

Environmental Science

Degree Type

Bachelor of Science - Major

Major Requirements

The bachelor of science degree in environmental science consists of 47–50 credits of courses in biology, chemistry and mathematics. The following courses are required (38 credits):

Required Courses

Course Code	Title	Credits
BIOL-110	Principles of Biology I	4
BIOL-111	Principles of Biology II	4
BIOL-350	Ecology	4
CHEM-161	General Chemistry I	4
CHEM-162	General Chemistry II	4
ENVR-101	Introduction to Environmental Sciences	4
ENVR-301 / BIOL-301	Principles of Environmental Science	4

Choose One Course from Each of the Following

Course Code	Title	Credits
MATH-130	Survey of Calculus	3
MATH-131	Calculus I	3
Course Code	Title	Credits
MATH-140	Introduction to Statistics	3
BIOL-330	Biostatistics	3
Course Code	Title	Credits
ENVR-270	Chemistry of the Environment	4
ENVR-320	Analytical Environmental Chemistry	4

Remaining 9-12 credits

The remaining 9-12 credits must come from three additional ENVR, BIOL, or CHEM courses numbered above 300 from the following list:

Course Code	Title	Credits
BIOL-316	Ornithology: the Biology of Birds	4
BIOL-321	Herpetology	4
BIOL-322	Mammalogy	4
BIOL-330	Biostatistics	3
BIOL-335	Field Botany	3
BIOL-340	Botany	4
BIOL-360	Environmental Physiology	4
BIOL-365 / ENVR-365	Field Biology & Natural History	4
BIOL-420	Plant Taxonomy	4
BIOL-422	Biogeography	3
BIOL-440	Animal Behavior	4
ENVR-305	Natural Resource & Environmental Law	3
ENVR-312W / BIOL-312W	Wildlife Ecology and Management	4
ENVR-320	Analytical Environmental Chemistry	4
ENVR-330X	Introduction to Geographical Information Systems	3
ENVR-401 / BIOL-401	Environmental Microbiology	4
ENVR-402 / BIOL-402	Conservation Biology	4
ENVR-433 / BIOL-433	Biology & Management of Fishes	4
ENVR-435 / BIOL-435	Freshwater Ecology	4
GEOL-330	Soil and Hydrogeology	3

Three credits may be used from **ENVR-490**, **ENVR-491**, or **ENVR-499** as electives while Internship (**ENVR-480X**) cannot be used. Students wishing to double major in biology and environmental science or in chemistry and environmental science may not overlap or double count the electives selected in the environmental science plan of major to the other major.

Total Credits

47-50

Clinical Laboratory Sciences

This program allows qualified students to seek early admission to the Sentara RMH School of Medical Laboratory Science or the Augusta Health School of Clinical Laboratory Science. If granted admission, it is the responsibility of the student to complete the following prior to entering this program:

- The courses required for the Biology major with a minimum GPA of 2.0, including prerequisite courses for the Laboratory Science Program
- The general education program requirements, including FILA-450
- A minimum of 91 credit hours towards graduation, with a minimum cumulative GPA of 2.0

Upon completing this 12-month professional program with minimum grades of C in each course, the College will transfer 32 semester hours of credit to the student's record to complete requirements for earning a bachelor's degree from the College.

The Smithsonian-Mason Semester for Conservation Studies

Bridgewater College is a member institution of the Smithsonian-Mason Semester which is run by George Mason University out of the Smithsonian Conservation Biology Institute (SCBI) in Front Royal, Va. In this program, students live on the SCBI campus (a world-class conservation research facility) and learn about the theory and application of conservation biology (including the social, political and economic dimensions). Students participate in one of two 16 credit hour programs: Wildlife Ecology and Conservation or Conservation, Biodiversity and Society (for any student interested in conservation). Interested students should visit the program's website (smconservation.gmu.edu/programs/)

undergraduate) and contact the Department of Biology and Environmental Science. Both programs are appropriate for juniors and seniors. There are no specific prerequisite classes for Conservation, Biodiversity and Society. That program is open to all majors. The Wildlife Ecology and Conservation semester has Ecology (BIOL-350) as a prerequisite.

Dual Degree Programs

The department has pursued dual degree programs with other institutions. These include physical therapy with Shenandoah University, veterinary medicine with Virginia Tech and clinical laboratory sciences with Sentara RMH and Augusta Health.

Qualified students may apply for early admission to the Virginia-Maryland College of Veterinary Medicine at Virginia Tech or another accredited veterinary program. If accepted, the student may earn the bachelor's degree in biology from Bridgewater College by fulfilling the following requirements:

- Complete all courses required for the biology major with a cumulative major GPA of at least 2.0;
- Complete all courses required for the general education program, including FILA 450, with an overall GPA of at least 2.0;
- Complete any remaining credits required for graduation from Bridgewater College with a grade of "C" or better while enrolled in an accredited veterinary medicine program.