

Bachelor of Science - Biological Sciences Requirements (BIOL BS)

min. 70 credits
(Updated September 2006)

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 recommended	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, 428, 495, 497H, 499, 499H may not be used for the required elective credit.

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

[†] BIOL 305 has 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.*