

MATHEMATICAL SCIENCES

The Department of Mathematical Sciences at the University of Wisconsin-Milwaukee is home to an active community of teachers, scholars, undergraduates, and graduate students. In addition to most traditional areas of Pure and Applied Mathematics, the department contains all UWM programs in Actuarial Science and Atmospheric Science.

The department offers Bachelor's, Master's, and Doctoral studies in all of these areas, in addition to several interdisciplinary programs. Established in 1963, the PhD in Mathematics is the original doctoral program at UWM, founded by Dr. Morris Marden (<http://uwm.edu/math/graduate/resources/history-of-our-graduate-program/morris-mardens-biography/>).

Mathematics is the principal language of modern science and technology. In such diverse areas as physics, engineering, economics, computer science, and biology, much of the subject matter is presented in mathematical terms. In addition, mathematical techniques are now being used in many areas which formerly were non-mathematical; for example, history, political science, psychology, and medicine.

Some students are drawn to mathematics because of the beauty they find in its structure and logic, others because it allows a deeper understanding of an allied area of study.

Actuarial science is the mathematical analysis of problems in economics, finance, and insurance. It requires knowledge of statistics, probability, and interest theory and how they relate to financial issues.

Atmospheric science is the study of short-term weather and long-term climate, involving both applied activities such as weather forecasting and analysis and fundamental research. It uses advanced methods in statistics and numerical modeling.

Students of the sciences, engineering, computer science, economics, and business often complete a significant number of mathematical sciences credits. These students are encouraged to take a mathematics major or minor, which adds an official recognition of important analytical skills valued by employers and graduate schools.

Students interested in teaching mathematics at the K-12 level should consult the School of Education section of this catalog.

For the Mathematics, the Actuarial Science, and the Applied Math & Computer Science programs, please visit the department web page at <https://uwm.edu/math/> and follow the links to the undergraduate program for more information. For the Atmospheric Science program, please visit the program web page at <https://uwm.edu/atmospheric-science/> and follow the links to the undergraduate program for more information.

There are three curricular areas in the Department of Mathematical Sciences:

- Atmospheric Science (ATM SCI)
- Mathematics (MATH)
- Mathematical Statistics (MTHSTAT)

Undergraduate Studies - We offer three minors and five undergraduate degrees:

- Bachelor of Science Degrees: Mathematics; Atmospheric Science; Applied Mathematics and Computer Science (AMCS)
- Bachelor of Arts Degrees: Mathematics; Actuarial Science
- Minors: Mathematics; Actuarial Science; Atmospheric Science

Graduate Studies in Mathematical Sciences

The Department has vibrant graduate programs leading to both the Master of Science and Doctor of Philosophy degrees in each of Mathematics and Atmospheric Science. In addition to traditional areas of Mathematics and Statistics, the Mathematics graduate offerings also include UW-Milwaukee's Actuarial Science programs. The department also offers a newly established dual degree in mathematics with Fachhochschule Aachen (Aachen University of Applied Sciences) in Germany. Students may prepare for careers in teaching at the secondary or college level and for careers in research in the academic, industrial, government, or business communities.

See below for detailed program information and requirements.

- Actuarial Science, BA (<http://catalog.uwm.edu/letters-science/mathematical-sciences/actuarial-science-ba/>)
- Actuarial Science, Minor (<http://catalog.uwm.edu/letters-science/mathematical-sciences/actuarial-science-minor/>)
- Applied Math and Computer Science, BS (College of Letters and Science, Department of Mathematical Sciences) (<http://catalog.uwm.edu/letters-science/mathematical-sciences/applied-math-computer-science-bs/>)
- Atmospheric Science, BS (<http://catalog.uwm.edu/letters-science/mathematical-sciences/atmospheric-science-bs/>)
- Atmospheric Science, Minor (<http://catalog.uwm.edu/letters-science/mathematical-sciences/atmospheric-science-minor/>)
- Atmospheric Science, MS (<http://catalog.uwm.edu/letters-science/mathematical-sciences/atmospheric-science-ms/>)
- Atmospheric Science, PhD (<http://catalog.uwm.edu/letters-science/mathematical-sciences/atmospheric-science-phd/>)
- Mathematics, BA (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-ba/>)
- Mathematics, BS (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-bs/>)
- Mathematics, Minor (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-minor/>)
- Mathematics, MS (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-ms/>)
- Mathematics, MS: Actuarial Science (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-actuarial-science-ms/>)
- Mathematics, MS: Foundations of Advanced Studies (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-foundations-advanced-studies-ms/>)
- Mathematics, MS: Industrial Mathematics (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-industrial-ms/>)
- Mathematics, MS: Statistics (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-statistics-ms/>)

- Mathematics, PhD (<http://catalog.uwm.edu/letters-science/mathematical-sciences/mathematics-phd/>)

Faculty

Name	Rank	Degree	School	Graduate Faculty	Emeritus Faculty
Fredric D. Ancel	Professor	PhD			✓
James E. Arnold Jr.	Associate Professor	PhD			✓
Jay H. Beder	Professor	PhD	George Washington University	✓	
Allen D. Bell	Associate Professor	PhD			✓
Rebecca Bourn	Associate Faculty Associate	PhD	University of Virginia		
Suzanne L. Boyd	Associate Professor	PhD	Cornell University	✓	
Vytaras Brazauskas	Professor	PhD	University of Texas at Dallas	✓	
A. Clark Evans	Associate Professor	PhD	Florida State University	✓	
Dashan Fan	Professor	PhD			✓
Jonah Gaster	Assistant Professor	PhD	University of Illinois at Chicago	✓	
Daniel Gervini	Professor	PhD	Universidad de Buenos Aires	✓	
Jugal K. Ghorai	Professor	PhD			✓
Craig R. Guilbault	Professor	PhD	University of Tennessee	✓	
Robert L. Hall	Associate Professor	PhD			✓
Brendan Burns Healy	Visiting Assistant Professor	PhD	Tufts University		
Peter Hinow	Professor	PhD	Vanderbilt University	✓	
Yang Ho	Clinical Professor	PhD	Indiana University		✓
Ingrid Holzner	Senior Lecturer	MS			✓
G. Christopher Hruska	Professor	PhD	Cornell University	✓	
Jonathan Kahl	Professor	PhD	University of Michigan	✓	
Eric S. Key	Professor	PhD			✓
Kelly Kohlmetz	Senior Lecturer	PhD	University of Wisconsin-Milwaukee		
Sergey Kravtsov	Professor	PhD	Florida State University	✓	
Vincent Larson	Professor	PhD	Massachusetts Institute of Technology	✓	
Istvan G. Lauko	Associate Professor	PhD	Texas Tech University	✓	
Cheng-Ming Lee	Professor	PhD			✓
Tzu-Chu Lin	Professor	PhD			✓
Gary Luck	Senior Lecturer	MS			✓
Kevin B. McLeod	Associate Professor	PhD	University of Minnesota	✓	
Richard J. Mihalek	Associate Professor	PhD			✓
Albert J. Milani	Professor	PhD			✓
Robert H. Moore	Associate Professor	PhD			✓
Ian M. Musson	Professor	PhD			✓
Thomas O'Bryan	Associate Professor	PhD			✓
Richard J. O'Malley	Professor	PhD			✓
Boris L. Okun	Professor	PhD	State University of New York at Binghamton	✓	
Gabriella Pinter	Professor	PhD	Texas Tech University	✓	
Paul Roebber	Distinguished Professor	PhD	McGill University	✓	
Ahmed H. Sameh	Adjunct Professor	PhD			✓
David H. Schultz	Professor	PhD			✓
Steven Schwengels	Senior Lecturer	MS			✓
Lindsay A. Skinner	Professor	PhD			✓
Donald W. Solomon	Associate Professor	PhD			✓

David Spade	Assistant Professor	PhD	The Ohio State University	✓	
Richard Stockbridge	Distinguished Professor	PhD	University of Wisconsin-Madison	✓	
Lijing Sun	Associate Professor	PhD	Wayne State University	✓	
Anastasios Tsonis	Distinguished Professor	PhD			✓
Xianwei Van Harpen	Senior Lecturer	PhD	Illinois State University		
Hans W. Volkmer	Professor	PhD	University of Konstanz	✓	
Bruce Wade	Professor	PhD			✓
Gilbert G. Walter	Professor	PhD			✓
Lei Wang	Associate Professor	PhD	University of Michigan	✓	
Wei Wei	Associate Professor	PhD	University of Waterloo	✓	
Jeb Willenbring	Professor	PhD	University of California, San Diego	✓	
Dexuan Xie	Professor	PhD	University of Houston	✓	
Chao Zhu	Professor	PhD	Wayne State University	✓	
Yi Ming Zou	Professor	PhD	Indiana University	✓	