

BACHELOR OF SCIENCE
MAJOR IN MATHEMATICS
Statistics Concentration

Fall 2004

The curriculum for a major in mathematics with a concentration in statistics provides a sound foundation for a student seeking to enter a vocation with a technological orientation or wishing to pursue graduate studies in statistics. Graduates who have a strong background in statistics with some computer science and experience in an applied field have many career opportunities in actuarial science, government, business, and industry.

See Liberal Arts and Sciences general education requirements in the General Education section of the undergraduate catalog.

Required Core Courses (35 hours):

MA	125	Introduction to Mathematics	1 hour
CS	220	Introduction to Computer Science	3 hours
CS	260	Programming and Problem Solving	3 hours
MA	161	Calculus I*	5 hours
MA	240	Discrete Mathematics	3 hours
MA	262	Calculus II	5 hours
MA	263	Calculus III	3 hours
MA	322	Introduction to Linear Algebra	3 hours
MA	380	Probability and Statistics	3 hours
MA	425	Abstract Algebra	3 hours
MA	735	Advanced Calculus I	3 hours

Required Courses for Concentration in Statistics (12 hours):

CS	340	Algorithms and Data Structures I	3 hours
MA	532	Mathematical Statistics I	3 hours
MA	733	Mathematical Statistics II	3 hours
MA	764	Regression Analysis	3 hours

Electives:

MA	291	Mathematical Modeling	MA	591	Topics in Mathematics
MA	335	Differential Equations I	MA	715	Topology
CS	340	Algorithms and Data Structures I	MA	727	Groups, Rings, and Fields
CS	345	Algorithms and Data Structures II	MA	728	Vector Spaces
CS	350	Programming Languages	MA	733	Mathematical Statistics II
MA	421	College Geometry	MA	734	Complex Variables
CS	501	Advanced Computer Programming	MA	736	Advanced Calculus II
MA	532	Mathematical Statistics I	MA	740	Number Theory
CS	542	Discrete Structures	CS	760	Numerical Analysis
CS	552	Principles of Software Engineering	CS	762	Optimization Techniques
CS	555	Principles of Computer Organization	CS	763	Simulation Techniques
CS	557	Operating Systems	MA	764	Regression Analysis
CS	561	System Programming	CS	765	Numerical Linear Algebra
			MA	791	Topics in Mathematics

*A student not sufficiently prepared for MA 161 may be required to take MA 160 (Functions of Calculus) first. In addition to the required courses above, students are encouraged to consult with their advisor about selecting additional courses from computer science, mathematics, statistics, business, accounting, economics, physics, biology, and chemistry in order to complete the 70 hour major.