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
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**Minimum Requirements**

*Complete each of the following (12 credits):*
- 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

*Complete two of the following:* 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

*Complete two of the following:* 6
- MATH 531 Ordinary Differential Equations
- MATH 532 Nonlinear Dynamics
- 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
- **Total Credits** 24

The Master's Written Examination

Candidates for the Master’s in Mathematics must pass a written exam, offered each January and August, 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 August 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.