

Environmental Biology Major

Program Requirements

• **Total units required:** 58-65

Students interested in environmental biology typically take Biol 2950 Introduction to Environmental Biology during fall of the first year of study, although it may be taken later.

Required Courses

Code	Title	Units
Biol 2950	Introduction to Environmental Biology	3
Biol 2960	Principles of Biology I (lecture and lab)	4
Biol 2970	Principles of Biology II (lecture and lab)	4
Biol 381	Introduction to Ecology	3
Chem 111A or Chem 105	General Chemistry I (lecture and lab) Principles of General Chemistry I	3
Chem 112A or Chem 106	General Chemistry II Principles of General Chemistry II	3
Chem 151	General Chemistry Laboratory I	2
Chem 152	General Chemistry Laboratory II	2
EEPS 201 or EEPS 202 or EEPS 219 or EnSt 250	Earth and the Environment (lecture and lab) Introduction to Earth, Environmental, and Planetary Science Energy and the Environment One Health: Linking the Health of Humans, Animals, and the Environment	3-4
Math 131	Calculus I	3
Math 132	Calculus II	3
Physics 191 or Physics 193	Physics I Focused Physics I	3
Physics 191L or Physics 193L	Physics I Laboratory Focused Physics I Laboratory	1
Total Units		37-38

One of the following chemistry courses:

Code	Title	Units
Chem 261	Organic Chemistry I with Lab	4
EEPS 323	Biogeochemistry	3
EECE 210	Introduction to Environmental Engineering	3
EECE 505	Aquatic Chemistry	3
EECE 531	Environmental Organic Chemistry	3
EEPS 441	Introduction to Geochemistry	3

One of the following courses in statistics or GIS:

Code	Title	Units
CSE 131	Introduction to Computer Science	3
SDS 2200	Elementary Probability and Statistics	3
SDS 3200	Elementary to Intermediate Statistics and Data Analysis	3
EnSt 380	Applications in GIS	3

One upper-level biology lab course:

Any course that fulfills the advanced laboratory requirement of the biology major is acceptable; we recommend Biol 4193 Experimental Ecology Laboratory (4 credits, writing intensive).

One Biol 300+ courses in Areas A or B in Biology:

Code	Title	Units
Biol 3057	Physiological Control Systems	3
Biol 3151	Endocrinology	3
Biol 324	Human Genetics	3
Biol 328	Principles in Human Physiology	4
Biol 334	Cell Biology	3
Biol 3411	Principles of the Nervous System	3
Biol 3371	Eukaryotic Genomes	4
Biol 3421	Introduction to Neuroethology	3
Biol 3422	Genes, Brains, and Behavior	3
Biol 3481	Parasitology	3
Biol 349	Microbiology	4
Biol 4023	How Plants Work: Physiology, Growth, and Metabolism	3
Biol 4030	Biological Clocks	3
Biol 4071	Developmental Biology	3
Biol 4072	Regenerative and Stem Cell Biology	3
Biol 424	Immunology	4
Biol 4242	Virology	3
Biol 451	General Biochemistry	4
Biol 4580	Principles of Human Anatomy and Development	3
Biol 4716	Advanced Cancer Biology	3
Biol 4715	Basic Cancer Biology	3
Biol 4810	General Biochemistry I	3
Biol 4820	General Biochemistry II	3

One of the following Biol 300+ courses (Area C in Biology):

Code	Title	Units
Biol 3220	Woody Plants of Missouri	3
Biol 3501	Evolution	4
Biol 370	Animal Behavior	3
Biol 4181	Population Genetics	3

Biol 4182	Macroevolution	3
Biol 419	Community Ecology	3
Biol 4195	Disease Ecology	4
Biol 472	Behavioral Ecology	4

One additional Biol 300+ major-track course (may include Biol 500):

Please refer to the Biology Course Listings in this *Bulletin*.

One of the following EnSt or EEPS 300+ courses:

Code	Title	Units
EEPS 317	Soil Science	3
EEPS 323	Biogeochemistry (only if not already taken for chemistry requirement)	3
EEPS 340	Minerals, Rocks, Resources and the Environment	4
EEPS 353	Earth Forces	4
EEPS 385	Earth History	3
EEPS 409	Surface Processes	3
EEPS 428	Hydrology	3
EEPS 442	Aqueous Geochemistry	3
EEPS 486	Paleoclimatology	3
EnSt 364	Field Methods for Environmental Science	3
EnSt 365	Applied Conservation Biology	3

Additional Information

Research

Research opportunities are available during the student's first and second years through Biol 200; such opportunities are available during the third and fourth years through Biol 500. A research emphasis in the major requires at least 6 credits (two semesters) of Biol 500 research and an approved senior thesis on this research, which is presented at the undergraduate symposium. The research emphasis is acknowledged on the degree as a research milestone.

Senior Honors

Biology majors are encouraged to work for senior honors, which require a 3.30 grade point average in biology, a 3.30 GPA in nonbiological sciences (mathematics, chemistry and physics courses), and a 3.65 overall GPA at the time of graduation. Also required are 6 units of Biol 500 research and an approved thesis from this work, equivalent to the research emphasis described in the preceding paragraph. Students interested in senior honors should begin Biol 500 no later than the spring of their junior year.

The Department of Biology awards the Marian Smith Spector Prize to an undergraduate who has an excellent academic record and who submits an outstanding honors thesis; it also awards the Ralph S. Quatrano Prize to the student whose thesis shows the greatest evidence

of creativity in design, research methodology and/or broader scientific implications. The Harrison D. Stalker Prize is awarded to a graduating senior whose college career is distinguished by scholarship, service and breadth of interest.

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