

BACHELOR OF ARTS in BIOLOGY
Natural History Option

Revised 1/07 MDW

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

Required courses in Biology, Marine Science, Mathematics, and Geology partially fulfill the Natural Science and Mathematics general education requirement. *Basic Statistics* (48-160) may be substituted for *Introduction to Statistics* (53-141). Required foreign language courses count towards fulfilling the Communication and/or Humanities general education requirements (see p. 3 for details).

<p>Biology Core Requirement (22 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>50-233 Human Genetics 3 <input type="checkbox"/></p> <p>50-351 Ecology 3 <input type="checkbox"/></p> <p>50-430 Evolution 3 <input type="checkbox"/></p> <p>50-481 Senior Biology Seminar 1 <input type="checkbox"/></p>	<p>Geological Science Requirement (8 hrs) <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>51-130 Historical Geology 3 <input type="checkbox"/></p> <p>51-131 Historical Geology Lab 1 <input type="checkbox"/></p> <p>Mathematics Requirement (3 hrs) <input type="checkbox"/></p> <p>53-141 Introduction to Statistics 3 <input type="checkbox"/></p>
<p>Organismal Course Requirement (6 hrs) <input type="checkbox"/></p> <p>Select two courses among biology and marine science organismal courses: 50-200, 50-211, 50-212, 50-222, 50-361, 50-450, 50-457, 50-459, 50-460, 50-461, 55-221, 55-300, 55-320, 55-330, 55-342, 55-343, 55-345, 55-431, 55-441, 55-492, and 55-493. List below.</p> <p>50-_____ 3 <input type="checkbox"/></p> <p>50-_____ 3 <input type="checkbox"/></p>	<p>Field Course Requirement (6 hrs)* <input type="checkbox"/></p> <p>Select two courses among biology and marine science field courses: 50-200, 50-252, 50-253, 50-263, 50-452, 50-457, 50-459, and all Marine Science Courses (55 department code). List below.</p> <p>_____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p>
<p>Biology and Other Science Electives <input type="checkbox"/></p> <p>(10 hrs) Select among biology, marine science, or geology electives on p. 2. List below.</p> <p>_____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p>	<p>*Some courses may be used to satisfy EITHER the Organismal OR Field course requirement. Students may apply these courses to either requirement, but a single course cannot be applied to both requirements.</p>

Biology and Other Science Electives (10 cr hrs) Select among biology, marine science, chemistry, and related sciences electives.

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"/>
50-222	Comp Biol Plants	3	<input type="checkbox"/>
50-233	Human Genetics	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"/>
50-331	Embryology	3	<input type="checkbox"/>
50-333	Molecular Biology	3	<input type="checkbox"/>
50-342	Medical Bacteriology	4	<input type="checkbox"/>
50-343	Immunology	3	<input type="checkbox"/>
50-350	Plant Pathology	3	<input type="checkbox"/>
50-361	Comp Vert Anatomy	3	<input type="checkbox"/>
50-364	Vertebrate Histology	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"/>
50-411	Radiation Biology	3	<input type="checkbox"/>
50-430	Evolution	3	<input type="checkbox"/>
50-431	Developmental Biology	3	<input type="checkbox"/>
50-432	Microb & Molec Genet	3	<input type="checkbox"/>
50-442	Virology of Mammals	3	<input type="checkbox"/>
50-444	Plant Animal Tiss Cult	1	<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"/>
50-461	Animal Behavior	3	<input type="checkbox"/>
50-474	Human Physiology	3	<input type="checkbox"/>
50-476	Neurophysiology	3	<input type="checkbox"/>
50-477	Plant Physiology	3	<input type="checkbox"/>
50-478	Microbial Physiology	3	<input type="checkbox"/>
50-480	Compar Animal Phys	3	<input type="checkbox"/>
50-484	Methods in Biotech	3	<input type="checkbox"/>
50-490	Internship Biol/AHS	3-15	<input type="checkbox"/>
50-493	Honors Indep Study I	3	<input type="checkbox"/>
50-494	Honors Indep Study II	3	<input type="checkbox"/>

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	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"/>
55-345	Marine Ornithology	3	<input type="checkbox"/>
55-394	Comp Phys Marine Organism	3	<input type="checkbox"/>
55-431	Ecology of Marine Plankton	3	<input type="checkbox"/>
55-432	Marine Evolutionary	3	<input type="checkbox"/>
55-441	Biology of Molluscs	3	<input type="checkbox"/>
55-464	Biological Oceanography	3	<input type="checkbox"/>
55-470	Research Diver Methods	3	<input type="checkbox"/>
55-490	Marine Aquaculture	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"/>

Other Science Elective Courses

51-360	Intro to Paleontology (recommended)	4	<input type="checkbox"/>
51-259	Oceanography	3	<input type="checkbox"/>
51-260	Earth Materials	4	<input type="checkbox"/>
51-265	Geomorphology	4	<input type="checkbox"/>
52-115	Chemistry for Sciences I	4	<input type="checkbox"/>
52-101	Introductory Chemistry	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.

General Education Requirements

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

Foreign Language Requirement. All BA majors in Biology must fulfill a foreign language requirement. Apply these credits to the Communication Elective or to Group A. Any of the following courses may be used to satisfy the requirement: 10-101 French 1, 10-102 French 2, 10-203 French 3, 10-204 French 4; 11-102 German 2, 11-203 German 3, 11-204 German 4; 12-101 Spanish 1, 12-102 Spanish 2, 12-203 Spanish 3, 12-204 Spanish 4; 13-102 Russian 2, 13-203 Russian 3, 13-204 Russian 4; 14-102 Italian 2; or 16-106 Chinese 2.

Communication (9 cr hrs)		<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).
20-101	English Composition I	3	<input type="checkbox"/>
50-290	Writing in Biology	3	<input type="checkbox"/>
_____	_____	3	<input type="checkbox"/>

Suggested communication electives include: required foreign language course; 25-103 Public Speaking.

Quantitative-Analytical Reasoning (3 cr hrs) Fulfilled by mathematics requirement for major.	Values, Ethics, ... (3 cr hrs) _____ 3 <input type="checkbox"/>
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One course may be used to fulfill the Communication **OR** Values, Ethics, and Responsible Decision-Making **OR** Quantitative-Analytical Reasoning requirement and also be used to complete a Group A, a Group B, or a Group C requirement. Students are recommended to choose two history courses (Group A) and one additional anthropology course and a geography course (Group B) that match their career interests.

GROUP A. Humanities (12 cr hrs; 3 departments)	<input type="checkbox"/>	GROUP B. Social Sciences (12 cr hrs; 3 departments)	<input type="checkbox"/>
_____	<input type="checkbox"/>	46-220 Human Origins	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>

GROUP C. Natural Science and Mathematics (12 cr hrs) 9 cr hrs fulfilled by biology and geology requirements for the major (from p. 1 and 2). An additional course from another department (not biology or geology) is required; if you took a chemistry course as a science elective, it can count here, also. _____ 3

Fitness and Recreational Skills (2 cr hrs) _____

Free Electives. 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"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>