIENCES

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Administration

- Maria Emelianenko, Chair
- Evelyn Sander, Director of Graduate Studies
- Catherine Sausville, Director of Undergraduate Studies

The Department of Mathematical Sciences offers undergraduate and graduate degree programs in mathematics for students with various interests and career goals. Students may pursue the standard program or a program focused on actuarial mathematics, applied mathematics, mathematics of data science, mathematical statistics, or pure mathematics. Undergraduate students additionally have the option of tailoring the Mathematics, BS to their own interests via the Individualized Concentration. Students may complement other interests by taking a double major in mathematics and a related field, such as chemistry, economics, physics, computer science, or engineering.

Math Tutorial

The department offers a Tutorial Program (http://math.gmu.edu/tutorial-registration.php) for students who do not place into the math course they need. Successful completion of the relevant program enables students to enroll in MATH 105 Precalculus Mathematics or MATH 108 Introductory Calculus with Business Applications (Mason Core) (http://catalog.gmu.edu/mason-core/).

Math Tutoring Center

The department manages the Math Tutoring Center (http://math.gmu.edu/tutor-center.php?_ga=1.265621830.873783809.1452007880), which offers free tutoring for first- and second-year math courses. Tutoring is given by advanced mathematics students and is available on a drop-in basis with daytime and evening hours throughout the semester.

Certificate in College Teaching

A student enrolled in the Mathematics, MS (http://catalog.gmu.edu/colleges-schools/science/mathematical-sciences/mathematics-ms/) or Mathematics, PhD (http://catalog.gmu.edu/colleges-schools/science/mathematical-sciences/mathematics-phd/) who is primarily interested in pursuing a career in undergraduate education at the college level is encouraged to consider enrolling in the College Teaching Graduate Certificate (http://catalog.gmu.edu/colleges-schools/humanities-social-sciences/integrative-studies/college-teaching-graduate-certificate/) offered through the College of Humanities and Social Sciences (http://catalog.gmu.edu/colleges-schools/humanities-social-sciences/).

Credit can be earned for HE 685 Practicum by working one semester as a graduate teaching assistant in the Department of Mathematical Sciences.

Faculty

Department Faculty

Professors

Anderson, Antil, Colonna, Emelianenko, Goldin, Lawrence, Lawton, Morris, Sachs, Sander, Sauer (COS distinguished scholar), Seshaiyer, Soltan, Walnut, Wanner, Warma

Associate Professors

Agnarsson, Berry, Bulancea, Carchedi, dela Pena, Epstein, Griva, Holzer, Khankan, Lamba

Assistant Professors

Barnes, Bray, Bruschi, Bryan, Carson, Chowdhury, Eckley, Fairchild, Gorbutt, Jarret, Kirsch, Loizides, Luke, Lukyanenko, Rautenberg, Rebhuhn-Glanz (R-G), Schweinhart, Toala-Enriquez

Senior Instructors

Andreani, Coleson, Crossin, Jauchen, Sausville

Instructors

Kassaye, Yan, Yusko

Affiliates

Nash

Emeriti

Alligood, Cabell, Gabel, Levy, Lin, Polyak, Saperstone, Shapiro, Singman

Requirements & Policies

Policies

Writing-Intensive Requirement

Mason policy requires all students to complete at least one course designated as "writing intensive" in their major. Students majoring in mathematics fulfill this requirement by successfully completing MATH 300 Introduction to Advanced Mathematics (Mason Core) (http://catalog.gmu.edu/mason-core/).

Teacher Licensure

Students who wish to become teachers should consult the College of Education and Human Development (http://catalog.gmu.edu/colleges-schools/education-human-development/) section of this catalog and attend an information session early in their studies. For more information, visit the School of Education (http://gse.gmu.edu/).

Information on Undergraduate MATH Courses
Admissions & Policies
- For Mathematics Majors
- For Non-mathematics Majors
- For Both Mathematics and Non-mathematics Majors

For Mathematics Majors

The following cannot be used as substitutes for any requirements of the major in mathematics:

Code	Title	Credits
MATH 103T	Precalculus: Part One	2
MATH 104	Trigonometry and Transcendental Functions	2
MATH 105	Precalculus Mathematics	4
MATH 106	Quantitative Reasoning (Mason Core) (http://catalog.gmu.edu/mason-core/)	3
MATH 108	Introductory Calculus with Business Applications (Mason Core) (http://catalog.gmu.edu/mason-core/)	3
MATH 110	Introductory Probability (Mason Core) (http://catalog.gmu.edu/mason-core/)	3
MATH 111	Linear Mathematical Modeling (Mason Core) (http://catalog.gmu.edu/mason-core/)	4
MATH 271	Mathematics for the Elementary School Teachers I	3
MATH 272	Mathematics for the Elementary School Teachers II (Mason Core) (http://catalog.gmu.edu/mason-core/)	3

For Non-mathematics Majors

- MATH 108 Introductory Calculus with Business Applications (Mason Core) (http://catalog.gmu.edu/mason-core/), MATH 110 Introductory Probability (Mason Core) (http://catalog.gmu.edu/mason-core/), and MATH 111 Linear Mathematical Modeling (Mason Core) (http://catalog.gmu.edu/mason-core/) are designed for students in the social and behavioral sciences.
- Liberal arts majors are advised to take MATH 106 Quantitative Reasoning (Mason Core) (http://catalog.gmu.edu/mason-core/), MATH 110 Introductory Probability (Mason Core) (http://catalog.gmu.edu/mason-core/), or MATH 111 Linear Mathematical Modeling (Mason Core) (http://catalog.gmu.edu/mason-core/).
- Students in the natural sciences who plan to do graduate work are advised to add courses from:

Code	Title	Credits
MATH 313	Introduction to Applied Analysis	3
MATH 314	Advanced Differential Equations	3
MATH 351	Probability	3
MATH 352	Statistics	3
MATH 441	Deterministic Optimization	3
MATH 442	Stochastic Models	3
MATH 446	Numerical Analysis I	3
MATH 447	Numerical Analysis II	3

For Both Mathematics and Non-mathematics Majors

- MATH 105 Precalculus Mathematics, MATH 108 Introductory Calculus with Business Applications (Mason Core) (http://catalog.gmu.edu/mason-core/), MATH 113 Analytic Geometry and Calculus I (Mason Core) (http://catalog.gmu.edu/mason-core/), MATH 123 Calculus with Algebra/Trigonometry, Part A, MATH 125 Discrete Mathematics I (Mason Core) (http://catalog.gmu.edu/mason-core/) have a qualifying score on the Math Placement Test (http://math.gmu.edu/placement_test.php) as a prerequisite. The Math Placement Test (http://math.gmu.edu/placement_test.php) is given frequently; for the schedule, check the Department of Mathematical Sciences website (http://math.gmu.edu/).

- The sequence MATH 123 Calculus with Algebra/Trigonometry, Part A and MATH 124 Calculus with Algebra/Trigonometry, Part B (Mason Core) (http://catalog.gmu.edu/mason-core/) is an option for students who need MATH 113 Analytic Geometry and Calculus I (Mason Core) (http://catalog.gmu.edu/mason-core/) but believe they are not prepared for that course. In these two 3-credit courses, students will learn fundamental algebra and calculus so that upon completion of the sequence, students will be prepared for MATH 114 Analytic Geometry and Calculus II.

- Students who do not achieve the necessary test score needed to take a math course may enroll in the Tutorial Program (http://math.gmu.edu/tutorial-registration.php), or they may study and retake the test on their own. A student who does not complete the Tutorial Program (http://math.gmu.edu/tutorial-registration.php) or does not achieve the necessary score on the Math Placement Test (http://math.gmu.edu/placement_test.php) will not be able to enroll in the class. Depending on their test scores, students who do not place into MATH 113 Analytic Geometry and Calculus I (Mason Core) (http://catalog.gmu.edu/mason-core/) will be advised to take MATH 105 Precalculus Mathematics or MATH 123 Calculus with Algebra/Trigonometry, Part A , or enroll in the Tutorial Program to prepare for MATH 105.

- MATH 104 Trigonometry and Transcendental Functions and MATH 105 Precalculus Mathematics do not fulfill the Mason Core (http://catalog.gmu.edu/mason-core/) 'Quantitative Reasoning' requirement.

- Students may not receive credit for both MATH 214 Elementary Differential Equations and MATH 216 Theory of Differential Equations; both MATH 213 Analytic Geometry and Calculus III and MATH 215 Analytic Geometry and Calculus III (Honors); both MATH 351 Probability and STAT 344 Probability and Statistics for Engineers and Scientists I; and both MATH 352 Statistics and STAT 354 Probability and Statistics for Engineers and Scientists II.

- After receiving a grade of 'C' or better in one of the courses listed below on the left, students may not receive credit for the corresponding course on the right:

Course	May Not Receive Credit for
MATH 113 or MATH 123	MATH 105 or MATH 108
MATH 351 or STAT 344	MATH 110
MATH 441	MATH 111
MATH 125	MATH 112

Programs

- Actuarial Sciences Graduate Certificate
- Mathematics Minor
- Mathematics for Costello College of Business Students Minor
- Mathematics, BA
- Mathematics, BS
- Mathematics, MS
- Mathematics, PhD