

ENVIRONMENTAL SCIENCE ASSOCIATE OF SCIENCE DEGREE

The goals of the Environmental Science program are to: 1) meet the needs of students who are majoring in one of the diverse fields encompassed by environmental science, and 2) provide options for students fulfilling general education science requirements.

Awareness of the issues of environmental quality, environmental racism, and environmental justice are increasingly important in business, industry, and government. The growing human population and increasing consumption of resources are creating unprecedented pressures on our planetary life support systems. Within the human population, socioeconomically and politically disenfranchised communities oftentimes suffer the consequences of polluted environments when compared with more advantaged communities. This is one of the many aspects of structural racism. This degree helps students to understand how environmental racism, environmental justice, and multiculturalism are vital components of the environmental landscape.

Environmental Science Majors need to complete an interdisciplinary set of core requirements that provide a basic understanding of the physical, biological, and social sciences and the relevance of these sciences to environmental processes and issues. In addition, the coursework will prepare students for related baccalaureate majors, including biology, chemistry, engineering, geography, geographic information systems (GIS), geology, mathematics, oceanography, and physics. For non-majors, the program's goal is to educate students to make better-informed choices about key environmental, health, and justice issues.

Students planning to transfer to a four-year institution and major in Environmental Science should consult with a counselor regarding the transfer process and institution-specific lower-division requirements. In upper division and graduate studies, students majoring in environmental science usually specialize in areas such as environmental toxicology, public health, environmental law, education, environmental economics, soil and water science, restoration ecology, environmental landscaping, environmental management, urban planning, and related careers.

To graduate with a specialization in Environmental Science, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units).

| Code | Title | Units |
|--------------------------|--|-------|
| Required Courses: | | |
| ENVSCI 100 | Introduction to Environmental Science | 3 |
| BIOL 205 | Cell and Molecular Biology | 4 |
| BIOL 206 | Organismal Biology | 4 |
| CHEM 150 | General Chemistry I | 5 |
| CHEM 151 | General Chemistry II | 5 |
| ECON 201 | Principles of Microeconomics | 3 |
| | or ECON 201H Principles of Microeconomics - Honors | |
| | or POLS C1000 American Government and Politics | |
| | or POLS C1000H American Government and Politics - Honors | |
| GEOG 110 | Physical Geography | 3 |
| MATH 250 | Single Variable Calculus I | 4 |

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| MATH 251 | Single Variable Calculus II | 4 |
| One of the following: | | 1-3 |
| GEOG 111 | Physical Geography Laboratory | 1 |
| | or GEOG 111H Physical Geography Laboratory - Honors | |
| GEOL 101 | Introduction to Physical Geology | 3 |
| GEOL 111 | Introduction to Physical Geology Laboratory | 1 |
| One of the following Physics course sequences: | | 8-12 |
| PHYSIC 151 | General Physics for the Life Sciences I | 8 |
| & PHYSIC 152 | and General Physics for the Life Sciences II | |
| PHYSIC 202 | Physics I | 12 |
| & PHYSIC 203 | and Physics II | |
| & PHYSIC 204 | and Physics III | |
| Two courses from the following: | | 6-10 |
| BIOL 104 | Human Ecology | 3 |
| BIOL 207 | Evolutionary Ecology | 4 |
| CHEM 205 | Quantitative Chemical Analysis | 5 |
| CHEM 212 | Organic Chemistry I | 5 |
| CHEM 213 | Organic Chemistry II | 5 |
| GEOG 130 | Introduction to Geographic Information Systems (GIS) | 3 |
| | or GIS 130 Introduction to Geographic Information Systems (GIS) | |
| STAT C1000 | Introduction to Statistics | 4 |
| | or STAT C1000H Introduction to Statistics - Honors | |
| MATH 266 | Ordinary Differential Equations | 4 |
| Total Units | | 50-63 |

To earn an SBVC Associate Degree students must complete one of the following General Education (GE) patterns:

- SBVC General Education and Graduation Requirements (<https://www.valleycollege.edu/student-services/counseling/articulation/graduation-requirements-current.php>)
- Cal-GETC - California General Education Transfer Curriculum (<https://www.valleycollege.edu/student-services/counseling/articulation/calgetc.php>)

Program Learning Outcomes

At the completion of this program, students will be able to:

- Analyze the interaction between natural and social systems and subsequent impacts on sustainable development, environmental policies, environmental justice, and racial justice.
- Synthesize the fundamentals of sociology, biology, chemistry, Earth sciences, mathematics, physics, and other social and natural sciences within a framework of human-environment interactions with an emphasis on racial equity and social justice.
- Critically interpret and assess environmental news and trends, including green technologies and career opportunities, national and international environmental policies, resource exploitation and conservation, global climate change, sustainable development, and human health within the context of racial equity and social justice.