Mathematical Sciences

Major Overview:
The Mathematical Sciences Department at Binghamton University offers courses and programs in pure and applied mathematics, statistics and actuarial science. The main areas of concentration in the department are algebra, analysis, combinatorics, geometry/topology and statistics.

The department offers both a flexible curriculum that allows students to construct a course of study that aligns with their own interests and goals, as well as a more intensive theoretical curriculum designed to be especially useful for students who wish to pursue graduate study in mathematics. The department also offers tracks in actuarial sciences that provide strong preparation for an actuarial career.

Research Areas:
The Mathematics Department offers students the potential to engage in research with professors whose research interests cover a range of topics. The five main areas of research concentration are: algebra, analysis, combinatorics, geometry/topology, and statistics.

Visit the Math Department research page to find out more information about the research interests of specific professors in the department. [http://www2.math.binghamton.edu/p/research]

Post-Graduation:
Students who major in mathematics gain mathematical reasoning and analytical skills that are beneficial in a broad range of careers. For example, mathematics majors can pursue careers in astronomy and space exploration, national security, film, animation, medicine (e.g. data analysis for drug trials), and software development. Mathematics majors who specialize in actuarial science commonly find employment within insurance companies, consulting firms, federal and state insurance departments, universities, banks, investment firms, large corporations, and public accounting firms.

Visit these links to learn more about potential career paths for mathematics majors:
- American Mathematical Society [http://www.ams.org/profession/career-info/math-work/math-work]
- Be An Actuary [http://www.beanactuary.org/what/do/]

For more resources and information on this major, refer to:
Courses:
First-year courses to consider:

Students with adequate pre-calculus preparation:
First Semester - MATH 223/224 Introduction to Calculus/Differential Calculus
Second Semester MATH 225
or
First Semester - MATH 224/225 Differential Calculus/Integral Calculus
Second Semester - MATH 226/227 Integral Techniques & Applications/Infinite Series
and MATH 304 Linear Algebra

Note: 223, 224, 225, 226, and 227 are each 2 credit courses taken for a half semester.
A placement exam is given to determine which first semester track (223/224 or 224/225)
students will start with.

Students with adequate calculus preparation:
MATH 222 Calculus II (course changes to MATH 226/227 in spring 2016)
or
MATH 323 Calculus III first semester
MATH 323 second semester (if not taken in first)
MATH 304 Linear Algebra second semester
MATH 330 Number Systems should be taken as early as possible, as soon as MATH
222 is complete

Thank you.

For more information contact the Department of Mathematical Sciences at:
(607) 777-2148