

Name:

Campus ID:

Bachelor of Science in Biological Sciences (BIOL BS) - Minimum Requirements

69 – 77 credits (33-43 upper level credits)

See Important Notes on the back of this form!

Grade	BIOL CORE COURSES	Pre-requisites	Cr.
	BIOL 141 - Foundations of Biology: Cells, Energy & Organisms	MATH 150 or higher or placement in MATH151	4
	BIOL 142 - Foundations of Biology: Ecology and Evolution	MATH 150 or higher or placement in MATH151, BIOL 141	4
	BIOL 302 - Molecular and General Genetics (see note 3)	MATH 150 or higher or placement in MATH151, BIOL 141, BIOL 142, CHEM 101/123, CHEM 102/124 (co-requisite)	4
	BIOL 303 - Cell Biology	MATH 150 or higher or placement in MATH151, BIOL 141, BIOL 142, BIOL 302, CHEM 102	4
	BIOL 300L - Experimental Biology Laboratory	MATH 150 or higher or placement in MATH151, BIOL 141, BIOL 142, BIOL 302, CHEM 102, CHEM 102L	2
	BIOL ELECTIVES (see notes 4 & 5)		
	_____ Column A elective (listed on back)	See catalog	3-4
	_____ Column B elective (listed on back; see note 6)	See catalog	3-4
	_____ Column A or B elective (listed on back; see note 6)	See catalog	3-4
	_____ Column B BIOL 4XX elective (see note 7)	See catalog	4
	_____ Upper Level Laboratory elective (listed on back)	See catalog	2-4
	_____ Upper Level Laboratory elective (listed on back)	See catalog	2-4
	OTHER COURSES		
	CHEM 101 - Principles of Chemistry I	MATH 106 or higher	4
	CHEM 102 - Principles of Chemistry II	CHEM 101	4
	CHEM 102L - Introductory Chemistry Lab I	CHEM 101, CHEM 102 (pre/co-requisite)	2
	CHEM 351 - Organic Chemistry I	CHEM 102	3
	CHEM 351L - Organic Chemistry Lab I	CHEM 102, CHEM 102L, CHEM 351 (pre/co-requisite)	2
	PHYS 111 - Basic Physics I (see note 7)	None	4
	PHYS 112 - Basic Physics II (see note 7)	PHYS 111	4
	MATH 151 - Calculus & Analytical Geometry I	MATH 150	4
	STAT 350 - Stats w/Applications in Biological Sciences OR STAT 355 - Intro Prob and Stats for Scientists/Engineers	MATH 150 or higher MATH 152	4
	_____ - MATH/STAT/CMSC elective (listed on back)	See catalog	3-4

Column A electives (see notes 4 & 5)	Column B electives (see notes 4 & 5)	Upper Level Laboratories (see note 4)	MATH/STAT/CMSC
BIOL 304 BIOL 305 BIOL 306 BIOL 307 BIOL 313 BIOL 375 (formerly 275) BIOL 430 BIOL 442	Any BIOL 4XX course <u>except</u> BIOL 430, 442, 497H, 499, 499H, 499L or any Lab course	Any BIOL 3XXL or 4XXL Lab course <u>except</u> BIOL 300L	MATH 152 MATH 221
	CHEM 352 and CHEM 352L (must take both - see note 6) CHEM 437 CHEM 438	Two semesters of BIOL 499 (total of 4 credits or more) and one semester of either BIOL 499L or BIOL 497H	STAT 414 STAT 420 STAT 454 (see note 9)
	STAT 414 STAT 419 STAT 420 STAT 454		CMSC 104 CMSC 201

Important Notes:

- 1) Students must earn a “C” or better in all major courses AND course prerequisites.
- 2) **Residency requirement:** At least six of the required BIOL courses and electives must be completed at UMBC.
- 3) BIOL 141, BIOL 142 and BIOL 302 are considered an academic sequence. Once you pass BIOL 302 you may not go back and repeat BIOL 141 or BIOL 142.
- 4) See the [Undergraduate Catalog](#) for additional non-BIOL courses that may be used as electives for the major. Biologically relevant 4XX level courses from other departments may be acceptable as a ‘Column B’ elective for the BIOL BS degree. Prior approval from the Biological Sciences Department Undergraduate Committee is required, using the form indicated in note 12. Such courses may not be used for the BIOL 4XX requirement.
- 5) The following courses are similar in content and only one in each grouping can be used towards major requirements: BIOL 305 and 307; BIOL 430, BTEC 430, and CHEM 437 and 438; BIOL 444 and BTEC 444; or BIOL 495 and BTEC 395. See [Catalog](#) for more information.
- 6) Students can substitute CHEM 352 and CHEM 352L (must take both) for one Column B course.
- 7) At least one BIOL 4XX lecture course must be taken at UMBC. BIOL 430, 442, 497H, 499 and Lab classes may NOT be used to satisfy this requirement.
- 8) Students may substitute PHYS 121 for PHYS 111, and PHYS 122 for PHYS 112, but should note that PHYS 121/122 may not satisfy some professional school admission requirements.
- 9) Students using a STAT class as a Column B course may not use the same course to fulfill the MATH/STAT/CMSC elective requirement.
- 10) The Biological Sciences Department evaluates completion of major requirements based on COURSES completed, not CREDITS completed.
- 11) Students who are Biochemistry and Molecular Biology (BIOC) majors who wish to also pursue a BIOL BS degree may use Core BIOL, CHEM, MATH/STAT and PHYS courses from the BIOC major towards the BIOL BS degree, but MUST take separate electives for the two degrees (i.e., no “double-dipping” for the electives).
- 12) Under exceptional circumstances, the Department may waive or alter a BIOL major requirement. Students seeking to petition for a waiver must consult with their academic adviser, then may submit a ‘Petition for Waiver/Substitution of Program Requirements’ form, found here: <https://biology.umbc.edu/undergrad/forms-links/>.