

# MATHEMATICS - MASTER OF SCIENCE

The Master's degree is designed to increase one's knowledge and understanding of mathematics beyond the Bachelor's degree level. It also prepares a student for future graduate work.

A candidate for a master's degree may select up to two minors in addition to the major. A minimum of 8 credits of graduate work is necessary for a minor.

## Minimum Requirements for the Master's Degree

1. In fulfillment of the Graduate School requirement of a minimum of 30 semester credits of course work, the student must take at least 24 credits of mathematics or statistics from the courses listed below.
2. The student's program of study must be approved by the departmental Graduate Studies Committee.
3. The student must successfully complete a master's written examination and final master's oral examination.

Prefix	Title	Credits
<b>Minimum Requirements</b>		
<i>Complete each of the following (12 credits):</i>		
MATH 525	Advanced Linear Algebra	3
MATH 526	Abstract Algebra I: Groups and Rings	3
MATH 527	Introduction to Real Analysis I	3
MATH 528	Introduction to Real Analysis II	3
<i>Complete two of the following:</i>		6
MATH 520	Introduction to Topology	
MATH 524	Logic and Set Theory	
MATH 529	Complex Analysis	
STAT 515	Probability: Theory and Applications	
STAT 525	Statistics: Theory and Applications	
<i>Complete two of the following</i>		6
MATH 541	Topology I	
MATH 542	Topology II	
MATH 551	Mathematical Structures in Logic	
MATH 552	Universal Algebra and Model Theory	
MATH 571	Partial Differential Equations I	
MATH 572	Partial Differential Equations II	
MATH 581	Abstract Algebra II: Fields, Rings and Modules	
MATH 582	Module Theory and Homological Algebra	
MATH 583	Introduction to Commutative Algebra and Algebraic Geometry	
MATH 593	Measure and Integration	
MATH 594	Real Analysis	
MATH 595	Introduction to Functional Analysis	
STAT 562	Foundations of Probability	
STAT 571	Continuous Multivariate Analysis	
STAT 572	Linear Models	
STAT 581	Advanced Theory of Statistics I	
STAT 582	Advanced Theory of Statistics II	
<b>Total Credits</b>		<b>24</b>

## The Master's Written Examination

Candidates for the Master's in Mathematics must pass a written exam, offered at the end of the Fall and Spring semesters, based on the content of MATH 525 and MATH 527. Full-time students need to pass the written Master's exam no later than the Summer following their completion of MATH 525 and MATH 527, or the start of their fourth semester in the program, whichever comes first. Graduate assistants must adhere to this timetable. Any second try must be passed within one semester of the first.

## The Master's Final Examination

The Master's final examination is an oral examination administered by the student's committee. The exam consists of a short presentation made by the student on a topic covered in the student's coursework, followed by an examination by the committee based on the presentation and related coursework in the student's program of study. When a Master's thesis has been written, the presentation and examination is based on the student's thesis. The student's committee consists of at least three departmental members and a Graduate faculty member from another department who serves as the Dean's representative. The oral exam must be completed at least 10 days prior to the end of the semester in which the candidate wishes to receive the degree.