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Real-world thinking.



**MINNESOTA STATE
UNIVERSITY**
MANKATO

MATHEMATICS & STATISTICS *College of Science, Engineering & Technology*

DEGREES AND PROGRAMS OFFERED

The Department offers four majors, Math BA, Math BS, Math Teaching BS, Statistics BS, and three minors in mathematics, statistics, and actuarial science. We also offer a 5 year program in which a well prepared student can obtain a master's and undergraduate degree in mathematics in five years.

The primary focus of Math Teaching BS program is to prepare students to teach mathematics at the middle and secondary levels. The Math BA and Math BS programs are intended to prepare students for advanced study in mathematics or to work in business, industry, or government. The Statistics BS program provides a sufficient background in statistics, mathematics, and computer science to enable graduates to pursue a career in business, industry, science and more advanced study of statistics. The Mathematics Minor is intended for non-mathematics majors who desire a stronger background in mathematics. The Actuarial Science Minor combines finance, statistics, and mathematics to analyze risk and ensure financial security for individuals, corporations and society at large. Finally, the Statistics Minor provides a thorough grounding in basic statistical principles, methods of data analysis, and a knowledge base to assist in understanding statistical procedures applied to a variety of disciplines.

CAREER OPPORTUNITIES

A mathematics degree prepares a person for positions in industry, business, government, or teaching. The mathematician in industry usually works in close association with engineers and scientists. Knowledge of at least the fundamentals of these fields is generally required. A sufficient background can often be obtained by obtaining an appropriate minor. It is advantageous to be familiar with state of the art mathematical and statistical software and at least one programming language. Business and insurance companies need actuaries who help design and operate insurance plans, annuities and retirement plans. Businesses also need employees trained in the mathematical sciences to provide management with the quantitative expertise necessary to make decisions in budgeting, marketing, schedule, and traffic flow. Many laboratories employ mathematicians or statisticians in research projects.

State certification is required to teach in secondary schools. Minnesota State Mankato has long been a leader in teacher training for Minnesota, and there are numerous job opportunities for graduates with a BS (teacher licensure) degree in mathematics. Mathematics education

graduates have exciting opportunities not only locally but globally as well. A master's degree or a doctorate degree is generally required to teach at a college or university.

THE DEPARTMENT

The Department of Mathematics and Statistics is housed in Wissink Hall. There are 24 faculty members and nearly 40 graduate students in the Department. Faculty specialties include algebraic combinatorics, applied computational mathematics, combinatorial matrix theory, complex analysis, discrete mathematics, dynamical systems, elementary and secondary mathematics education, differential geometry, industrial mathematics, mathematical biology, numerical analysis, optimization, partial differential equations, probability, real analysis, ring theory, statistics, stochastic differential equations, stochastic processes, and topology. At any one time, we have about 125 mathematics majors. We are very proud of our modern facilities. The Department has its own computer lab in addition to a variety of computer labs in the Academic Computer Center. The computers in these labs are equipped with the most commonly used mathematical and statistical software. We also operate our own Mathematics and Statistics Learning Center. The Learning Center is a popular place to get mathematics and statistics help for both majors and non-majors. It is also a place for students to gather and do homework. The Learning Center is staffed with tutors that are qualified to give help and answer questions on a wide range of courses.

STUDENT ACTIVITIES

The Department sponsors two student organizations: Math Club, Actuary Club, and Statistics Club. Math Club meets weekly, Actuary Club and Statistics Club meet monthly. All Clubs are supported by the Department.

The Department's Math Club plays an important role in forming interactions between faculty and students, and generating interest in mathematics. It is attended by all that have an interest in mathematics. Its mission is to encourage and support the study of mathematics, research, and fellowship. In addition to meeting once a week and sponsoring occasional weekend activities, Math Club participates in local mathematics competitions such as the annual MAA NCS mathematics competition and national competitions such as Putman Competition. Biweekly problem sessions are coordinated by various members of the Department. Faculty, undergraduates and graduates are encouraged to present at Math Club. There are few restrictions on the types of presentations that can be given. A

presentation can be on a mathematical or statistical problem that a student has found interesting, an overview of a mathematical or statistical specialty, a historical fact about mathematics, a recreational mathematics problem, or to provide information on mathematical or statistical careers, to name only a few. Activities of Math Club often lead to research presentations given at the Undergraduate Research Council (URC) at Minnesota State Mankato. Many Math Club students have presented at regional or national conferences. Math Club makes students aware of upcoming colloquia and conferences. Transportation is often provided to attend colloquia at other universities and other events such as MAA-NCS regional meetings. Math Club members often lend their hands and expertise to help support Department and University events such as Math Circles, the Julia Robinson Math Festival, science fairs, and other Minnesota State Mankato student organizations. Some events are just for fun. Past activities include: Pi Day celebrations in which Math Club members serve pie to faculty and all interested students. The celebration is also accompanied by a fun activity such as Pi mile run and Pi Jeopardy.

SCHOLARSHIPS

Through the generosity of many individuals, companies, and foundations, the Department and the College of Science, Engineering and Technology are able to award a wealth of scholarships to our students. The department named scholarships include the James A. Anderson Mathematics Department Scholarship, the Francis C. Hatfield Mathematics Scholarship, the Eileen Seely Jurgenson Scholarship, the Noreen and Steve Linney Mathematics Scholarship, the Gary and Wendy Rockswold Scholarship, and the Stenzel Emeriti Faculty, Larry Pearson Scholarship and Staff Math and Stats Scholarship. More information about these scholarships can be found at mnsu.edu/scholarshipfinder.

HOW DO I PREPARE?

In order to complete the degree in a timely manner, a student should be prepared to take Calculus I or higher as a first mathematics course. Most students who major in mathematics have four years of high school mathematics. Those without this preparation can succeed by taking additional coursework.

FOR MORE INFORMATION PLEASE CONTACT

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You are encouraged to visit the campus.

To arrange for a visit, please call:

Office of Admissions: 507-389-1822

Toll-free: 800-722-0544

For additional information about course requirements, please visit <http://www.mnsu.edu/supersite/academics/bulletins/>

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