

Environmental Science

Environmental Science Degrees and Certificates

Environmental Science, Associate in Science

This degree can lead to a baccalaureate degree in environmental science or environmental studies at accredited colleges or universities. In consultation with an academic advisor; electives should be selected based on the student's interest, the requirements of the transfer institution or technician-level vocation opportunities. Some courses require pre-requisites, check course descriptions.

For information, contact faculty advisor, James Sacchinelli, at (609)343-4943 or jsacchin@atlanticcape.edu, or Richard Perello at (609)343-4969 or rperello@atlanticcape.edu, or contact department chair, John Stratton, at (609)343-4981 or stratton@atlanticcape.edu.

Upon completion of this program students will be able to:

- Develop work ethics that are effective and safe in a laboratory environment;
- Apply the scientific method to collect and interpret information;
- Experiment with laboratory and field equipment to obtain data;
- Analyze records of results and procedures;
- Discuss effectively, both orally and in writing;
- Analyze and evaluate problems critically.

(ENVL-Fall 2024)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3

Mathematics-Science-Technology

Course #	Title	Credits
BIOL109	General Biology I	4
CHEM110	General Chemistry I	4
	Choose: MATH150-Precalculus, MATH155-Calculus or MATH220-Statistical Methods (4 credits)	4

Social Science

Course #	Title	Credits
	General Education Social Science Course (3 credits)	3

Humanities

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3

General Education Elective

Course #	Title	Credits
	General Education Course (3 credits)	3

Program Requirements

Course #	Title	Credits
ENVL100	Environmental Science	4
ENVL120	Weather and Climate	4
ENVL140	Environmental Field & Lab Techniques	1
ENVL205	Ecology	4
ENVL295	Environmental Science Research Capstone	2
ESCI100	Earth Science	4

Program Electives

Choose 11 credits from the following:

Course #	Title	Credits
AVIT140	Small Unmanned Aircraft Systems Operation-Multi-Rotor	3
AVIT185	Remote Sensing Using Unmanned Aircraft Systems	4
BIOL110	General Biology II	4
BIOL250	Microbiology	4
CHEM111	General Chemistry II	4
CHEM210	Organic Chemistry I	4
CHEM211	Organic Chemistry II	4
CISM/ENVL122	Agricultural Technology	3
ENGL224	Environmental Literature	3
GIST101	Introduction to Geographic Information Systems	4
GIST150	Geospatial Data Collection	4
PHYS105	Basic Physics	4

Technological Competency: 0-4 Credits

(Is fulfilled with CISM125 or CISM132, which may be taken as a General Education Elective, testing or reviewed departmental portfolio.)

Total Credits

60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
ENGL101	Composition I	3
BIOL109	General Biology I	4
CHEM110	General Chemistry I	4
ENVL100	Environmental Science	4

Second Semester

Course #	Title	Credits
ENGL102	Composition II	3
	Program Elective Course (4 credits)	4
	Choose: MATH150-Precalculus, MATH155-Calculus or MATH220-Statistical Methods (4 credits)	4
ENVL120	Weather and Climate	4
ENVL140	Environmental Field & Lab Techniques	1

Third Semester

Course #	Title	Credits
ENVL205	Ecology	4
ESCI100	Earth Science	4
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3
	General Education Social Science Course (3 credits)	3
	Program Elective Course (3 credits)	3

Fourth Semester

Course #	Title	Credits
ENVL295	Environmental Science Research Capstone	2
	Program Elective Course (4 credits)	4
	General Education Humanities Course (3 credits)	3
	General Education Course (3 credits)	3

Environmental Science Courses

ENVL/CISM122 : Agricultural Technology

This course covers topics related to the use of technology in modern agriculture. Students will learn to make informed agricultural observations and decisions related to raising crops and the basics of scouting for problems and helping to solve problems in commercial farms. Students are required to attend at least three field-trips to local farms.

Credits 3

Lecture Hours 3

Lab/Clinical/Field Study Hours 0

ENVL100 : Environmental Science

Introduces students to current environmental problems and discusses the methods by which we analyze, monitor and solve them. Topics include natural cycles and ecosystems, environmental policy and decision-making, energy use, alternative energy, resource extraction and use, food and agriculture, conservation, waste management, pollution, global warming and sustainability. Meets General Education requirement for Science.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

ENGL080 with a grade of C or better or placement test score or SAT score and MATH073 with a grade of C or better or placement test score or SAT score.

ENVL120 : Weather and Climate

This course introduces students to the reading and interpretation of weather reports and charts as well as theories of meteorological processes and their impact on the environment. Topics include but are not limited to weather fundamentals, atmospheric circulation systems, weather resources, and weather hazards.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

ENGL080 with a grade of C or better or placement test score or SAT score.

ENVL140 : Environmental Field & Lab Techniques

This course is designed to introduce students to the skills and protocols used in modern laboratories for local, state, and federal governmental agencies, health sciences, academic research, and forensic and industrial applications of biotechnology.

Credits 1

Lecture Hours 0

Lab/Clinical/Field Study Hours 3

Prerequisites

ENVL100

ENVL205 : Ecology

Designed to give the student an overview of the discipline of ecology. Ecology is the study of the abundance and distribution of organisms, and how they interact with their surroundings. This course examines individual, community and ecosystem dynamics using a systems-based approach. Lab methods, data analysis skills and scientific observation are emphasized as tools to help in ecological studies. Topics include: systems, introduction to ecology and the individual (species), population ecology, community ecology, ecosystem structure and dynamics.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

BIOL109. Prior completion of a college-level course in Statistics is highly recommended

ENVL221 : Physical Geography

Introduces the fundamental principles of physical geography, including the Earth-Sun relations and associated phenomena-latitude, longitude and time; weather elements and climate types, natural vegetation, soil types and regions; maps and map projections. Interrelationship between animals and nature will be discussed. Lab sessions include fieldwork, data acquisition and processing.

Credits 4

Lecture Hours 3

Lab/Clinical/Field Study Hours 3

Prerequisites

ENVL200 and MATH122 or MATH150.

ENVL295 : Environmental Science Research Capstone

The Environmental Science Capstone Project is designed to be the culmination of a student's academic journey, allowing them to explore environmental challenges, conduct research, and develop problem-solving skills. Students will design and execute a research project, collect and analyze original data, and communicate their findings effectively. This course prepares students to transition into the workforce or transfer to a bachelor's degree program in environmental science.

Credits 2

Lecture Hours 1

Lab/Clinical/Field Study Hours 3

Prerequisite Courses

ENVL100: Environmental Science