

MILLERSVILLE UNIVERSITY

Student Name: _____ Student I.D.# _____

DEGREE:	BS	MAJOR REQUIREMENTS FOR A BS DEGREE IN
MAJOR:	BIOL	BIOLOGY: MARINE BIOLOGY
OPTION:	MAR	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 student 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: **MARINE BIOLOGY**

Major Field Requirements: **47.0 credits**

Other Requirements: **31.0 - 35.0 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 (31.0 - 35.0 credits)			
BIOL 101	Foundations of Biology	4.0	___	Chemistry & Earth Sciences (19.0-20.0 credits)			
BIOL 211	Concepts of Zoology	4.0	___	ESCI 261	Intro to Oceanography	4.0	___
BIOL 221	Concepts of Botany	4.0	___	CHEM 111*	Introductory Chemistry I	4.0	___
BIOL 343	Ecology and Evolution	4.0	___	CHEM 112*	Introductory Chemistry II	4.0	___
BIOL 362	Cell & Development	4.0	___	CHEM 235	Short Course Organic Chemistry	4.0	___
BIOL 364	Genetics & Molecular Biology	4.0	___	--AND--			
REQUIRED MARINE BIOLOGY COURSES (17.0-18.0 credits)				CHEM 375	Environmental Chemistry	4.0	___
BIOL 291	Marine Biology	4.0	___	--or--			
--OR--				ESCI 363	Chemical Oceanography	3.0	___
BIOL 290	Coastal Marine Biology *	3.0	___	Note: CHEM 231* <u>and</u> CHEM 232 (total of 8.0 credits) may substitute for CHEM 235.			
--and--				*Must earn a C- or better in these courses before completing CHEM 235 or 231.			
BIOL 292	Problem Solving Marine Biol *	1.0	___	Mathematics (4.0 - 5.0 credits)			
BIOL 295	Marine Invertebrates	3.0	___	MATH 151	Calculus for Mgmt, Life & SS	4.0	___
BIOL 375	Biometry	3.0	___	--OR--			
BIOL 396	Ichthyology	3.0	___	MATH 161	Calculus I	4.0	___
BIOL 472	Marine Biology Seminar	1.0-2.0	___	--OR--			
BIOL 495/	Biological Oceanography	3.0	___	MATH 163	Honors Calculus	5.0	___
ESCI 465				Physics (8.0-10.0 credits)			
BIOLOGY ELECTIVES (5.0-6.0 credits)				PHYS 131	Physics I with Algebra	4.0	___
In consultation with your advisor, choose additional courses at the 300-level or higher and approved for BIOL majors to bring total BIOL credits to 47.				PHYS 132	Physics II with Algebra	4.0	___
BIOL ___	_____	___	___	--OR--			
BIOL ___	_____	___	___	PHYS 231	Physics I with Calculus	5.0	___
BIOL ___	_____	___	___	PHYS 232	Physics II with Calculus	5.0	___
FIELD COURSES				Note: Students are encouraged to consider completing a minor in Oceanography and, in consultation with their advisor, to take further courses in mathematics.			
At least 2 courses (6 credits) of a student's biology courses (required marine biology courses or biology electives) must be taken at a marine field station.				General Electives (as necessary)			
				_____	_____	___	___
				_____	_____	___	___
				_____	_____	___	___
				_____	_____	___	___