

Bachelor of Science - Biological Sciences Requirements (BIOL BS)

min. 70 credits
(Fall 2008 to Present)

PLEASE NOTE - as passed in Fall 2006 by the Department of Biological Sciences and the UMBC University Council, all students who enter an institution of higher education in FALL 2008 OR LATER and who pursue the B.S. in BIOLOGICAL SCIENCES at UMBC WILL BE PERMITTED ONLY TWO ATTEMPTS AT EARNING A GRADE OF "C" OR BETTER IN COURSES APPLIED TO THE MAJOR REQUIREMENTS. This change in program requirements is reflected in the 2008-2010 Undergraduate Catalog.

Biology (35-39 credits; 29-33 upper-level)	Pre-Requisites	Credits	Semesters Offered	Semester Taken	Grade
BIOL 100 - Concepts of Biology*	None	4	FSZ		
BIOL 100L - Concepts of Bio Lab*	100 (pre- or co-req)	2	FSZ		
BIOL 301 - Ecology & Evolution*	100	3	FSZ		
BIOL 302 - Molecular & General Genetics*	100, CH 101, CH 102 (pre-or co-req), sophomore standing	4	FSZ		
BIOL 302L - Genetics Lab*	100L, 302	2	FS		
BIOL 303 - Cell Biology*	302, CH 102 (CH 351 recommended)	3	FS [†]		
BIOL 303L - Cell Biology Lab*	100L; 303	2	Fall Only		
BIOL 304 - Plant Biology*	303	3	Fall Only		
BIOL 305 - Comparative Animal Physiology*	303; PHYS 112 (pre- or co-req)	3	S [†]		
BIOL 304L - Plant Biology Lab* --OR-- BIOL 305L - Comp Animal Phys Lab*	303L; 304 (pre- or co-req) 303L; 305/PHYS 112 (pre-/co-reqs)	2	Spring Only		
BIOL 442 - Developmental Biology*	302, 303	3	Fall Only		
BIOL 4XX (required elective) ^{1*}	See catalog	4			
BIOL 4XX (optional elective: students must take either CHEM 352/352L or a second 400-level elective) ^{2*}		4			
Chemistry (15-20 credits; 5-10 upper-level)					
CHEM 101 - Principles of Chemistry I*	MATH 150 or higher MATH placement	4	FSZ		
CHEM 102 - Principles of Chemistry II*	CHEM 101	4	FSZ		
CHEM 102L - Introductory Chemistry Lab I*	CHEM 101; 102 (pre-/co-req)	2	FSZ		
CHEM 351 - Organic Chemistry I*	CHEM 102	3	FS		
CHEM 351L - Organic Chemistry Lab I*	CHEM 102L; 351 (pre-/co-req)	2	FS		
CHEM 352 - Organic Chemistry II ^{2*}	CHEM 351	3	SZ		
CHEM 352L - Organic Chemistry Lab II*	CHEM 351L; 352 ((pre-/co-req)	2	SZ		
Physics and Math (16 credits; 4 upper-level)					
PHYS 111 - Basic Physics I*	None	4	FSZ		
PHYS 112 - Basic Physics II	PHYS 111	4	FSZ		
MATH 151 - Calculus & Analytical Geom I	MATH 150	4	FSZ		
STAT 350 - Stats w/Applications in Bio Sci	MATH 150 or 151 or 155	4	FSZ		

¹ Elective credit must be taken at UMBC. BIOL 422L, 495, 497H, 499, 499H may not be used for the required elective credit.

² Students may substitute an additional BIOL 4xx for CHEM 352/352L. BIOL 495, 497H, 499, 499H may not be used for the optional elective credit.

[†] BIOL303 and BIOL305 have occasionally been offered in summer session.

Note: With recent changes in the major requirements, the number of upper-level credits required has changed. Students should be aware that they must complete 45 upper-level credits to graduate.

- All courses marked with a * must be completed with a grade of C or better. All courses that students take as pre-requisites for other courses must be passed with a C or better. An overall 2.0 grade point average or better must be obtained in all required science/math courses for graduation with a departmental degree.
- A majority of the required BIOL credits must be completed in residence at UMBC.
- F = Fall, S = Spring, Z = Summer. Courses marked with a "Z" have been taught in the Summer in recent years; *there is no guarantee that they will be offered every Summer.*

