Mathematics—Applied

40 credits
Bachelor of Science

This course of studies enables students to learn the mathematics that is currently useful in business and industry. An industrial mathematician uses and adopts the mathematics necessary to attack problems of practical concern.

Because students of Applied Mathematics become familiar with the problems of science and engineering, and because they are encouraged to do a minor in Computer Science, Statistics, or Actuarial Science, they will be attractive to firms offering employment oriented towards those fields.

Employment:
* Marketing research
* Banking industry
* Colleges and Universities
* Industries including manufacturing, transportation, Aerospace, communications, machinery, electrical equipment, pharmaceuticals

Core Courses

9 courses - 31 credits

- MATH 0220 Analytic Geometry and Calculus 1
- MATH 0230 Analytic Geometry and Calculus 2
- MATH 0240 Analytic Geometry and Calculus 3
- MATH 0413 Introduction to Theoretical Math
- MATH 0420 Introduction to Theory 1 - Variable Calculus
- MATH 1070 Numerical Mathematics Analysis
- MATH 1180 Linear Algebra 1
- MATH 1270 Ordinary Differential Equations 1
- MATH 1080 Numerical Math: Linear Algebra OR
- MATH 1100 Linear Programming OR
- MATH 1110 Industrial Mathematics OR
- MATH 1360 Modeling in Applied Mathematics 1

Elective Courses

2 courses - 6 credits

Choose two courses from the following list of courses:

- MATH 0430 Introduction to Abstract Algebraic Systems
- MATH 1020 Applied Elementary Number Theory
- MATH 1100 Linear Programming
- MATH 1110 Industrial Mathematics
- MATH 1360 Modeling in Applied Mathematics 1
- MATH 1530 Advanced Calculus 1
- MATH 1540 Advanced Calculus 2
- MATH 1550 Vector Analysis and Application
- MATH 1560 Complex Variables and Application

Additional Requirements

2 courses - 3 credits

Applied Mathematics majors must take the following sequences of courses to fulfill the capstone course requirement:

- MATH 1951 Senior Research for Applied Math 1 (Spring of Junior Year)
- MATH 1952 Senior Research for Applied Math 2 (Fall of Senior Year)

Required Science Courses

3 courses - 11 or 12 credits

Applied Mathematics majors must take the following courses as part of their General Education Requirements:

- PHYS 0174 Basic Physical Science and Engineering 1
- PHYS 0175 Basic Physical Science and Engineering 2
- STAT 1000 Applied Statistical Methods (4 cr.) OR
- STAT 1151 Introduction to Probability (3 cr.) OR
- CS 0421 Programming Using Java OR
- MATH 1001 Mathematical Computing