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:

• A major in Mathematics, in which there are four concentrations.
• A minor in Mathematics, designed to enhance major programs to which mathematics is readily applied.
• Two combined major programs, offered in conjunction with the Department of Computer and Information Sciences.

Major in Mathematics

The Mathematics major has four areas of concentration from which to choose:

• The Mathematics Secondary Education Concentration, offered in conjunction with Towson UTeach (http://www.towson.edu/fcsm/departments/uteach), is designed for students who wish to become certified to teach mathematics in secondary schools.
• 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 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 Bachelor of Arts degree may be earned by adding the intermediate level of a foreign language or its equivalent to the major course requirements.

Second Major Programs

Students may declare a second major and obtain a degree certifying that both majors have been completed. The Department of Mathematics encourages majors to pursue a second major or a minor in subjects in which mathematics is applied. In cooperation with the Department of Computer and Information Sciences, the following courses of study have been developed:

• The combined major in Mathematics and Computer Science
• The combined major in Mathematics and Computer Science with the Security Track

Departmental Policies

Notes for Majors and Minors

Mathematics majors with minors in Economics may satisfy their Applications requirement by completing ECON 451.

Mathematics majors or minors who receive a grade equivalent of 1.00 in a 100-level course prerequisite to calculus must repeat the course no later than concurrently with calculus. Mathematics majors or minors must attain a grade equivalent of 2.00 or higher in any 200-, 300-, or 400-level course used as a prerequisite or applied toward a major or minor. Unless otherwise noted, prerequisites must be satisfied prior to taking a course. The program of the minor should be approved by students’ department advisers.

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 www.towson.edu/core.

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 (http://catalog.towson.edu/undergraduate/admissions/undergraduate-admissions/placement-testing) or the Mathematics Department Placement Testing Information (https://www.towson.edu/fcsm/departments/mathematics/resources/placement) 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 (https://www.towson.edu/admissions/undergrad/freshmen/credits/advancedplacement.html) site.

Transfer Credit Policies

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.

Secondary Education Mathematics majors are required to take MATH 423, MATH 426, SEMS 498 and at least four additional upper-level courses in their Mathematics major program at TU.
All other Mathematics majors are required to take MATH 490 and at least six additional upper-level courses of their Mathematics major program at TU.

Mathematics minors must take at least four courses of their Mathematics minor program at Towson University; at least two courses must be upper-level.

• Major in Mathematics with concentrations in:
  • Pure Mathematics (http://catalog.towson.edu/undergraduate/fisher-science-mathematics/mathematics/pure-mathematics)
  • Applied Mathematics (http://catalog.towson.edu/undergraduate/fisher-science-mathematics/mathematics/applied-mathematics)
  • Actuarial Science and Risk Management (http://catalog.towson.edu/undergraduate/fisher-science-mathematics/mathematics/actuarial-science-risk-management)

• Second Major Programs:
  • Combined Major in Mathematics and Computer Science - Applied Mathematics Concentration
  • Minor in Mathematics (http://catalog.towson.edu/undergraduate/fisher-science-mathematics/mathematics/mathematics-minor)