## MARINE SCIENCES MINOR

### Contact Information

Department of Marine Sciences  
http://www.marine.unc.edu  
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The minor in marine sciences is designed to allow students access to departmental courses, facilities, and advisors in order to develop marine specializations related to their majors and to prepare for postgraduate study in marine sciences or a related field.

### Requirements

In addition to the program requirements listed below, students must:

- take at least nine hours of their minor course requirements at UNC–Chapel Hill  
- earn a minimum of 12 hours of C or better in the minor (some minors require more)

For more information, please consult the degree requirements section of the catalog (http://catalog.unc.edu/undergraduate/general-education-curriculum-degree-requirements/#degerequirementstext).

### Core Requirements

One course emphasizing global oceanic processes:  
- **MASC 101**  
  The Marine Environment  
  or **MASC 401**  
  Oceanography

One course emphasizing the coastal ocean  
- **ENEC 222**  
  Estuarine and Coastal Marine Science
- **MASC 55**  
  First-Year Seminar: Change in the Coastal Ocean
- **MASC 58**  
  First-Year Seminar: Connections to the Sea: The Challenges Faced by Using and Living near Coastal In

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MASC/ENEC</td>
<td>North Carolina Estuaries: Environmental Processes and Problems</td>
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<tr>
<td>MASC/GEOL</td>
<td>Geology of Beaches and Coasts</td>
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<tr>
<td>MASC/ENEC/GEOL</td>
<td>Oceanic Processes in Environmental Systems</td>
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<tr>
<td>MASC 432</td>
<td>Major World Rivers and Global Change: From Mountains to the Sea</td>
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<tr>
<td>MASC/ENEC</td>
<td>Wetland Hydrology</td>
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<td>MASC 440/Biol</td>
<td>Marine Ecology</td>
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<tr>
<td>MASC 442/Biol</td>
<td>Marine Biology</td>
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<tr>
<td>MASC 445/Biol</td>
<td>Marine Invertebrate Biology</td>
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<tr>
<td>MASC 395</td>
<td>Undergraduate Research in Marine Sciences</td>
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One course featuring practical experience in marine sciences.  
Choose one from the following four groups:

**Group 1:**
- **ENEC 222**  
  Estuarine and Coastal Marine Science
- **MASC 52**  
  First-Year Seminar: Living with Our Oceans and Atmosphere
- **MASC/ENEC 220**  
  North Carolina Estuaries: Environmental Processes and Problems
- **MASC/GEOL 223**  
  Geology of Beaches and Coasts
- **MASC 342**  
  Major World Rivers and Global Change: From Mountains to the Sea
- **MASC/ENEC 448**  
  Coastal and Estuarine Ecology
- **MASC/ENEC 471**  
  Human Impacts on Estuarine Ecosystems
- **MASC 472**  
  Barrier Island Ecology and Geology
- **MASC/GEOL 503**  
  Marine Geology
- **MASC/ENEC/GEOL 444/Biol 456**  
  Marine Phytoplankton
- **MASC 445**  
  Marine Invertebrate Biology

**Group 2:**
- **MASC/ENEC/GEOL 415**  
  Environmental Systems Modeling
- **MASC/GEOL/ENVR 480**  
  Modeling of Marine and Earth Systems
- **MASC/GEOL 483**  
  Geologic and Oceanographic Applications of Geographical Information Systems
- **MASC 561**  
  Time Series and Spatial Data Analysis
- **MASC/ENEC/GEOL 223**  
  Geology of Beaches and Coasts

**Group 3:**
- **MASC/ENEC 444/Biol 456**  
  Marine Phytoplankton
- **MASC 445**  
  Marine Invertebrate Biology
- **MASC 395**  
  Undergraduate Research in Marine Sciences
- **MASC 396**  
  Independent Study in Marine Sciences

**Group 4:**

A marine sciences course of the student’s choosing  
Total Hours 12

1 Students may not receive credit for both MASC 101 and MASC 401
Marine sciences (MASC) course descriptions (http://catalog.unc.edu/undergraduate/departments/marine-sciences/#coursestext).

**Special Opportunities in Marine Sciences**

**Undergraduate Research**
The department offers opportunities to undergraduates to conduct directed research in our laboratories. Students work directly with faculty members and may enroll for credit as part of an honors or research project. The liaison for undergraduate research provides information about research opportunities in marine sciences, and assists undergraduates in finding a faculty advisor/research group that matches their interests.

**Experiential Education**
There are three opportunities for experiential education in the Department of Marine Sciences:

MASC 220 is taught during Maymester at the main campus with one week at the UNC–Chapel Hill Institute of Marine Sciences in Morehead City, NC.

MASC 395 can be taken with the permission of a faculty advisor.

MASC 472 is taught at the UNC–Chapel Hill Institute of Marine Sciences in Morehead City, NC, during the summer session and provides an experience in the field.