

Marine Science Minor Requirements

The marine science minor is intended to serve as a broad introduction to the world's oceans and therefore is designed to acquaint the student with the major aspects of the marine system. These can be broadly categorized as the biological ocean, the physical ocean and human impacts on the ocean. The marine science minor curriculum addresses these core competencies by requiring a choice of two lower division courses from the biological ocean and human impact categories. A basic understanding of the physical science of the ocean is essential to understanding the biological ocean and the causes and consequences of human impacts on the ocean. For this reason, all students in the minor are required to take GEOS 412, "Ocean Science", a three-unit course. The remaining nine units are selected from a variety of upper division courses chosen at the student's discretion, classified as biology, human impact or geoscience of the oceans, but with no more than six of the remaining nine units coming from the same category. The minor requires 18 units total.

I. The biological ocean

Complete the following:

ECOL 182R (3) *fall, spring, summer*

II. Human Impact on the Oceans

Complete one of the following:

ANTH 203, Caribbean Transformations (3) *fall*
ECOL 206, Environmental Biology (3) *(not currently scheduled)*
GEOG 230, Our Changing Climate (3) *fall, summer (sometimes spring and winter)*
GEOS 212, Introduction to Oceanography (3) *fall, spring summer*

III. Upper division survey course of the oceans:

Complete the following:

GEOS 412A Ocean Science (3) *spring*

IV. Area Studies

Complete three courses from the following, with no more than two courses from any given category below:

Biology of the Oceans, Upper Division

ECOL 404R Biology of the Oceans (3)	<i>(not currently scheduled)</i>
ECOL 450 Marine Discovery (4)	<i>fall</i>
ECOL 482 Ichthyology (4)	<i>fall</i>
ECOL 496O-SA Galapagos Marine Ecology (6)	<i>summer dynamic</i>

Human Impact on the Oceans, Upper Division

ACBS 456 Introduction to Aquaculture (3)	<i>spring</i>
ECOL 360 Marine Ecology and Conservation (3)	<i>spring</i>
ECOL 406 Conservation Biology (3)	<i>spring</i>
ECOL 474 Aquatic Plants and the Environment (4)	<i>fall</i>
ECOL 475 Freshwater and Marine Algae (4)	<i>spring</i>
RNR 480 Natural Resources – Policy and Law (3)	<i>spring</i>
WFSC 385 Zoo and Aquarium Management (3)	<i>fall</i>
WFSC 455R/L Fisheries Management (4)	<i>spring</i>

Geoscience of the Oceans, Upper Division

GEOS 302 Sedimentology and Stratigraphy (3)	<i>fall, spring</i>
GEOS 308 Paleontology (3)	<i>fall</i>
GEOS 342 The History of Earth's Climate (3)	<i>fall</i>
GEOG 430 The Climate System (3)	<i>spring</i>
GEOS 478 Global Change (3)	<i>fall</i>
GEOS 479 Introduction to Climate Dynamics (3)	<i>fall</i>

A minimum of 18 units are required for the minor.

A minimum minor GPA of 2.0 is required.

A minimum of 3 units in the minor must be taken at the UA.

A minimum of 12 upper division units are required in the minor.