University of Pittsburgh Greensburg

Mathematics

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

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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 (3cr.) **OR**
CS 0421	Programming Using Java **OR**
MATH 1001	Mathematical Computing