

# MILLERSVILLE UNIVERSITY

Student Name: \_\_\_\_\_ Student ID # \_\_\_\_\_

DEGREE: BS	<b>MAJOR REQUIREMENTS FOR A</b>
MAJOR: BIOL	<b>BS DEGREE IN BIOLOGY : ANIMAL BEHAVIOR</b>
OPTION: ANBE	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 policy for all other majors (part 3 above).
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: **ANIMAL BEHAVIOR**

Major Field Requirements: **46.0 credits**

Other Requirements: **34.0-37.0credits**

When applicable, required related courses may be credited toward the Liberal Arts Core, subject to normal substitution rules.

Course No.	Short Title	C.H.	Grade	Course No.	Short Title	C.H.	Grade
<b>REQUIRED BIOLOGY COURSES (24.0 credits)</b>				<b>REQUIRED RELATED (34.0 - 37.0 credits)</b>			
BIOL 101	Foundations of Biology	4.0	_____	<b>Chemistry (16.0 credits)</b>			
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 326	Biochemistry I	4.0	_____
BIOL 364	Genetics & Molecular Biology	4.0	_____	<b>--OR--</b>			
<b>REQUIRED ANIMAL BEHAVIOR COURSES (11.0-14.0 credits)</b>				CHEM 375	Environmental Chemistry	4.0	_____
<b>Foundations (10.0 credits)</b>				Note: Students aiming for Veterinary Schools should take CHEM 231 <u>and</u> CHEM 232 in lieu of CHEM 235, and should take CHEM 326 rather than CHEM 375.			
BIOL 385	Principles of Animal Behavior	3.0	_____	<b>Mathematics (4.0-5.0 credits)</b>			
BIOL 484	Mechanisms of An. Behavior	3.0	_____	MATH 151	Calculus for Management	4.0	_____
<b>--OR--</b>				<b>--OR--</b>			
BIOL 435	Animal Physiology	3.0	_____	MATH 161	Calculus I	4.0	_____
BIOL 486	Behavioral Ecology	3.0	_____	<b>--OR--</b>			
<b>--OR--</b>				MATH 163	Honors Calculus	5.0	_____
BIOL 483	Applied Ethology	3.0	_____	<b>Statistics (3.0 credits)</b>			
BIOL 472	Seminar on Animal Behavior	1.0	_____	BIOL 375	Biometry	3.0	_____
<b>Practical Experience in Animal Behavior (1.0-4.0 credits)</b>				<b>--OR--</b>			
In consultation with your advisor, select a Co-op, internship, or research project in animal behavior.				MATH 235	Survey of Statistics	3.0	_____
BIOL 300	400 or 500 Co-op	3.0	_____	<b>--OR--</b>			
BIOL 489	Honors Independent Study	1.0-4.0	_____	PSYC 211	Statistics & Exper Design I	3.0	_____
BIOL 498	Independent Study in Biology	1.0-3.0	_____	<b>Physics (8.0 - 10.0 credits)</b>			
BIOL 499	Honors Thesis in Biology	1.0-4.0	_____	PHYS 131	Physics I with Algebra	4.0	_____
<b>REQUIRED ELECTIVES (9.0-11.0 credits)</b>				PHYS 132	Physics II with Algebra	4.0	_____
In consultation with your advisor, select additional courses from Foundations, above, or from the list below that will best prepare you for your area of interest in animal behavior.				<b>---- OR ----</b>			
<b>Organism-Based Biology</b>				PHYS 231	Physics I with Calculus	5.0	_____
BIOL 295	Marine Invertebrates	3.0	_____	PHYS 232	Physics II with Calculus	5.0	_____
BIOL 346	Ornithology	3.0	_____	<b>Psychology (3.0 credits)</b>			
BIOL 396	Ichthyology	3.0	_____	PSCY 100	General Psychology	3.0	_____
BIOL 415	Mammology	3.0	_____	Note: Students may consider completing a minor in Psychology. Particularly appropriate courses for biology majors include the following: PSYC 216, PSYC 315 and PSYC 316.			
BIOL 416	Entomology	3.0	_____	Additional Note: Students interested in Veterinary School should also take BIOL 461 General Microbiology.			
BIOL 418	Aquatic Entomology	3.0	_____				
<b>Mechanisms of Behavior</b>							
BIOL 318	Compar Vertebrate Anatomy	4.0	_____				
BIOL 352	Nutritional Science	3.0	_____				
BIOL 437	Endocrinology	3.0	_____				
BIOL 438	Neurobiology	3.0	_____				
<b>Other Relevant Electives</b>							
BIOL 329	Plant-Insect Interactions	3.0	_____				
BIOL 443	Conservation Biology	3.0	_____				