## Marine Sciences Minor

### Contact Information

**Department of Marine Sciences**  
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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/#degreerequirementstext).

#### 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  
MASC/ENEC 220 North Carolina Estuaries: Environmental Processes and Problems  
MASC/GEOL 223 Geology of Beaches and Coasts  
MASC/ENEC/GEOL 411 Oceanic Processes in Environmental Systems  
MASC 432 Major World Rivers and Global Change: From Mountains to the Sea  
MASC/ENEC 433 Wetland Hydrology  
MASC 440/Biol 462 Marine Ecology  
MASC 442/Biol 457 Marine Biology  

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MASC/ENEC</td>
<td>Coastal and Estuarine Ecology</td>
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<tr>
<td>448</td>
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<tr>
<td>MASC/ENEC</td>
<td>Human Impacts on Estuarine Ecosystems</td>
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<td>471</td>
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<tr>
<td>MASC 472</td>
<td>Barrier Island Ecology and Geology</td>
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<tr>
<td>or an equivalent course with a focus on the coastal ocean and approved by the director of undergraduate studies</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 432 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 504/Biol 657/ENVRI 520 Biological Oceanography  

or an equivalent field course approved by the director of undergraduate studies

**Group 2:**  
MASC/ENEC/GEOL 415 Environmental Systems Modeling  
MASC/GEOL/ENVRI 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  
or an equivalent mathematical modeling or data analysis course approved by the director of undergraduate studies

**Group 3:**  
MASC/ENEC 444/Biol 456 Marine Phytoplankton  
MASC 445 Marine Invertebrate Biology  
or an equivalent laboratory course approved by the director of undergraduate studies

**Group 4:**  
MASC 395 Undergraduate Research in Marine Sciences  
or MASC 396 Independent Study in Marine Sciences

A marine sciences course of the student's choosing  

| Total Hours | 12 |

### Notes

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.