

# MARINE SCIENCE, ASSOCIATE IN SCIENCE DEGREE

Financial Aid Eligible  
Banner Code: 1\_AS\_MRSC  
Control Number: 36732

Upon completion of the requirements for the Associate in Science Degree in Marine Science, students will have a broad introduction to the academic study of marine science and will have a strong background for upper division work in marine science or related fields, such as earth and environmental sciences.

The Marine Science major requires completion of a minimum of 18 program major units, 11 of which are required core units. The additional 7 units must be taken from additional marine science courses and a list of restricted related electives. The department strongly recommends that all declared Marine Science majors work with counseling to select electives that will best prepare them for their intended transfer institution.

## Program Outcomes

1. Describe how the ocean influences and is influenced by terrestrial, atmospheric, geological and biological processes.
2. Describe how the physical and chemical properties of water molecules affect the way that the ocean is structured and how the large scale movement of this water in waves, currents and tides influences oceanographic processes.
3. Describe the diversity of life in the ocean.
4. Identify how humans have influenced the ocean (chemically, physically and biologically) and explain the potential challenges associated with those changes.

## Associate in Science Degree Requirements

1. **UNIT REQUIREMENT** - 60 UNITS, with at least a 2.0 grade point average. At least 12 of the units must be earned at OCC, with a minimum of one course taken for a letter grade. At least 3 units in an advanced course from the program must be completed at OCC. A student must be enrolled at the time of application for graduation. Units earned at an accredited college or university on a credit/no credit basis will be counted toward the degree requirements of the college, to a maximum of 15 units.
2. **MAJOR REQUIREMENT** - Complete the AA or AS major requirements as detailed in the Degree and Certificate section of this catalog.
3. **MATHEMATICS REQUIREMENT** - Demonstrate competence in mathematics by either obtaining a satisfactory grade (grade of "C" or better or "pass") in a mathematics course at or above the level of Intermediate Algebra as demonstrated by prior coursework, or by demonstrating competency that is comparable through the completion of a college-level math course that has Intermediate Algebra as a prerequisite: Psychology A160 or Math A100 or higher, with the exception of Math A220.
4. **GENERAL EDUCATION REQUIREMENT** - Students may choose to complete Option 1 (OCC AA GE) (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-arts-general-education-option-1/>), Option 1 (OCC AS GE) ([https://catalog.cccd.edu/orange-coast/pathways/math-science-engineering/marine-science/marine-science-associate-science-degree/orange-coast/general-education-](https://catalog.cccd.edu/orange-coast/pathways/math-science-engineering/marine-science/marine-science-associate-science-degree/orange-coast/general-education-patterns/associate-science-general-education-option-1/)

[patterns/associate-science-general-education-option-1/](https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-degree-general-education-option-2/)), Option 2 (CSU GE) (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-degree-general-education-option-2/>), or Option 3 (IGETC (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-degree-general-education-option-3/>)) to satisfy the general education requirement. See the General Education Patterns section of this catalog for more information.

Course	Title	Units
<b>Required Courses</b>		
<i>Core Courses</i>		
MRSC A100/A100H	Oceanography	3
MRSC A100L/A100M	Oceanography Laboratory	1
MRSC A180	Marine Biology	3
MRSC A180L	Marine Biology Lab	1
MRSC A185	Coastal Oceanography	3
<i>Marine Science Restricted Electives</i>		
Select at least three units of the following:		3
ESEC/MRSC A121	Marine Intertidal Ecology	
ESEC/MRSC A124	Ecology of the Gray Whale	
MRSC A120	Marine Aquarium Science	
MRSC A130	Husbandry of Aquatic Organisms	
MRSC A140	Aquarium Life Support Operation and Maintenance	
MRSC A185L	Coastal Oceanography Lab	
MRSC A187	Marine Mammals	
MRSC A188	Marine Mammal Field Studies	
MRSC A220	Practical Experience in Aquarium Science and Management 1	
MRSC A221	Practical Experience in Aquarium Science and Management 2	
MRSC A222	Practical Experience in Aquarium Science and Management 3	
MRSC A223	Practical Experience in Aquarium Science and Management 4	
MRSC A291/A291H	Directed Studies (as approved by the Marine Science department)	
MRSC A292/A292H	Directed Studies (as approved by the Marine Science department)	
<b>Related Fields Restricted Electives</b>		
Select at least four units of the following:		4
ASTR A101	Planetary Astronomy	
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	
BIOL A182 & A182L	Zoology and Zoology Lab	
BIOL A185	Introduction to Biology for Majors 2: Ecology, Evolution, Diversity, and Physiology	
BIOL A210	General Microbiology	
BIOL A280	Evolutionary Ecology	
BIOL A281	Biochemistry	
BIOL A282	Molecular Biology	
BIOL A283	Genetics	
ESEC A100	Introduction to Environmental Science	

<b>Course</b>	<b>Title</b>	<b>Units</b>
ESEC A110	Island Ecology	
ESEC A210	Wetlands Ecology and Management	
GEOG A190	Digital Mapping: Introduction to GIS	
GEOL A105/ A105H	General Geology	
GEOL A105L/ A105M	General Geology Laboratory	
GEOL A110	Physical Geology	
GEOL A131	Weather and Climate	
GEOL A137	Introductory Field Geology	
GEOL A160	Environmental Geology	
GEOL A185/ A185H	Evolution of the Earth	
GEOL A185L/ A185M	Evolution of the Earth Lab	
MARA A138	Introduction to Ocean Sailing	
MARA A150	Coastal Navigation	
MARA A152	Boat Handling and Seamanship	
MARA A156	Maritime Environment	
MRSC A195	Marine Policy and Conservation	
Program Major Units		18
AS General Education Option 1, 2, or 3		Varies
Transferable electives as needed to satisfy unit requirement		Varies
<b>Total Units</b>		<b>60</b>