

APPLIED OCEAN SCIENCE AND TECHNOLOGY, ASSOCIATE IN SCIENCE DEGREE

Banner Code: 1_AS_AOST

Control Number: 41928

Financial Aid Eligible

Applied Ocean Science & Technology is an interdisciplinary field that requires a broad base of practical skills working in the field and laboratory. This applied degree is designed to strengthen and complement the background of students planning to obtain a Bachelor's degree in a marine-related science discipline. In addition, students will be qualified to hold positions in the workforce ranging from deck hands to naturalist and environmental education positions. They can assist with research and monitoring surveys.

The Applied Ocean Science & Technology major requires completion of a minimum of 27.5 program major units, 24.5 of which are required core units. The additional 3 specialization units must be taken from a list of restricted electives that will add to student's technical background. The department strongly recommends that all declared Applied Ocean Science & Technology majors work with counseling to help prepare them for their intended transfer institution.

Program Outcomes

1. Utilize scientific equipment and monitoring studies to illustrate the influence and interactions between the geologic, physical, chemical and biological processes and characteristics of the world ocean.
2. Demonstrate the ability to safely operate a vessel and identify potential hazards when working on the water.
3. Demonstrate the ability to design, construct and maintain aquarium systems intended to support a variety of marine life.
4. Demonstrate a basic understanding of data collection methods and analysis as well as the role that monitoring programs contribute to our understanding of marine characteristics and processes.

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 AS major requirements.
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 AS GE) (<https://catalog.cccd.edu/orange-coast/general-education-patterns/associate-science-general-education-option-1/>), 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
Required Courses		
MARA A150	Coastal Navigation	3
MARA A152	Boat Handling and Seamanship	3
MARA A153	Marine Basic Safety Training	4
MARA A156	Maritime Environment	2
MRSC A100	Oceanography	3
or MRSC A100H	Oceanography Honors	
MRSC A100L	Oceanography Laboratory	1
or MRSC A100M	Oceanography Laboratory Honors	
MRSC A120	Marine Aquarium Science	1.5
MRSC A140	Aquarium Life Support Operation and Maintenance	1
MRSC A190	Marine Research and Monitoring Techniques	3
GEOG A190	Digital Mapping: Introduction to GIS	3
Subtotal		24.5
Restricted Electives		
Select three units of the following:		3
CS A131	Python Programming I	
ELEC A100	Electronic Problem Solving	
ELEC A121	Robotics 1- Mechanics & Design	
ELEC A140	Technical Electronics	
EMS A100	Emergency Medical Responder	
ENGR A110	Introduction to Engineering and Design	
ENGR A220	Programming and Problem-Solving in MATLAB	
ESEC A210	Wetlands Ecology and Management	
HVAC A100	Air Conditioning and Refrigeration Principles	
ITRN A392	Internship Academy-Level 2	
KIN A232	Swimming Level 2	
MARA A154	Yachtkeeping and Engine Maintenance	
MARA A200 & MARA A201	Professional Mariner Internship and Professional Mariner Internship Lecture	
MRSC A195	Marine Policy and Conservation	
WELD A100	Arc & Oxy-acetylene Welding	
Program Major Units		27.5
AS General Education Option 1, 2, or 3		Varies

Course	Title	Units
	<i>Transferable electives as needed to satisfy unit requirement</i>	<i>Varies</i>
Total Units		60