

**BACHELOR of SCIENCE in BIOLOGY**  
Environmental Biology Option

Revised 2/07 MDW

*Concepts in Biology I* (50-114) and *Concepts in Biology II* (50-115) should be taken during the freshman year; *Microbiology* (50-242) and *Cell Biology* (50-271) should be taken during the sophomore year.

<p><b>Biology Core Requirement</b> (23 cr hrs) <input type="checkbox"/></p> <p>50-114 Concepts in Biology I 4 <input type="checkbox"/></p> <p>50-115 Concepts in Biology II 4 <input type="checkbox"/></p> <p>50-242 Microbiology 4 <input type="checkbox"/></p> <p>50-271 Cell Biology 4 <input type="checkbox"/></p> <p>50-332 Genetics 3 <input type="checkbox"/></p> <p>50-351 Ecology 3 <input type="checkbox"/></p> <p>50-481 Senior Biology Seminar 1 <input type="checkbox"/></p>	<p><b>Geology Requirement</b> (7 cr hrs) <input type="checkbox"/></p> <p>51-100 Environmental Geology 3 <input type="checkbox"/></p> <p>51-120 Physical Geology 3 <input type="checkbox"/></p> <p>51-121 Physical Geology Lab 1 <input type="checkbox"/></p>
<p><b>Mathematics Requirement</b> (6 cr hrs) <input type="checkbox"/></p> <p>53-141 Introduction to Statistics 3 <input type="checkbox"/></p> <p>Choose one of the following</p> <p>53-240 Statistical Methods 3 <input type="checkbox"/></p> <p>53-342 Design and Analysis of Experiments 3 <input type="checkbox"/></p> <p>53-343 Applied Regression Analysis 3 <input type="checkbox"/></p> <p>53-446 Biostatistics 3 <input type="checkbox"/></p>	<p><b>Physics Requirement</b> (4 cr hrs) <input type="checkbox"/></p> <p>54-111 Introductory Physics I 4 <input type="checkbox"/></p> <p><b>Chemistry Requirement</b> (12 cr hrs) <input type="checkbox"/></p> <p>52-115 Chem for the Sciences I 4 <input type="checkbox"/></p> <p>52-116 Chem for the Sciences II 4 <input type="checkbox"/></p> <p>Choose one of the following</p> <p>52-230 Fundamentals of Organic Chemistry <b>OR</b> 4 <input type="checkbox"/></p> <p>52-321 Analytical Chemistry I 3 <input type="checkbox"/></p>

## Science & Environmental Studies Electives

Select 21 credits, 12 credits must be in Biology or Marine Science.

### Chemistry Elective Courses

52-230	Fundamentals of Organic Chemistry*	4	<input type="checkbox"/>
52-321	Analytical Chemistry I*	3	<input type="checkbox"/>

\*May not count as both a Requirement and Science Elective.

### Geology & Earth Science Elective Courses

51-255	Meteorology	3	<input type="checkbox"/>
51-259	Oceanography	3	<input type="checkbox"/>
51-260	Earth Materials	4	<input type="checkbox"/>
51-320	Remote Sensing of the Earth	3	<input type="checkbox"/>
51-370	Surface Hydrology	3	<input type="checkbox"/>
51-460	Aqueous Geochemistrv	4	<input type="checkbox"/>

### Biology Elective Courses

50-200	Dendrology	3	<input type="checkbox"/>
50-211	Invertebrate Zoology	3	<input type="checkbox"/>
50-212	Vertebrate Zoology	3	<input type="checkbox"/>
50-252	Field Zoology	3	<input type="checkbox"/>
50-253	Freshwater Biology	3	<input type="checkbox"/>
50-263	Field Botany	3	<input type="checkbox"/>
50-350	Plant Pathology	3	<input type="checkbox"/>
50-390	UG Research in Bio I	3	<input type="checkbox"/>
50-391	UG Research in Bio II	3	<input type="checkbox"/>
50-450	Mycology	3	<input type="checkbox"/>
50-451	Conservation Biology	3	<input type="checkbox"/>
50-452	Limnology	3	<input type="checkbox"/>
50-455	Environ Microbiology	3	<input type="checkbox"/>
50-457	Entomology	3	<input type="checkbox"/>
50-459	Ornithology	3	<input type="checkbox"/>
50-460	Population Biology	3	<input type="checkbox"/>
50-480	Comparative Animal	3	<input type="checkbox"/>
50-490	Internship in Biology	3	<input type="checkbox"/>
50-493	Honors Indep Study I	3	<input type="checkbox"/>
50-494	Honors Indep Study II	3	<input type="checkbox"/>

### Geography Science Courses

41-258	Environmental conservation	3	<input type="checkbox"/>
41-260	Geographic Information Systems I	3	<input type="checkbox"/>
41-301	Water resources management	3	<input type="checkbox"/>
41-302	Land resources management	3	<input type="checkbox"/>
41-303	Soil Resources Management	4	<input type="checkbox"/>
41-304	Environmental Valuation	3	<input type="checkbox"/>
41-305	Environmental Risks and Hazards	3	<input type="checkbox"/>

**note: two of these Geography courses can be used to partially satisfy group B requirements**

### Physics Elective Courses

54-112	Introductory Physics II	4	<input type="checkbox"/>
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### Marine Science Courses

55-221	Marine Invertebrates	3	<input type="checkbox"/>
55-241	Marine Biology	3	<input type="checkbox"/>
55-250	Wetland Ecology	3	<input type="checkbox"/>
55-260	Marine Ecology	3	<input type="checkbox"/>
55-298	Physiology Marine Inverteb	3	<input type="checkbox"/>
55-300	Behavior Marine Organisms	3	<input type="checkbox"/>
55-320	Marine Microbiology	3	<input type="checkbox"/>
55-330	Tropical Invertebrates	3	<input type="checkbox"/>
55-342	Marine Botany	3	<input type="checkbox"/>
55-343	Marine Ichthyology	3	<input type="checkbox"/>
55-394	Comp Phys Marine Organis	3	<input type="checkbox"/>
55-431	Ecology of Marine Plankton	3	<input type="checkbox"/>
55-432	Marine Evolutionary Ecology	3	<input type="checkbox"/>
55-441	Biology of Molluscs	3	<input type="checkbox"/>
55-464	Biological Oceanography	3	<input type="checkbox"/>
55-491	Coral Reef Ecology	3	<input type="checkbox"/>
55-492	Marine Mammals	3	<input type="checkbox"/>
55-493	Behavioral Ecology	3	<input type="checkbox"/>

### Restrictions on Non-classroom Courses

1. A maximum of 3 cr. hr. of 50-490 may be applied as biology elective credit toward the degree.
2. A maximum of 6 cr. hr. from among 50-390, 50-391, 50-490, 50-493 and 50-494 may be applied as biology elective credit toward the degree.
3. All internships, UG research, and Honors Independent Study should have an environmental focus.

## General Education Requirements

Two cultural diversity courses (6 cr hr) are required. Designate these with a + symbol.

One Course may be used to fulfill either the Communication OR Values, Ethics, and Responsible Decision-Making requirements and also be used to complete a Group A or a Group B requirement.

<b>Communication (9 cr hrs)</b> <input type="checkbox"/>				20-201 English Composition II can be substituted for Writing in Biology (substitution requires written justification, advisor endorsement, and BAHS chairperson approval).  Suggested communication electives include: a foreign language course; 25-103 Public Speaking.
20-101	English Composition I	3	<input type="checkbox"/>	
50-290	Writing in Biology	3	<input type="checkbox"/>	
_____	_____	3	<input type="checkbox"/>	

<b>Quantitative-Analytical Reasoning</b> (3 cr hrs) Fulfilled by mathematics requirement for major.	<b>Values, Ethics, ...</b> (3 cr hrs) <input type="checkbox"/>
<b>GROUP C. Natural Science and Mathematics</b> (12 cr hrs) Fulfilled by biology, chemistry, physics, mathematics, and geology requirements for the major.	Choose one of the following:
	41-105 Environmental Issues and Choices <b>OR</b> 3 <input type="checkbox"/>
	50-250 Biodiversity and Conservation Biology 3 <input type="checkbox"/>

<b>GROUP A. Humanities &amp; Arts</b> (12 cr hrs; 3 departments) <input type="checkbox"/>	<b>GROUP B. Social Sciences</b> (12 cr hrs; 3 departments) <input type="checkbox"/>
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>

<b>Fitness and Recreational Skills</b> (2 cr hrs) <input type="checkbox"/>	<input type="checkbox"/>
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>

<b>Free Electives.</b> List free elective courses here. Total number of cr hrs must be at least 120.			
_____ <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
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