

COLLEGE OF HEALTH AND NATURAL SCIENCE

Environmental Science and Policy

Professors: Catherine O. Koning, Frederick S. Rogers, Rhine Singleton, Jacques Veilleux, Robert Goodby

Associate Professor: Verna DeLauer

Affiliated Faculty: James Donelan (Philosophy), John Harris (Sustainability)

A Bachelor of Arts degree or a Bachelor of Science degree is offered in Environmental Science and Policy to traditional students.

A minor is offered in Environmental Studies.

The mission of the Environmental Science and Policy program is to develop the values, knowledge and skills needed to solve environmental problems. We emphasize an experiential, interdisciplinary approach to teaching and learning.

Class projects, independent and group research, and/or community engagement are a part of all of our courses. We expect our graduates to understand relevant content areas and demonstrate proficiency in critical thinking, problem solving, inquiry and analysis, information literacy, quantitative skills, communication, technological literacy, teamwork, and civic engagement, as well as specific career and professional skills needed in the environmental field. The (B.S.) serves as preparation for careers in more heavily science-oriented fields.

The B.A. emphasizes the human dimensions of environmental issues, including the ethical, psychological, social, political, and economic factors involved in creating sustainable solutions. Successful completion of either of the Environmental Science and Policy majors provides students with a solid foundation for specialized graduate study, and the depth and breadth needed to find employment in the diverse fields addressing environmental problems.

The Environmental Science and Policy B.S. program is teacher certifiable in Secondary School Biology. Students who intend to teach Biology in high school should refer to the School of Education for information on the Secondary Teacher Certification program.

B.S. and B.A. in Environmental Science and Policy Core Requirements Core Requirements

In addition to all degree requirements, the following courses must be completed successfully:

BI218 Ecology (laboratory)
 CIT222 Introduction to Geographic Information Systems: ArcView
 ES103 Introduction to Ecosystem and Wildlife Conservation
 ES104 Introduction to Natural Resource Conservation
 ES108 Nature and Culture
 ES210 Evolution of Environmental Thought
 ES307 Natural Resource Law and Policy
 ES480 Junior Seminar in Environmental Science
 ES490 Environmental Issues: Senior Capstone Project
 Math MT151 or higher

B.A. in Environmental Science and Policy: Major Electives Requirements

In addition to the Environmental Science and Policy Core Requirements, choose at least 3 from the Human Society Electives list, and at least 1 from the Natural Science Electives list. (Minimum of 12 credits). Note: No course can count for two requirements in the major.

B.S. in Environmental Science and Policy Major Requirements and Major Electives

In addition to the Environmental Science and Policy Core Requirements, choose 2 from the Human Society Electives list, 3 from the Natural Sciences Electives list, and take all the Major Requirements required courses listed below. Note: No course can count for two requirements in the major.

B.S. Environmental Science and Policy Major Requirements

Choose any 3 of the following: CH101, CH103, GL101, GL102, GL205, PH101, PH102

(In addition to earlier math course):

MT221 Calculus I or
 MT222 Calculus II or
 MT260 Statistics

Choose one of the following:

BI430 Forest Ecology (laboratory) or
 ES320 Wetland Ecology and Protection (laboratory) or
 ES367 Water Resources (laboratory)

Human Society Electives

AN220 Global Problems
 CIT230 Intermediate Geographic Information Systems: Arc/Info
 ES210 Evolution of Environmental Thought
 ES236 Environmental Education and Citizen Engagement
 ES240 Creating Sustainable Communities
 ES245 Alternate Energy
 ES301 Place, Community, and Regional Studies
 ES305 Health, Human Rights, and Environmental Justice
 ES307 Natural Resources Law and Policy
 HS240 American Environmental History
 HS329 The National Parks
 PA306 Philosophy of Science and Nature
 PUBH310 Foundations of Environmental Health
 SR346 Park and Natural Resource Management

Natural Science Electives

BI101 Biology (laboratory)
 BI214 Coastal Ecology
 BI217 Tropical Forest Ecology
 BI218 Ecology (laboratory)
 BI231 Animal Behavior
 BI241 Evolutionary Biology
 BI250 Introduction to Plant Biology (laboratory)
 BI312 Vertebrate Biology (laboratory)
 BI375 Mammalogy (laboratory)
 BI430 Forest Ecology (laboratory)
 CH221 Environmental Chemistry
 CIT230 Intermediate Geographic Information Systems: Arc/Info
 ES245 Alternative Energy
 ES320 Wetland Ecology and Protection (laboratory)
 ES342 Wildlife Conservation
 ES367 Water Resources (laboratory)
 ES460-2 Internship in Environmental Science
 GL101 General Geology I (laboratory)
 GL102 General Geology II (laboratory)
 GL115 Global Change: The Oceans
 GL120 Global Change: The Atmosphere (laboratory)
 GL205 Environmental Geology (laboratory)
 HCA315 Epidemiology
 PH101 General Physics I (laboratory)
 PH102 General Physics II (laboratory)
 PUBH310 Foundations of Environmental Health

Recommended Curriculum Guide for B.S. in Environmental Science and Policy

First Year			
<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>

ES103	Introduction to Ecosystems and Wildlife Conservation	4	ES104	Introduction to Natural Resource Conservation	4
ES108	Nature and Culture	3	ES210	Evolution of Environmental Thought	3
GLE101	First-Year Inquiry Seminar	3	_____	GLE Elective	3
GLE110	First-Year Composition	3	MT___	Second Math - MT151 or higher	3-4
_____	GLE Elective	3	_____	GLE Elective	3
	Total	16		Total	16

Second Year

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
BI218	Ecology (laboratory)	4	ES___	Human Society Electives I	3
_____	Choose 1 from this list: CH101, CH102, GL101, GL102, GL205, PH101, PH102		_____	Choose 3 from this list: CH101, CH102, GL101, GL102, GL205, PH101, PH102	
_____	GLE Elective	3	CIT222	Introduction to Geographic Information Systems: ArcView	3
_____	GLE Elective	3	MT151	MT151 or higher -- Mathematics Requirement II	3-4
_____	Elective	3	GLE230	Second-Year Composition	3
	Total	17		Total	13

Third Year

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
_____	Choose 3 from this list: CH101, CH102, GL101, GL102, GL205, PH101, PH102	4	ES480	Junior seminar in Environmental Issues	3
BI430 or ES320 or ES367	Forest Ecology (laboratory) or Wetland Ecology (laboratory) or Water Resources (laboratory)	4	ES___	Human Society Electives II	3

_____	GLE Elective	3	_____	Natural Science Elective I	4
_____	Elective	3	_____	GLE Elective	3
_____	Elective	3	ES307	Natural Resource Law and Policy	3
	Total	17		Total	16

Fourth Year

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
ES490	Environmental Issues: Senior Capstone Project	4	_____	Natural Science Elective III, 300 level or higher	4
_____	Natural Science Elective II	4	_____	Elective	3
_____	Elective	3	_____	Elective	3
_____	Elective	3	_____	Elective	3
	Total	14		Total	13
				Total credits	122

Recommended Curriculum Guide for B.A. in Environmental Science and Policy

First Year					
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
ES103	Introduction to Ecosystems and Wildlife Conservation	4	ES104	Introduction to Natural Resource Conservation	4
ES108	Nature and Culture	3	ES210	Evolution of Environmental Thought	3
GLE101	First-Year Inquiry Seminar	3	_____	GLE Elective	3
GLE110	First-Year Composition	3	MT____	MT151 or higher -- Mathematics Requirement	3-4
_____	GLE Elective	3	_____	GLE Elective	3
	Total	16		Total	16
Second Year					
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
BI218	Ecology (laboratory)	4	ES____	Human Society Electives I	3

_____	GLE Elective	3	GLE230	Second-Year Composition	3
_____	GLE Elective	3	CIT222	Introduction to Geographic Information Systems: ArcView	3
_____	Elective	3	MT151	MT151 or higher -- Mathematics Requirement II	3-4
_____	Elective	3	_____	Elective	3
	Total	16		Total	15-16

Third Year

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
_____	GLE Elective	3	ES307	Natural Resources Law and Policy	3
_____	Elective	3	ES480	Junior seminar in Environmental Issues	3
_____	Elective	3	ES__	Human Society Electives II	3
_____	Elective	3	_____	Natural Science Elective I	4
_____	Elective	3	_____	GLE Elective	3
	Total	15		Total	16

Fourth Year

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
ES490	Environmental Issues: Senior Capstone Project	4	_____	Elective	3
_____	Elective	3	_____	Elective	3
_____	Elective	3	_____	Elective	3
_____	Elective	3	_____	Elective	3
_____	Elective	3		Total	12
	Total	13		Total Credits	121-122

*One or more additional electives may be needed to fulfill general education requirements. See [General and Liberal Education \(GLE\)](#).

Minor in Environmental Studies

The minor in Environmental Studies is intended to provide students not majoring in Environmental Science with an interdisciplinary concentration that emphasizes the many interactions between humans and the local and global environments. It is designed to build understanding of these relationships by examining areas of anthropology, biology, conservation, policy, law and sociology as they relate to the natural world.

The minor requires completion of six courses:

ES103 Introduction to Ecosystem and Wildlife Conservation
 ES104 Introduction to Natural Resource Conservation
 Two courses from the Human Society Electives listed above.
 Two courses from the Natural Science Electives listed above.

Program Courses

Course Code	Course Name
AN220	Global Problems
BI101	Biology I
BI214	COASTAL ECOLOGY
BI217	Tropical Forest Ecology
BI218	Ecology Laboratory
BI231	Animal Behavior Lab
BI241	Evolutionary Biology Lab
BI250	Plant Biology Laboratory
BI312	Vertebrate Zoology Lab
BI375	Mammalogy Laboratory
BI430	Forest Ecology Laboratory
CH101	General Chemistry I Lab
CH102	General Chemistry II Lab
CH221	Environmental Chem Lab
CIT222	Intro to Geog Info System
CIT230	Interm Geog Info Systems
ES103	Intro EcoSys/Wildlife Lab
ES104	Intro Natural Resrce Lab
ES108	NATURE AND CULTURE
ES210	Evolution of Environ Thgt
ES236	ENVIRON EDU & CITZ ENGAGE
ES240	Creating Sustainable Comm
ES245	ALTERNATE ENERGY
ES301	PLACE. COMM, & REG STUDIE
ES305	Hlth, Hmn Rghts & Env Jst
ES307	Natural Resources Law Pol
ES320	Wetland Ecology & Protect
ES342	Wildlife Conserv & Mgmnt
ES367	Water Resources Managemnt
ES460	Internship
ES461	Internship
ES462	Internship
ES480	Junior Seminar

Course Code	Course Name
ES490	ENV ISSUES: SR CAPSTONE
ESHSELEC	ES Human Society Elective
ESNSELE2	ES Natural Science Elec 2
ESNSELE3	ES Natural Science Elec 3
ESNSELEC	ES Natural Science Elect
GL101	Geology I
GL102	Geology II
GL115	GLOBAL CHNG: OCEANS-LAB
GL120	GLOBAL CHNG: WEATHER-LAB
GL205	Environmental Geology Lab
HCA315	Fundamentals/Epidemiology
HS240	AMERICAN ENVIRON HISTORY
HS329	The National Parks
MT151	College Algebra
MT211	Discrete Mathematics
MT221	Calculus I
MT222	Calculus II
MT260	Statistics I
MT299	Independent Study
MT301	Intro to Math Proofs
MT311	Linear Algebra
MT315	College Geometry
MT321	Calculus III
MT330	Intro to Differ Equations
MT373	Probab & Math Stats
MT375	Intro Operations Research
MT380	Mathematics Seminar
MT381	Mathematics Seminar
MT399	Independent Study
MT481	Senior Project
MT499	Independent Study in Math
PA306	Philosophy Science/Nature
PH101	General Physics I Lab
PH102	General Physics II Lab
PUBH310	Found Envi Health Sci
SR346	Park & Natural Res Mgmt