MARINE AND ATMOSPHERIC SCIENCE

http://www.rsmas.miami.edu/academics/undergraduate

Introduction
The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation’s leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School’s present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired and additional buildings were constructed to accommodate new wide-ranging projects. In 1969, the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution, made through the Rosenstiel Foundation, to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the Rosenstiel School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of over 80 who conduct sponsored research while offering studies leading to the Bachelor of Science, Bachelor of Arts, Master of Arts, Master of Science, Master of Professional Science and Doctor of Philosophy degrees.

Government agencies and private organizations support basic and applied research at the Rosenstiel School. Graduate and undergraduate students are an integral part of the research effort, and research programs, many multidisciplinary in nature, provide the environment within which professors and students interact.

The Rosenstiel School has modern laboratory facilities and a state-of-the-art catamaran, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School.

Mission
The Rosenstiel School strives to be in the forefront of basic and applied research as it applies to the ocean, atmosphere and global environment, with particular emphasis on subjects of societal significance. Our goal is to provide excellence in graduate and undergraduate education and research training, and to be a strong force towards improved environmental understanding and management.

Academic Policies

Admission
Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the Undergraduate Marine Science and Atmospheric Science Programs is selective and highly competitive. Admission decisions are based on the secondary school record, SAT/ACT score, counselor’s evaluation and the applicant’s essay.

Student Responsibilities
Students of the Rosenstiel School are responsible for planning their own programs and for meeting degree requirements. It is the student’s responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study.

Academic Progress
The Rosenstiel School will review each student’s record at the end of each semester. All students in the Undergraduate Marine Science and Atmospheric Science Programs must maintain a cumulative grade point average of 2.5 or better in order to remain in the program. Only those courses passed with a grade of C- or better may be applied to the major or minor.

Honors
Honors in the Marine and Atmospheric Science Program may be earned by students who have a 3.5 GPA and have completed 4 credit hours of independent research and a senior thesis.

Degree Programs
The Rosenstiel School of Marine and Atmospheric Science offers degree programs on both the undergraduate and graduate levels for students interested in marine science and/or atmospheric science as a career.

Undergraduate Degree Programs
The Atmospheric Science program offers a Bachelor of Science in Marine and Atmospheric Science degree in Meteorology, with a curriculum conforming to the recommendations of the American Meteorological Society. The BS in Meteorology is a single major program, with a minor in Mathematics. Students may combine Meteorology with a second major in Mathematics, Marine Science, Physics, or Broadcast Journalism. A five-year course of study culminating in the Master of Professional Science is also available.

The Rosenstiel School Marine Science program offers two undergraduate degree options, a Bachelor of Science in Marine and Atmospheric Science and a Bachelor of Arts in Marine Affairs. The Bachelor of Science degree program is meant for students planning to continue with graduate studies in marine science, or for those who will pursue a technical career in this area in government or private industry.

The Bachelor of Arts degree is designed for students planning either non-technical careers with government agencies or private industries directly or indirectly concerned with the ocean, or graduate studies in such areas as business, law, economics, political science, education, or communication.

In cooperation with the graduate program in Marine Affairs and Policy, a five-year BA/MPS program in Marine Affairs is available. This program enables qualified students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Affairs with only one additional year.
Graduate Degree Programs

Graduate courses in the marine and atmospheric sciences are offered through the Graduate School and the Rosenstiel School of Marine and Atmospheric Science and are listed under the Rosenstiel School graduate program entries in the Bulletin.

Courses at the 500-level may be taken for undergraduate credit hour with junior standing and departmental consent. These courses are listed in the course section of the undergraduate bulletin.

Requirements for Graduation

In addition to satisfying the course requirements for graduation with majors in Marine Science, Meteorology and Marine Affairs (specified above under "Undergraduate Majors (p. 1)"), students are expected to satisfy the School’s General Education Requirements. General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge. Courses taken for the major, the minor, and the writing requirement may also be used to satisfy the General Education Requirements.

Areas of Proficiency

A) English Composition: Students must complete ENG 105 and either ENG 106 or ENG 107, or their approved equivalents, typically in the first year of residence. Students with an appropriate score on the Advanced Placement [AP] language or literature examinations, or with an appropriate score on the International Baccalaureate [IB] higher level English examination, may earn 6 credits in English 105 and English 106. Those with an appropriate score on the SAT/V or ACT/E exams may be exempted from English 106.

B) Communication across the Curriculum: Students in the Rosenstiel School will, as part of their major curriculum, take courses designed to provide students with the skills required for effective communication, both written and oral, within the discipline.

C) Mathematics

Bachelor of Arts in Marine Affairs:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 108</td>
<td>Precalculus Mathematics II</td>
<td>3-4</td>
</tr>
<tr>
<td>MTH 113</td>
<td>Finite Mathematics</td>
<td></td>
</tr>
<tr>
<td>MTH 130</td>
<td>Introductory Calculus</td>
<td></td>
</tr>
<tr>
<td>MTH 140</td>
<td>Calculus Concepts with Foundations A</td>
<td></td>
</tr>
<tr>
<td>MTH 141</td>
<td>Calculus Concepts with Foundations B</td>
<td></td>
</tr>
<tr>
<td>MTH 161</td>
<td>Calculus I</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following: 3-4

Select an approved course in statistics or computer science of the following or an approved alternative: 3-4

MSC 204 Environmental Statistics
BIL 311 Biostatistics
IEN 311 Applied Probability And Statistics
MTH 224 Introduction to Probability and Statistics
PSY 291 Introduction To Biobehavioral Statistics
CSC 120 Computer Programming I
CSC 210 Computing for Scientists

Bachelor of Science in Marine and Atmospheric Science:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 161</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>MTH 162</td>
<td>Calculus II</td>
<td></td>
</tr>
</tbody>
</table>

Select two semesters of Calculus: 8

Select an approved course in statistics or computer science of the following or an approved alternative: 3-4

MSC 204 Environmental Statistics
BIL 311 Biostatistics
IEN 311 Applied Probability And Statistics
MTH 224 Introduction to Probability and Statistics
PSY 291 Introduction To Biobehavioral Statistics
CSC 120 Computer Programming I
CSC 210 Computing for Scientists

Areas of Knowledge

As described under the section General Education Requirements (http://bulletin.miami.edu/general-university-information/undergraduate-academic-procedure-information/general-education-requirements) under General University Information, students must complete one cognate in each of three the Areas of Knowledge:

1. Arts and Humanities,
2. People and Society (Social Sciences) and

All undergraduate students in the Rosenstiel School will fulfill their STEM cognate requirement through their major requirements. Students in Marine Affairs will fulfill their People and Society cognate requirement through their minor. Students in Marine Science may elect to fulfill the People and Society cognate requirement with a Marine Policy cognate. Students in Meteorology may elect to fulfill the People and Society cognate requirement with a Broadcast Meteorology cognate. Cognates integrating Study Abroad courses are also available. See program advisors for details.