M.S. IN MARINE GEOSCIENCES

Curriculum Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGS 611</td>
<td>Earth Surface Processes</td>
<td>6</td>
</tr>
<tr>
<td>MGS 613</td>
<td>Introductory Geochemistry</td>
<td>6</td>
</tr>
<tr>
<td>MGS 614</td>
<td>Geophysics</td>
<td>6</td>
</tr>
<tr>
<td>MGS 810</td>
<td>Master’s Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

Additional Requirements

- RSM 700: Research Ethics
- Comprehensive Examination
- MGS Seminar
- MGS 701: Seminar in Marine Geosciences
- Geotopics Lecture Series

Total Credit Hours: 30

1. Minimum of 24 course credits and 6 thesis credits.
2. The intent of these course requirements is to ensure preparation across the range of subfields within MGS. These requirements may be waived by permission of the MGS Program Academic Committee. If a student does not follow the above requirements and performs poorly in one of these subfields on the comprehensive exam, it may trigger a requirement to enroll in the respective course as a condition for further advancement in the MGS program.
3. All students who enroll in the MGS academic program starting in fall semester are required to take a comprehensive examination by the end of their second semester. Students who enroll in spring semester may be advised to take the comprehensive exam at the end of the following spring semester. The purpose of the comprehensive examination is to evaluate the student's understanding of fundamental principles, reasoning skills, and to determine if any basic deficiencies are present in the student's background after two semesters of classes. The examination will consist of a written part, which usually lasts about 6-8 hours, and an oral part, which lasts about 1 hour. The results of the written portion of the exam and performance of the oral exam determine the grade given by the examining board. For the M.S. degree candidate, possible grades include PASS or FAIL. A grade of FAIL indicates gaps in understanding or knowledge of basic geological, geochemical, or geophysical principles. The student can retake the exam a second time in order to achieve a passing grade. If failure occurs on the second attempt, the student can be dismissed from the MGS program. A grade of PASS indicates acceptable comprehension of basic principles and allows the student to complete the M.S. degree. Following completion of the M.S. degree at UM, the student may apply for the Ph.D. program and is not required to retake the comprehensive examination, unless a period of more than four years has elapsed.
4. All MGS students are required to register for MGS 701 at least once and attend all meetings of the course throughout their tenure in the MGS program. Students are required to give presentations and actively participate in the course.
5. All MGS students are expected to attend the department weekly seminar Geotopics. The diverse lecture series presents recent and ongoing research by RSMAS faculty and visiting scientists. These presentations help provide a broad, well-rounded view of research topics in the earth sciences.

Mission

The mission of the MGS M.S. program is to prepare our students for either further academic education in a Ph.D. program or professional employment in marine geology and geophysics, environmental sciences, and petroleum geology. The program is based on two main elements: well-rounded course work plus conduct of original research that leads to preparation of a publicly defended M.S. thesis.
Goals
Student Learning Outcomes

- Students completing the MGS M.S. degree will demonstrate a broad comprehension of Marine and Earth sciences. Students will understand the geological, geochemical, and geophysical processes that affect the Earth and its environment and will be able to apply this knowledge in either academic or professional careers.

- Each student will prepare an original M.S. Thesis that demonstrates his/her ability to critically evaluate scientific literature, comprehend previous knowledge on a topic, formulate testable hypotheses, and skillfully use available data and tools to advance the knowledge in that topic.

- Students will demonstrate good oral communication skills, and be able to effectively communicate and defend their scientific findings to a peer audience.