Environmental Science Major

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About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers a minor in Geography and supports the Sustainability Studies minor. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has two teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and scientific research equipment.

Program: Geography and the Environment
Type: Bachelor of Science

PRIMARY MAJOR (122 credits)

Require Major Courses (70 credits)

The B.S. in Environmental Science Program provides the technical background necessary for understanding the biological, chemical, and physical aspects of the environment. It focuses on the application of biological, chemical and physical principals to understanding the natural and physical environments of the Earth. Towards this end, the program's graduates will have an understanding of and appreciation for the processes and interactions that occur both within and between the atmosphere, the biosphere, the lithosphere, and the hydrosphere. The program is founded on the principle that science – both as a body of knowledge and as a process that is grounded in intellectual inquiry and the scientific method – must be applied to assess the direct and indirect influences of human activities on the integrity of the Earth's systems.

Program Notes:

- Consider course offerings with environmental content when selecting free electives.
- MAT 1310 may fulfill the MAT 1500 requirement.
- GEV 6006 must be taken a total of 3 times prior to graduation.

Course	Title	Credits
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4
GEV 1750	Geo-Techniques	4
GEV 2001	Prof Dev in Geo and Env	1
GEV 2310	Environmental Chemistry	4
	Statistics for Environmental Science	3
GEV 4310	Environmental Issues Seminar	3
GEV 4700	Geographic Information Systems	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
MAT 1500	Calculus I	4
GEV 6005	Senior Research Seminar	1
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
	GEV Independent Study Requirement	3-6
	GEV Lab Elective	8
	GEV Science and Technology Electives	12
	GEV Policy and Management Electives	6

Core Curriculum Requirements (33 credits)

Environmental Science Majors meet the following core requirements in the major and therefore are omitted from the summary below:

- Core Math (3 cr)
- Natural Science (8 cr)

Course	Title	Credits
ACS 1000	Ancients	3
ACS 1001	Moderns	3
THL 1000	Faith, Reason, and Culture	3
PHI 1000	Knowledge, Reality, Self	3
ETH 2050	The Good Life:Eth & Cont Prob	3
	Literature and Writing Seminar (1 course)	3
	History (1 course)	3
	Social Sciences (2 courses)	6
	Fine Arts (1 course)	3
	Upper-Level Theology (1 course)	3
	Language Requirement	
	Diversity Requirement (2 courses)	

Free Elective Requirement (19 credits)

Students with an Environmental Science primary major have nineteen (19) required free elective credits.

Degree Credit Summary

- **Major Credits:** 70 credits
- **Core Credits:** 33 credits
- **Free Electives Credits:** 19 credits
- **Total Required Credits:** 122 Credits

Note: The above credit totals are based on the minimum number of required credits in each degree area. The minimum number of required credits in each area listed above must be met. Credits taken beyond the required minimum for one area may not be applied to another area.

SECONDARY MAJOR

Students who declare Environmental Science as a **secondary major** must complete the Required Major Courses to achieve this major. Students are able to count any eligible course taken in their primary major, the core curriculum, minors, concentrations, or free electives toward these requirements.

Category Descriptions

Statistics for Environmental Science

Credits: 3

Select 1 course from those listed.

Course	Title	Credits
BIO 3105	Biostatistics & Exp Design	4
GEV 3300	Stats. in Environmental Sci.	3
STAT 1313	Statistics for Life Sciences	3
STAT 4310	Stat Methods	3

GEV Independent Study Requirement

Credits: 3-6

- Choose GEV 6200: Independent Study (3 cr) OR
    - GEV 6210 and 6220: Senior Thesis I & II (6 cr – 3 cr of which count as a free elective)

Course	Title	Credits
GEV 6200	Independent Study	3

Course	Title	Credits
GEV 6210	Senior Thesis Research I	3
GEV 6220	Senior Thesis Research II	3

GEV Lab Elective

Credits: 8

Select 2 Classes from the list below, or any course of four or more credits with the GESC attribute. BIO or CHM lab courses above 2000 with the GESC attribute may fulfill this requirement.

Course	Title	Credits
GEV 4320	Spec. Topics in Env Lab Sci	4
GEV 4321	Microbial Processes	4
GEV 4322	Ocean Environments	4
GEV 4323	Watershed Biogeochemistry	4
GEV 4324	Wetland Science and Management	4
GEV 4325	Environmental Ecology	4
GEV 4326	Environmental Geology	4
GEV 4327	Process Geomorphology	4
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4

GEV Science and Technology Electives

Credits: 12

Select 4 classes of three or more credits with the GESC attribute (12 cr).

GEV Policy and Management Electives

Credits: 6

Select 2 Classes of three or more credits with the GEPM attribute (6 cr).