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

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 613</td>
<td>Partial Differential Equations I</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 614</td>
<td>Partial Differential Equations II</td>
<td></td>
</tr>
<tr>
<td>MTH 615</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 616</td>
<td>and Dynamics and Bifurcations</td>
<td></td>
</tr>
<tr>
<td>MTH 624</td>
<td>Introduction to Probability Theory</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 625</td>
<td>and Introduction to Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td>MTH 631</td>
<td>Topology I</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 632</td>
<td>and Topology II</td>
<td></td>
</tr>
<tr>
<td>MTH 633</td>
<td>Introduction to Real Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 634</td>
<td>and Introduction to Real Analysis II</td>
<td></td>
</tr>
<tr>
<td>MTH 661</td>
<td>Abstract Algebra I</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MTH 662</td>
<td>and Abstract Algebra II</td>
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<tr>
<td>Additional Courses</td>
<td>A three-hour written examination covering the material in one of the year-long sequences listed above.</td>
<td>24</td>
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</tbody>
</table>

Total Credit Hours: 30

- 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

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>MTH 610</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MTH 631</td>
<td>Topology I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 633</td>
<td>Introduction to Real Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Credit Hours</td>
<td>12</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTH 612</td>
<td>Elementary Complex Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MTH 634</td>
<td>Introduction to Real Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Real Analysis Exam</td>
<td></td>
<td>9</td>
</tr>
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</table>

Credit Hours
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.