DEPARTMENT OF MATHEMATICS

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Programs of the Department

Students in the Department of Mathematics are encouraged to develop superior thinking and problem-solving skills in preparation for mathematics-based careers and continued study. Our mathematics programs prepare students for a range of careers in education, industry, and government. The mathematics major is also recommended for students planning for graduate or professional school.

The Department of Mathematics offers the following programs:

- Major in Mathematics
- Major in Mathematics - Actuarial Science and Risk Management Concentration
- Major in Mathematics - Applied Mathematics Concentration
- Major in Mathematics - Pure Mathematics Concentration
- Major in Mathematics - Secondary Education Concentration
- Minor in Mathematics

The department also offers a major in Computer and Mathematical Sciences together with the department of Computer and Information Sciences.

Major in Mathematics

The Mathematics Major prepares students to think critically and abstractly about topics in higher mathematics, including courses in both Algebra and Analysis, while allowing students to choose from additional courses from a wide range of topics.

Students who wish to focus their mathematical studies more narrowly may also choose from four concentrations:

- **The Actuarial Science and Risk Management Concentration**, designated as a Center of Actuarial Excellence by the Society of Actuaries, provides students a solid background in mathematics along with specialized knowledge leading to career opportunities in the actuarial and financial professions.
- **The Applied Mathematics Concentration** provides a strong background in the foundations of applied mathematical methods and is designed for students who wish to apply mathematics to problems in business and industry.
- **The Pure Mathematics Concentration** emphasizes abstract mathematics and provides a strong background in mathematical theory and prepares students for positions as researchers or analysts as well as for graduate study.
- **The Mathematics Secondary Education Concentration**, offered in conjunction with Towson UTeach, is designed for students who wish to become certified to teach mathematics in secondary schools.

The Bachelor of Arts degree may be earned by adding the intermediate level of a foreign language or its equivalent to the major course requirements.

Departmental Policies

Core Curriculum Requirements in Mathematics and Placement Test Information

Students should consult those portions of this catalog describing their major and minor programs to see whether specific mathematics courses are required or recommended.

For a comprehensive list of courses that satisfy the Core Curriculum requirement for Mathematics, please visit this Catalog page.

Students should enroll in the mathematics course which is most relevant to their program(s) of study and based on their results on the Mathematics Placement Test. The Mathematics Placement Test is used to place students into the most appropriate mathematics course. See the catalog policies on Placement Testing or the Mathematics Department Placement Testing Information for additional information and access to the assessment.

Course Prerequisites

The department strictly enforces prerequisites for all mathematics courses.

Policy on AP Mathematics Credit

For the general policy on Advanced Placement in Mathematics, please visit the Admissions Office's Advanced Placement Credit information site.

Courses/Units in Residence

Only courses approved by the Department of Mathematics may be applied to a major or minor program offered by the department. If students submit mathematics units that are more than five years old at the time of admission or readmission, the chair, after reviewing these records, may require that some courses be repeated or a new course be completed.

Majors

- Major in Computer and Mathematical Sciences
    - Applied Mathematics and Computer Science Concentration
    - Computational Data Science Track

- Major in Computer and Mathematical Sciences - Secondary Education Concentration
- Major in Mathematics
- Major in Mathematics - Actuarial Science and Risk Management Concentration
- Major in Mathematics - Applied Mathematics Concentration
- Major in Mathematics - Mathematics Secondary Education Concentration
- Major in Mathematics - Pure Mathematics Concentration
- Accelerated B.S./M.S. in Mathematics with Actuarial Science & Predictive Analytics
- Accelerated B.S./M.S. in Mathematics with Applied & Industrial Mathematics

Minors

- Minor in Mathematics

Faculty

Professors: Mostafa Aminzadeh, Sergiy Borodachov, Diana Cheng (Graduate Program Director), Linda Cooper (Co-Director of Towson UTeach), Yunwei Cui (Graduate Program Director), Min Deng (Graduate Program Director), Xuezhang Hou, Min Ji, Gail Kaplan, Alexei Kolesnikov, R. Michael Krach, Angel Kumchev, Todd Moyer, Michael O'Leary (Chairperson), Moustapha Pemy, Felice Shore (Assistant Chair), Tatyana Sorokina, Sandy Spitzer, Leonid Stern, Wei Sun, Ming Tomayko, Xiaoyin Wang, Maureen Yarnevich, Jay Zimmerman

Associate Professors: Christopher Cornwell, Kimberly Corum, Kristin Frank, T Elizabeth Goode, Vincent Guingona, Ge Han, Melike Kara, Nathan McNew, Hervé Nganguia, Jian Tian, Mircea Voisei

Assistant Professors: Banghee So, Na Zhang

Clinical Instructor: Erinn Tefel (Master Teacher (Towson UTeach))

Assistant Teaching Professor: Rachael Gross, Maureen Honeychuck, Ellen Johnson, Froma Lustman, Judith Macks, Emily Morsberger, Miriam Parnes, Kari Schumm

Associate Teaching Professor: Stanley Max, Christina Packard, Rajeev Walia, Nicole Winner