

MILLERSVILLE UNIVERSITY

Student Name: _____ Student I.D.# _____

DEGREE: BS	MAJOR REQUIREMENTS FOR A BS DEGREE IN
MAJOR: BIOL	BIOLOGY: ENVIRONMENTAL BIOLOGY
OPTION: EBIO	Total credit hours required: 120.0 minimum

REQUIREMENTS AND POLICIES FOR THE BS BIOLOGY MAJOR

A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Biology major by the Office of Admissions upon admission to the University.
2. Admission of Millersville University students to the biology major (from other departments or undeclared status) requires that the student is in satisfactory academic standing as described in the Undergraduate Catalog. Students who were dropped from a Biology major also must satisfy the Biology Retention in the Major criteria before being readmitted to a Biology major.
3. Non-degree and continuing education students must be admitted to the Biology major by the Office of Admissions.

B. Policies for Retention in the Major

1. University requirements for retention must be met.
2. All Biology majors must earn grades of C- (C minus) or higher in all core courses (BIOL 101, 211, 221, 343, 362, 364) required for their option.
3. The requirements stated above must be satisfied before completion of 90 Millersville University credit hours.
4. Millersville University students changing majors, or Biology majors changing options within the Biology major, must satisfy the above requirements prior to completion of 45 additional Millersville University credit hours. Note: Students who desire to change their major to Biology must refer to the Biology department's Admission to the Major Policy. Those transferring into the major may substitute BIOL 100 for BIOL 101 if they earn a grade of B- (B minus) or higher in this course.
5. Transfer students with 60 credit hours or more must satisfy the above requirements prior to completion of 45 Millersville University credit hours. Transfer students with fewer than 60 credits should refer to the Biology department's Admission to the Major Policy.
6. Any students failing to meet the above requirements will be dropped from the Biology major. Students who wish to re-enter the major, must follow the requirements stipulated in part 4 above.

C. Policies for Completion of the Major

1. Completion of all University curricular requirements.
2. ENGL 312, Technical Writing, is the recommended course for the Upper Level Writing Requirement under the General Education Curriculum Requirements.

Note to the student: *This form is provided as a guide. It is your responsibility to consult regularly with your advisor to be aware of changes and curriculum details which are not incorporated on this form.*

MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS BIOLOGY**
 Option: **ENVIRONMENTAL BIOLOGY**
 Major Field Requirements: **46.0 credits**
 Other Requirements: **37.0 - 40.0 credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

Course No.	Short Title	C.H.	Grade	Course No.	Short Title	C.H.	Grade
REQUIRED BIOLOGY COURSES (24.0 credits)				REQUIRED RELATED (37.0 - 40.0 credits)			
BIOL 101	Foundations of Biology	4.0	_____	Chemistry (16.0 credits)			
BIOL 211	Concepts of Zoology	4.0	_____	CHEM 111*	Introductory Chemistry I	4.0	_____
BIOL 221	Concepts of Botany	4.0	_____	CHEM 112*	Introductory Chemistry II	4.0	_____
BIOL 343	Ecology & Evolution	4.0	_____	CHEM 235	Short Course Organic Chemistry	4.0	_____
BIOL 362	Cell & Development	4.0	_____	CHEM 375	Environmental Chemistry I & Lab	4.0	_____
BIOL 364	Genetics & Molecular Biology	4.0	_____	NOTE: CHEM 231* and CHEM 232 (total 8.0 credits) may substitute for CHEM 235.			
REQUIRED ENV BIOL COURSES (7.0-8.0 credits)				*Must earn a C- or better in these courses before completing CHEM 235 or 232.			
BIOL 344	Population Community Ecology	3.0	_____	Mathematics (4.0 - 5.0 credits)			
BIOL 446	Ecosystems	3.0	_____	MATH 151	Calculus for Management	4.0	_____
BIOL 472	Seminar (Env. Biology)	1.0-2.0	_____	--OR--			
DIRECTED ELECTIVES in Adv. Ecology (6.0 credits)				MATH 161	Calculus I	4.0	_____
Select two of the following courses:				--OR--			
BIOL 325	Plant Systematics*	3.0	_____	MATH 163	Honors Calculus	5.0	_____
BIOL 329	Plant/Insect Interactions	3.0	_____	AND			
BIOL 442	Wildlife Ecology & Management	3.0	_____	BIOL 375*	Biometry	3.0	_____
BIOL 443	Conservation Biology	3.0	_____	--OR--			
BIOL 445	Aquatic Biology	3.0	_____	MATH 235	Survey of Statistics	3.0	_____
BIOL 486	Behavioral Ecology	3.0	_____	*NOTE: Biometry is recommended.			
NOTE: BIOL 325 is recommended.				Physics (8.0 credits)			
Organismal Biology (3.0-4.0 credits)				PHYS 131	Physics I with Algebra	4.0	_____
In consultation with your advisor, choose one course from the following: BIOL 346, 396, 415, 416, 417, 418, 424, 461.				PHYS 132	Physics II with Algebra	4.0	_____
BIOL _____	_____	_____	_____	--- OR ---			
Practical Experience in Env. Biology (1.0-3.0 credits)				PHYS 231	Physics I with Calculus	5.0	_____
Choose one of the following for a minimum of 1.0 credit. Co-op must involve research approved by advisor, and result in co-op/ internship and scientific research papers.				PHYS 232	Physics II with Calculus	5.0	_____
BIOL 300	Co-op	3.0	_____	NOTE: Some graduate programs may require PHYS 231 and 232 (Physics with Calculus).			
BIOL 489	Honors Independent Study	1.0-3.0	_____	Environmental Science (6.0 - 8.0 credits)			
BIOL 498	Independent Study in Biology	1.0-3.0	_____	Students are encouraged to complete a minor in environmental science and to choose courses from the list below that count in the desired minor. For more information on environmental minors, see: http://www.millersville.edu/ces/minors.php			
BIOL 499	Honors Thesis in Biology	1.0-3.0	_____	CHEM 265	Quantitative Analysis	4.0	_____
Other BIOL Electives (1.0-5.0 credits to bring total Biology credits to 46.0)				CHEM 476	Environmental Chem II	4.0	_____
In consultation with your advisor, choose additional courses that would count towards the Biology major. Note: BIOL 375 cannot be used as an elective if used to fulfill the statistics requirement in Required Related courses.				ESCI 281	GIS App for Earth Sciences	3.0	_____
BIOL _____	_____	_____	_____	ESCI 322	Hydrology	3.0	_____
BIOL _____	_____	_____	_____	ESCI 349	Chemistry of the Atmosphere	3.0	_____
				GEOG 227	Urban Geography	3.0	_____
				GEOG 281	Map Interpretation & Analysis	3.0	_____
				GEOG 295	Geo. Information Systems	3.0	_____
				GEOG 304	Water Resources Mgmt	3.0	_____
				GEOG 306	Environment Impact Assess	3.0	_____
				GEOG 372	Urban & Reg Planning	3.0	_____
				OSEH 220	Legal Aspects Environ Safe	3.0	_____
				OSEH 321	Environ & Indus Health	3.0	_____