THE MATHEMATICS PROGRAM

The Department of Mathematics offers a bachelor's degree program in mathematics and several minors in mathematical disciplines. The Bachelor of Science program is grounded in a core set of courses in calculus, linear and abstract algebra, and real analysis. Student interest can then be used to determine the best electives to round out the degree. A more theoretical training for those interested in graduate studies involves courses in Topology, Abstract Algebra and Real or Complex Analysis. Students interested in careers with government and industry will find Numerical Analysis, Differential Equations and Chaotic Dynamical Systems of interest. Those interested in careers as statisticians will find use for the advanced Probability and Statistics sequence or perhaps the applied Theory of Interest course. Courses in specialized areas such as Coding and Cryptography or Partial Differential Equations are common.

The department offers several minors to complement degrees in other disciplines. Natural and social science students will greatly enhance their resumes with a minor in Applied Mathematics and students in quantitative fields such as business or economics will find great utility in a Statistics or Actuarial Science minor. Our broadly defined minor in Mathematics is a great addition to any degree.

For more information about the programs offered by the department, please contact:

Department of Mathematics
University of Mary Washington
1301 College Avenue
Fredericksburg, Virginia 22401
540/654-1028
cas.umw.edu/math

For an academic catalog and an application for admission, please contact:

The Office of Admissions
University of Mary Washington
1301 College Avenue
Fredericksburg, Virginia 22401
540/654-2000 • 1-800-468-5614
umw.edu/admissions

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MATHEMATICS PROGRAM
A bachelor’s degree in mathematics opens many doors toward a career in education, government, or industry. Completion of our program in mathematics means that you have well-developed problem-solving skills and have learned to attack problems in creative and innovative ways. No matter what your interest, mathematics will help. Employers know that anyone with the ability to understand advanced mathematics can learn quickly and attack problems creatively. A mathematics background opens the door to almost limitless opportunities.

Earning a degree in mathematics in no way requires you to enter a mathematically oriented occupation. The general analytic and technical skills that you acquire as a mathematics major will be your strong suit. You should also be aware that no one enters the work force with every bit of knowledge needed for the particular position. This is true no matter the occupation. For this reason, one of the most important skills one can master is the ability to grasp new situations and adapt quickly. The ability to assess complex problems critically and assimilate fine details into the “big picture” is crucial. Also, good technical writing skills are valued highly. UMW’s liberal arts curriculum will add value to a major in mathematics.

Students in the mathematics program can enhance their studies in a variety of ways. Independent study offers students the ability to extend their work beyond our typical offerings. Our well-developed undergraduate research program engages students one-on-one with faculty in a high-level project, often leading to conference presentations or publications. Internships around the country and abroad are common. Mathematics students can participate in a study-abroad program as well. UMW’s liberal arts curriculum will add value to a major in mathematics.

Faculty

Yuan-Jen Chiang  
Geometry/Analysis

Manning G. Collier  
Analysis

Patricia M. Dean  
Mathematics Education

Melody Denhere  
Statistics

Julius N. Easunge  
Stochastic Analysis

Randall D. Helmstutler  
Algebraic Topology

Debra L. Hydorn  
Statistics

Janusz Konieczny  
Algebra

Jangwoon “Leo” Lee  
Numerical Analysis

J. Larry Lehman  
Number Theory

Jennifer Magee  
Algebra, Mathematics Education

Keith E. Mellinger  
Discrete Mathematics

Marie P. Scheelks  
Mathematics Education

Suzanne Summer  
Differential Equations

Alumni

Sarah Reese, ’07  
Postdoctoral fellow at the National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, Durham, NC

“While at Mary Washington I learned the knowledge and skills I needed to work in my field. I now work for Roche Pharmaceuticals in Aventis Park, Summit, NJ.”

Jake Farinholt, ’09  
Research mathematician and scientometric analyst, United States Navy, and pursuing a Ph.D. in mathematics at George Mason University

“A couple of my favorite professors at UMW were Dr. Chiang and Dr. Collier. They imparted their knowledge and skills I needed to become a top mathematician.”

Marianne Dubinsky, ’12  
Senior Consultant, Booz Allen Hamilton

“The professors in the UMW Mathematics Department make learning mathematics both fun and memorable.”

Recent Student Presentations

Peter Slattery, The Wave Equation in One Dimension, presented at the Shenandoah Undergraduate Mathematics and Statistics Conference at James Madison University, Fall 2012

Marianne Dubinsky, Revisiting the Basel Problem, and Kathryn Dillingler and Rebecca Presor, Black-Scholes Option Pricing Model: Analysis, Approximations, and Applications, presented at the Joint Mathematics Meetings in Boston, MA, April 2012


Catherine O’Doherty, Applications of the Laplace Transform, MathFest, Lexington, KY, Summer 2011

Recent Faculty Presentations

Yuan-Jen Chiang, Developments of Harmonic Maps into Biharmonic Maps, presented at the 2nd Pacific Rim Mathematical Association Congress, Shanghai, China, Summer 2013


Suzanne Summer, Intensive Experiences for Undergraduate Mathematics, presented at the Joint Mathematics Meetings, San Diego, CA, Spring 2013

Julius Easunge, Stochastic Control Methods for Insurance, presented at the 2nd Pacific Rim Mathematical Association Congress, Shanghai, China, Summer 2013

Jangwoon “Leo” Lee, Distributed Optimal Control Problems for SPDE by the h x p Version of the SGFEM, Ajou University, Seoul, Korea, Spring 2013