

BACHELOR OF SCIENCE in BIOLOGY
Pre-Medical Sciences Option

1/11 MDW

Concepts in Biology 1 (50-114) and *Concepts in Biology 2* (50-115) should be taken during the freshman year; *Microbiology* (50-242) and *Cell Biology* (50-271) should be taken during the sophomore year. A minimum of thirty nine (39) credit hours in biology is required. In addition to the 27 credit hours of required courses listed on this page, the student must select 12 credit hours of elective courses in biology.

Chemistry and Mathematics courses should be scheduled as early as possible in the program of study. Required courses in Chemistry, Physics and Mathematics fulfill the Natural Science and Mathematics general education requirement. The student should complete the physics sequence and chemistry sequence through organic chemistry by the end of the junior year.

Biology Core Requirement (27 hrs) <input type="checkbox"/>			Chemistry Requirement (20 hrs) <input type="checkbox"/>				
50-114	Concepts in Biology 1	4	<input type="checkbox"/>	52-115	Chem. for the Sciences 1	4	<input type="checkbox"/>
50-115	Concepts in Biology 2	4	<input type="checkbox"/>	52-116	Chem. for the Sciences 2	4	<input type="checkbox"/>
50-242	Microbiology	4	<input type="checkbox"/>	52-231	Organic Chemistry 1	4	<input type="checkbox"/>
50-271	Cell Biology	4	<input type="checkbox"/>	52-232	Organic Chemistry 2	4	<input type="checkbox"/>
50-332	Genetics	3	<input type="checkbox"/>	52-341	Biochemistry	4	<input type="checkbox"/>
50-351	Ecology	3	<input type="checkbox"/>				
50-481	Senior Biology Seminar	1	<input type="checkbox"/>				
Physiology Requirement (Select 50-479 AND one lecture course, either 50-474 or 50.480. Note: Other physiology courses may be substituted with the written permission of the student's pre-professional advisor.)				Physics Requirement (8 hrs; select one pair. Note: General Physics requires Calculus 1 and Calculus 2). <input type="checkbox"/>			
50-479	Integrated Physiology Lab	1	<input type="checkbox"/>	54-111	Introductory Physics 1	4	<input type="checkbox"/>
50-474	Human Physiology	3	<input type="checkbox"/>	54-112	Introductory Physics 2	4	<input type="checkbox"/>
50-480	Comparative Animal Phys	3	<input type="checkbox"/>	54-211	General Physics 1	4	<input type="checkbox"/>
				54-212	General Physics 2	4	<input type="checkbox"/>
Biology Elective Requirement (12 hrs) Select 12 credits from the list of recommended biology electives on the following page.				Mathematics Requirement (6 hrs: select one pair.) <input type="checkbox"/>			
50-____	_____		<input type="checkbox"/>	53-123	Essential of Calculus	3	<input type="checkbox"/>
50-____	_____		<input type="checkbox"/>	53-141	Introduction to Statistics	3	<input type="checkbox"/>
50-____	_____		<input type="checkbox"/>	53-125	Calculus 1	3	<input type="checkbox"/>
50-____	_____		<input type="checkbox"/>	53-126	Calculus 2	3	<input type="checkbox"/>

Recommended Biology Elective Courses

Other courses may be substituted with written permission of the student's pre-professional advisor.

Restrictions on Non-Classroom Courses

50-212	Vertebrate Zoology	3	<input type="checkbox"/>
50-233	Human Genetics	3	<input type="checkbox"/>
50-331	Embryology	3	<input type="checkbox"/>
50-342	Medical Microbiology	3	<input type="checkbox"/>
50-333	Molecular Biology	3	<input type="checkbox"/>
50-343	Immunology	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"/>
50-431	Developmental Biology	3	<input type="checkbox"/>
50-442	Virology	3	<input type="checkbox"/>
50-470	Medical Parasitology	3	<input type="checkbox"/>
50-474	Human Physiology*	3	<input type="checkbox"/>
50-476	Neurophysiology	3	<input type="checkbox"/>
50-480	Compar Animal Phys.*	3	<input type="checkbox"/>
50-490	Internship BAHS	3-15	<input type="checkbox"/>
50-493	Honors Indep. Study 1	3	<input type="checkbox"/>
50-494	Honors Indep. Study 2	3	<input type="checkbox"/>

1. A maximum of 3 credit hrs of 50-490 may be applied as biology elective credit toward the degree.

2. A maximum of 6 credit hrs from among 50-390, 50-391, 50-490, 50-493 and 50-494 may be applied as biology elective credit toward the degree.

*May not count as physiology requirement and biology elective.

<p>Free Electives. List free elective courses here. Total number of credit hrs must be at least 120. Note: Use of 52-442 Biochemistry 2 or 52-321 Analytical Chemistry 1 will result in a minor in chemistry. Also, some professional fields may require Anatomy and Physiology 1 and 2 (50-173 and 50-174) for admission.</p>			
_____	_____	<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"/>

General Education Requirements

Two cultural diversity courses (6 credit hrs) 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.

Communication (9 hrs)

20-101	English Composition 1	3	<input type="checkbox"/>
20-201	English Composition 2	3	<input type="checkbox"/>
_____	_____	3	<input type="checkbox"/>

Students may test out of Composition 1, in which case only 6 credit hrs of communication courses are needed. However, one upper level writing-intensive English course must be substituted and can be used for the Group A requirement.

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

Quantitative-Analytical Reasoning (3 hrs)
Fulfilled by mathematics requirement for major.

Values, Ethics ... (3 hrs.) Choose one. Other courses may be substituted with the written permission of the student's pre-professional advisor.

28-290	Medical Ethics	3	<input type="checkbox"/>
50-254	Social Implic. of Biol.	3	<input type="checkbox"/>
50-230	Human Sexuality	3	<input type="checkbox"/>

GROUP C. Natural Science and Mathematics (12 cr hrs)

Fulfilled by biology, chemistry, physics, and mathematics requirements for the major.

GROUP A. Humanities (12 credit hrs; 3 departments)

_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>

GROUP B. Social Sciences (12 credit hrs; 3 departments)

_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>

Some pre-professional fields recommend psychology courses. This should be considered in scheduling Group B courses.

Fitness and Recreational Skills (2 cr hrs)

_____	_____	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>