

# M.A. IN MATHEMATICS

## Overview

The primary objective of the Master of Arts degree in mathematics is to prepare students for careers in teaching. This program also provides the necessary foundation for entry into careers in science, business, government, or other fields that make use of mathematics.

<https://www.math.miami.edu/graduate/program-requirements/#MA>

## (<http://www.math.miami.edu/>) Admissions Requirement

A minimum of 9 credit hours in mathematics courses numbered 200 and above is required. For more information about admission, please visit our website (<http://www.math.miami.edu/graduate/application-procedure/>).

## Curriculum Requirements

Code	Title	Credit Hours
<b>One Year Topic Sequence</b>		
Choose one of the following topic sequences:		6
MTH 613 & MTH 614	Partial Differential Equations I and Partial Differential Equations II	
MTH 615 & MTH 616	Ordinary Differential Equations and Dynamics and Bifurcations	
MTH 624 & MTH 625	Introduction to Probability Theory and Introduction to Mathematical Statistics	
MTH 631 & MTH 632	Topology I and Topology II	
MTH 633 & MTH 634	Introduction to Real Analysis I and Introduction to Real Analysis II	
MTH 661 & MTH 662	Abstract Algebra I and Abstract Algebra II	
Additional Courses <sup>1</sup>		24
A three-hour written examination covering the material in one of the year-long sequences listed above.		
<b>Total Credit Hours</b>		<b>30</b>

- <sup>1</sup>
- At least 18 credits of MTH courses are required.
  - All courses from other departments must be numbered 600 or above, be pertinent to the teaching of secondary school mathematics, and be approved by the graduate committee.

## Sample Plan of Study

First Year		Credit Hours
<b>Fall</b>		
MTH 610	Linear Algebra	3
MTH 631	Topology I	3
MTH 633	Introduction to Real Analysis I	3
Elective		3
<b>Credit Hours</b>		<b>12</b>
<b>Spring</b>		
MTH 612	Elementary Complex Analysis	3
MTH 634	Introduction to Real Analysis II	3
Elective		3
Real Analysis Exam		
<b>Credit Hours</b>		<b>9</b>

Second Year		
Fall		
MTH 624	Introduction to Probability Theory	3
MTH 661	Abstract Algebra I	3
Elective		3
<b>Credit Hours</b>		<b>9</b>
<b>Total Credit Hours</b>		<b>30</b>

## Mission

The primary objective of the Master of Science degree in mathematics is to prepare students for careers in teaching. This program also provides the necessary foundation for entry into careers in science, business, government, or other fields which make use of mathematics.

## Student Learning Outcomes

- Students will achieve a solid understanding of the material in at least one of the following six advanced mathematics content areas: partial differential equations, ordinary differential equations, probability and statistics, topology, real analysis, and abstract algebra.
- Students will exhibit a broad synthesis of the theory and application of one of the subjects listed in the above outcome.