



Mathematics -

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
- * Federal agencies including Defense, Labor, Justice, Agriculture, Health and Human Services, Treasury, Commerce, Transportation, NASA and Library of Congress state agencies



Core Courses

MATH 0220
MATH 0230
MATH 0240
MATH 0413
MATH 0420
MATH 1070
MATH 1180
MATH 1270
MATH 1080
MATH 1100
MATH 1110
MATH 1360

9 courses - 31 credits

Analytic Geometry and Calculus 1
Analytic Geometry and Calculus 2
Analytic Geometry and Calculus 3
Introduction to Theoretical Math
Introduction to Theory 1 - Variable Calculus
Numerical Mathematics Analysis
Linear Algebra 1
Ordinary Differential Equations 1
Numerical Math: Linear Algebra **OR**
Linear Programming **OR**
Industrial Mathematics **OR**
Modeling in Applied Mathematics 1

Elective Courses

2 courses - 6 credits

Choose two courses from the following list of courses:

MATH 0430
MATH 1020
MATH 1100
MATH 1110
MATH 1360
MATH 1530
MATH 1540
MATH 1550
MATH 1560

Introduction to Abstract Algebraic Systems
Applied Elementary Number Theory
Linear Programming
Industrial Mathematics
Modeling in Applied Mathematics 1
Advanced Calculus 1
Advanced Calculus 2
Vector Analysis and Application
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
MATH 1952

Senior Research for Applied Math 1 (*Spring of Junior Year*)
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
PHYS 0175
STAT 1000
STAT 1151
CS 0421
MATH 1001

Basic Physical Science and Engineering 1
Basic Physical Science and Engineering 2
Applied Statistical Methods (4 cr.) **OR**
Introduction to Probability (3cr.) **OR**
Programming Using Java **OR**
Mathematical Computing