Mathematical Science M.S.

The graduate plan in Mathematical Science leads to the master of science (M.S.) degree. Applicants for candidacy should have a bachelor’s degree in mathematics. Students with other degrees may apply if their preparation includes a substantial number of advanced credits in mathematics. The GRE score (verbal + quantitative) should be a minimum of 290 points, with a minimum quantitative score of 150. In some cases, additional preparatory courses may be required.

Undergraduate foundation courses for Masters in Mathematics

- Ordinary Differential Equations
- Introduction to Abstract Algebra
- Advanced Calculus
- Introduction to Analysis

Course selections will be arranged in consultation with a faculty adviser while preparing the CPS. Students selecting the extended course work option must complete MATH 6837 (Research Project I). This is to be taken after successfully completing nine hours of required core courses or during the last 15–18 hours of graduate mathematics course work. MATH 6838 (Research Project II) will be completed following MATH 6837 (Research Project I) with faculty adviser approval prior to registration. Research Project I and II may not be taken concurrently. Students may enroll in MATH 6838 only when their project adviser determines that they have made good progress toward the completion of their project in MATH 6837. Students who change their research project topic must begin again with MATH 6837.

Degree Requirements

Mathematics Core Requirements (9 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MATH 5132</td>
<td>Real Analysis</td>
</tr>
<tr>
<td>MATH 5136</td>
<td>Ordinary Differential Equations and Dynamical Systems</td>
</tr>
<tr>
<td>MATH 5333</td>
<td>Numerical Analysis</td>
</tr>
</tbody>
</table>

Students will select an additional two courses from the following (6 hours):

- MATH 5131 Abstract Algebra
- MATH 5133 Complex Analysis
- MATH 5134 Logic
- MATH 5137 Topology and Geometry
- MATH 5231 Linear Algebra
- MATH 5232 Number Theory

Mathematics Thesis Option (18 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MATH 6939</td>
<td>Master’s Thesis Research</td>
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Mathematics Extended Course Work Option (18 hours)

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<th>Course Code</th>
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<tbody>
<tr>
<td>MATH 6937</td>
<td>Research Project I</td>
</tr>
<tr>
<td>MATH 6838</td>
<td>Research Project II</td>
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Additional Information

Students may take at most one from the following: MATH 5031/6031, MATH 5033/6033, MATH 5035/6035, MATH 5036/6036, MATH 5037/6037

With adviser’s approval, two of the following may count towards the Master’s Degree as a 4000-level elective, if taken as a graduate student at UHCL:

- MATH 4341 Introduction to Analysis
  Credit Hours: 3
- MATH 4322 Introduction to Abstract Algebra
  Credit Hours: 3
- MATH 4313 Introduction to Topology
  Credit Hours: 3

Additional Information

Must include MATH 4322. Provided that equivalent courses have not been completed previously.

Computational and Applied Math Specialization

Computational and Applied Math Specialization Core Requirements (9 hours)

- MATH 5136 Ordinary Differential Equations and Dynamical Systems
- MATH 5132 Real Analysis
- MATH 5333 Numerical Analysis

Additional Information

Choose 3 courses from the following: MATH 5133, MATH 5321, MATH 5330, MATH 5431, MATH 5432, STAT 5431

Computational and Applied Math Specialization-Extended Course work Option (15 hours)

- 9 hours of MATH courses 4000-6000 level
- MATH 6837 Research Project I
- MATH 6838 Research Project II

Computational and Applied Math Specialization-Thesis Option (15 hours)

- 9 hours of MATH courses 4000-6000 level
- MATH 6939 Master’s Thesis Research

Additional Information

MATH 4000-6000 courses do not include: MATH 5031/6031, MATH 5033/6033, MATH 5034/6034, MATH 5035/6035, MATH 5036/6036, MATH 5037/6037, and must include MATH 4322 and may include one of MATH 4313, MATH 4341, MATH/STAT 4346, MATH/STAT 4368.