ENVIRONMENTAL SCIENCE, ASSOCIATE IN SCIENCE DEGREE

Banner Code: 1_AS_ENVS
Control Number: 42000
Financial Aid Eligible

Upon completion of the requirements for the Associate in Science Degree in Environmental Science, students will be prepared to transfer to CSU/UC and obtain a baccalaureate degree (or higher degree) in Environmental Science. This degree is also a pathway toward internships and/or entry-level opportunities within the field, e.g., field ecologist, geologist, and/or hydrologist. The Environmental Science major requires completion of a minimum of 43 major units, 36-40 of which are required core units. The additional 7-13 units must be taken from a list of restricted related electives from a variety of departments. The ESEC department strongly recommends that all declared Environmental Science majors get counseling to select electives that will best prepare them for their intended transfer institution as there is high variation in requirements among institutions and some of the courses listed, including core courses, have pre-requisites that will increase the number of units required to complete this degree. For students interested in an environmental law, policy or health monitoring emphasis in Environmental Science, they should consider an Associated in Applied Arts Degree in Environmental Science.

The department strongly recommends that all declared Environmental Science majors complete the following courses prior to transfer: Physics A120 (Algebra-based Physics: Mechanics) and Physics A185 (Algebra-based Physics: Electricity/Magnetism) or Physics A280 (Calculus-based Electricity and Magnetism) and Physics A285 (Calculus-based Modern Physics), and/or Chemistry A220 (Organic Chemistry). Check the requirements of the transferring institution.

Program Outcomes

1. Describe the major biological, chemical, and physical components and processes within organisms and the environment.
2. Describe historical and current human activities that negatively impact the environment (energy resources, urbanization, agricultural methods, etc) and how economics, social interactions, policies, and laws affect human activity within the environment.
3. Develop the skills to research environmental topics, conduct and analyze experimental data, and communicate findings with their peers.
4. Students who complete the degree will be prepared for admission to California State University/University of California schools in environmental science.

Review Graduation Requirements (https://catalog.cccd.edu/orange-coast/graduation-requirements/associate-degree/) and General Education (https://catalog.cccd.edu/orange-coast/general-education-patterns/).

Course	Title	Units
Rrequired Courses		
ESEC A100	Introduction to Environmental Science	3
or ESEC A100H	Introduction to Environmental Science Honors	
ECON A170	Microeconomics	3
or ECON A170H	Microeconomics Honors	
ECON A175	Macroeconomics	3
or ECON A175H	Macroeconomics Honors	
Select Lecture/Lab combination		
GEOL A110	Physical Geology	
GEOL A105 & A105L	General Geology and General Geology Laboratory	
GEOL A105H & GEOL A105M	General Geology Honors and General Geology Laboratory Honors	
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	4
Select BIOL A185 or Zoology/Botany set:		
BIOL A185	Introduction to Biology for Majors 2: Ecology, Evolution, Diversity, and Physiology	
OR		
BIOL A182	Zoology	
or BIOL A182H & BIOL A182L	Zoology Honors and Zoology Lab	
BIOL A183 & A183L	Botany and Botany Lab	
CHEM A180	General Chemistry A	5
CHEM A185	General Chemistry B	5
Select one Math course:		4-5
MATH A140	Business Calculus	
MATH A160	Introduction to Statistics	
or PSYC A160	Statistics for the Behavioral Sciences	
MATH A180	Calculus 1	
or MATH A180H	Calculus 1 Honors	
MATH A182H	Calculus 1 and 2 Honors	
MATH A185	Calculus 2	
or MATH A185H	Calculus 2 Honors	
Restricted Electives		
Select 7-13 units from the following:		
ESEC A110	Island Ecology	
ESEC A121	Marine Intertidal Ecology	
or MRSC A121	Marine Intertidal Ecology	
ESEC A124	Ecology of the Gray Whale	
or MRSC A124	Ecology of the Gray Whale	
ESEC A140	Mediterranean Biome Ecology	
ESEC A141	Desert Ecology	
MRSC A187	Marine Mammals	
MRSC A188	Marine Mammal Field Studies	
HORT A190	California Friendly Landscape	
GEOL A160	Environmental Geology	
GEOL A250	Water Resources and Society	
GEOG A190	Digital Mapping: Introduction to GIS	
BIOL A172	Nature of Birds	
Program Major Units		*43-53*
AS General Education Option 1, 2, or 3		*Varies*

Course	Title	Units
Transferable electives as needed to satisfy unit requirement		*Varies*
Total Minimum Degree Units		**60**

Program Sequence

These sequences at Orange Coast College are general course curriculum maps for students to finish all major and general education requirements for two-year completion of degrees, and/or fulfillment of transfer requirements. The course sequence may include course prerequisites and other placement requirements. **Students are advised to meet with an Orange Coast College Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Course	Title	Units
Year 1		
Semester 1		
ESEC A100 or ESEC A100H	Introduction to Environmental Science or Introduction to Environmental Science Honors	3
ECON A170 or ECON A170H	Microeconomics or Microeconomics Honors	3
MATH A140 or MATH A160 or PSYC A160 or MATH A180/A180H or MATH A182H or MATH A185/A185H	Business Calculus or Introduction to Statistics or Statistics for the Behavioral Sciences or Calculus 1 or Calculus 1 and 2 Honors or Calculus 2	4-5
OCC AS GE AREA A1- CHOOSE ONE		3
	Units	**13-14**
Semester 2		
ECON A175 or ECON A175H	Macroeconomics or Macroeconomics Honors	3
OCC AS GE AREA C1 - CHOOSE ONE		3
OCC AS GE AREA C2 - CHOOSE ONE		3
ELECTIVE (DEGREE APPLICABLE) [1]		4
Select Geology Lecture/Lab Combination:		4
GEOL A110	Physical Geology	
GEOL A105 & A105L	General Geology and General Geology Laboratory	
GEOL A105H & GEOL A105M	General Geology Honors and General Geology Laboratory Honors	
	Units	**17**
Year 2		
Semester 1		
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	4
CHEM A180	General Chemistry A	5
AS RESTRICTED ELECTIVES (See Requirements) [2]		3
ELECTIVE (DEGREE APPLICABLE) [3]		3
	Units	**15**
Semester 2		
Select BIOL A185 or Zoology/Botany set:		5-8
BIOL A185	Introduction to Biology for Majors 2: Ecology, Evolution, Diversity, and Physiology	
BIOL A182 or BIOL A182H ***and*** BIOL A182L	Zoology or Zoology Honors ***and*** Zoology Lab	
BIOL A183 & A183L	Botany and Botany Lab	
CHEM A185	General Chemistry B	5
AS RESTRICTED ELECTIVES- CHOOSE ONE (See Requirements) [2]		4
ELECTIVE (DEGREE APPLICABLE) [3]		1
	Units	**15-18**
	Total Units	**60-64**

1

CHEM A130 can be taken for prerequisite of BIOL A180 and CHEM A180

2

Restricted electives between 7-13 units

3

VARIES TO REACH MINIMUM 60 DEGREE APPLICABLE UNITS