

# OCEANOGRAPHY ASSOCIATE IN SCIENCE



Oceanography applies an eclectic mix of natural sciences to the study of the world's oceans. Physics, chemistry, biology, geology, geography, meteorology and even astronomy contribute to understanding the composition, structure and motion of seawater, and its interaction with the lithosphere, atmosphere and biosphere.

Although a few four-year institutions offer undergraduate degrees in oceanography, students who pursue oceanographic studies typically complete undergraduate degrees in one or more of the aforementioned natural sciences, then later apply that knowledge to graduate study in oceanography. The associate degree in oceanography outlined below provides beginning lecture, lab and field courses in oceanography, plus a solid foundation of math and appropriate science courses upon which transferring students can build baccalaureate degrees that are later applied in graduate oceanographic studies.

## Career Opportunities

<https://www.grossmont.edu/student-support/career-center/resources.php>

Aquarist  
Boat Captain  
Chemical Oceanographer<sup>1</sup>  
Climatologist<sup>1</sup>  
Environmental Advocate  
Marine Archaeologist<sup>1</sup>  
Marine Biologist<sup>1</sup>  
Marine Economist<sup>1</sup>  
Marine Geologist / Geophysicist<sup>1</sup>  
Marine Lawyer<sup>1</sup>  
Marine Policy Specialist<sup>1</sup>  
Ocean Engineer<sup>1</sup>  
Ocean Fisheries Specialist<sup>1</sup>  
Ocean Resource Management<sup>1</sup>  
Ocean Technician  
Physical Oceanographer<sup>1</sup>  
Teacher<sup>1</sup>

<sup>1</sup> Bachelor's degree or higher required.

The Program-level Student Learning Outcomes (PSLOs) below are outcomes that students will achieve after completing specific degree / certificate requirements in this program.

- Students will find, use and evaluate resources for oceanographic information.

## Associate Degree Major Requirements

Code	Title	Units
CHEM-141	General Chemistry I	5
CHEM-142	General Chemistry II	5

GEOL-110	Planet Earth	3
MATH-180	Analytic Geometry and Calculus I	5
OCEA-112	Introduction to Oceanography	3
OCEA-113	Oceanography Laboratory	1
Select two of the following:		8-10
BIO-105	Marine Biology	
BIO-120	Principles of Biology	
MATH-280	Analytic Geometry and Calculus II	
PHYC-201	Mechanics and Waves	
PHYC-202	Electricity, Magnetism, and Heat	
Select six units from the following:		6
BIO-110	Environmental Biology	
BIO-132	Mammals of the Sea	
CHEM-110	Environmental Chemistry	
GEOG-104	Introduction to Geographic Information Science	
GEOG-120	Physical Geography: Earth Systems	
GEOG-140	Meteorology: Weather and Climate	
GEOL-121	Earth History	
GEOL-162	Geologic Field Studies: Southern California Mountain Areas	
GEOL-163	Geologic Field Studies: Mojave Desert and Adjacent Areas	
GEOL-164	Geologic Field Studies: Southern California Coastal Areas	
GEOL-165	Geologic Field Studies: Colorado Desert/Salton Trough Area	
GEOL-172	Field Exploration: Colorado Plateau	
GEOL-173	Field Exploration: Cascade Range/Modoc Plateau	
GEOL-174	Field Exploration: Basin and Range Province	
GEOL-175	Field Exploration: California Coastal Mountains	
GEOL-176	Field Exploration: Sierra Nevada	
GEOL-210	Geology of California	
GEOL-220	Geology of the National Parks	
GEOL-230	Natural Disasters	
OCEA-150	Field Study of the Natural History of the Greater San Diego Region	
<b>Total Units</b>		<b>36-38</b>

Plus General Education (<https://catalog.gcccd.edu/grossmont/admission-information/general-education-transfer/>) and Elective Requirements