

## Mathematics

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**Degree:** Master of Arts  
**Major:** Mathematics

The Master of Arts degree offers students who hold the Bachelor of Arts or Bachelor of Science degree in mathematics or a related field an opportunity to broaden their knowledge in several fields of mathematics and in the applications of mathematics. The program is designed to prepare graduates for careers in teaching, business, industry or government, or for entering a Ph.D. mathematics program.

### Admission to the Program

To enter the Master of Arts program a student should have a Bachelor of Arts or Bachelor of Science degree in mathematics or a related field and satisfy all entrance requirements of the Graduate School. The student should have completed a standard calculus sequence and courses in linear algebra, differential equations and abstract algebra. It is recommended that students also have a semester course in advanced calculus. Students who are admitted without having all of the prescribed undergraduate courses must make up these deficiencies at the beginning of their studies, and these leveling courses will not be counted toward the Master of Arts degree.

Once admitted to the Graduate School, but prior to enrolling in any courses, students should have an interview with the mathematics graduate coordinator to develop a preliminary degree plan and to become familiar with the expectations of the graduate mathematics faculty. A transfer graduate student may apply no more than nine hours toward the Master of Arts degree and these courses must be approved by the student's graduate committee, the graduate coordinator and the graduate dean.

### Degree Requirements

For the Master of Arts degree with a major in mathematics, a student must choose a thesis or a non-thesis plan. The thesis plan requires a minimum of 27 credit hours of coursework and six credit hours for the thesis. The non-thesis plan requires 33 credit hours of coursework. In either plan a maximum of nine credit hours may be taken in a related field if approved by the graduate coordinator and the student's graduate committee. All students in the mathematics Master of Arts program are required to take:

- (1) one of the analysis sequences, MATH 501 and 502, or MATH 505 and 506
- (2) one of the sequences MATH 511 and 512 (algebra), or MATH 523 and 524 (partial differential equations)
- (3) MATH 544 Research in Mathematics

The remaining coursework is determined by the student and the student's graduate committee.

The student selecting the thesis plan must consult with his or her graduate committee about the thesis topic. This topic must be approved by all members of the committee. The student will make an oral presentation on the results of the thesis.

### M.A. Examinations

The Master of Arts degree in mathematics requires the student to pass three comprehensive exams: one in analysis, one in algebra or in partial differential equations and the third one in an area determined by the student and the student's graduate committee. Each of these exams is scheduled for approximately two hours. The comprehensive examinations must be taken no later than 12 months after completing the last course on the degree plan. At the time of taking each comprehensive exam, graduate students must have an average of at least 3.00 on all completed course work that is required on the degree plan.

A report concerning the outcome of the comprehensive exams signed by the chair of the examining committees, the graduate coordinator, and the college dean must be sent by the graduate coordinator to the graduate dean and to the student 10 days prior to the last day of the semester. This report must contain a grade of pass or fail for each comprehensive exam. Students who fail a comprehensive examination are eligible to retake the examination one time only.

**B.S./M.A. Plan**

The B.S./M.A. Plan allows students to complete their B.S. and M.A. degrees in mathematics in five years, possibly including two summer terms. Students may apply for this program during the last semester of their junior year to take a limited number of graduate courses during their senior year. These courses will be taken along with any courses needed to complete the B.S. degree. Students will need to apply for admission to the graduate program during the last semester of their senior year. Upon acceptance into the graduate program any 500 level courses taken during the student's senior year will count towards the M.A. degree.