

BACHELOR OF SCIENCE IN BIOLOGY

Major Requirements Worksheet

2018-2019 Catalog

NOTE: This checklist is not intended to replace advising from the major department. Students should consult with the major advisor to determine the appropriate sequence of courses. This checklist is to inform students of major requirements and course prerequisites only; the [CSULB Course Catalog](#) takes precedence in any conflict. CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification.

Degree Progress

Pre-Biology majors must complete CHEM 111A, BIOL 211, and MATH 119A or 122 within one and a half calendar years of declaring the pre-major. Some students may need to take courses during Summer Session to meet these requirements.

Many prerequisites require a "C" or better; please check the course catalog for grade requirements.

Take ALL of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 211	Introduction to Evolution and Diversity (4)	<i>Pre/Corequisite:</i> CHEM 111A
		BIOL 212	Introduction to Cell and Molecular Biology (4)	BIOL 211 and CHEM 111A. <i>Pre/Corequisite:</i> CHEM 111B
		BIOL 213	Introduction to Ecology and Physiology (4)	BIOL 211 and 212 and CHEM 111B
		BIOL 260	Biostatistics (3)	BIOL 201 or 211 or 207, or MICR 200; MATH 111 or 113 or 119A or 122
		CHEM 111A	General Chemistry (5)	Passing score on CPT or other measures. <i>Pre/Corequisite:</i> MATH 112A or higher
		CHEM 111B	General Chemistry (5)	CHEM 111A, and MATH 112B or higher
		CHEM 220A	Organic Chemistry I (3)	CHEM 111B. <i>Corequisite:</i> CHEM 223A
		CHEM 220B	Organic Chemistry II (3)	CHEM 220A. <i>Corequisite:</i> CHEM 223B or 320L
		CHEM 223A	Organic Chemistry Lab. I (1)	<i>Corequisite:</i> CHEM 220A
		CHEM 223B	Organic Chemistry Lab. II (1)	CHEM 220A and 223A. <i>Corequisite:</i> CHEM 220B

Take ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		MATH 119A	Survey of Calculus I (3)	Appropriate algebra/calculus placement; or MATH 112B or 113
		MATH 122	Calculus I (4)	Appropriate algebra/calculus placement; or MATH 111 and either MATH 112B or 113

Take ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		PHYS 100A	General Physics (4)	MATH 109 or 111 or 112A or 113 or 119A or 122
		PHYS 151	Mechanics and Heat (4)	<i>Pre/Corequisite:</i> MATH 122 or 123 or 224

Take ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		PHYS 100B	General Physics (4)	PHYS 100A; MATH 109 or 111 or 112A or 113 or 119A or 122
		PHYS 152	Electricity and Magnetism (4)	PHYS 151. <i>Pre/Corequisite:</i> MATH 123

UPPER DIVISION COURSES (see major faculty advisor)**Take ALL of the following courses:**

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 312	Evolutionary Biology (3)	BIOL 211 and 212 and 213 and 260
		BIOL 340	Molecular Cell Biology (3)	BIOL 211 and 212
		BIOL 350	General Ecology (3)	BIOL 211 and 212 and 213 and 260; MATH 119A or 122
		BIOL 370	General Genetics (4)	BIOL 211 and 212; BIOL 260 or CHEM 251
		BIOL 480	Seminars (1)	Department consent

Take at least ONE of the following courses/course pairs in physiology:

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 342 + BIOL 342L	Human/Mammal. Physio. (3); Lab. in Human/Mammalian Physiology (1)	BIOL 211 and 212 and 213; <i>Pre/Corequisite:</i> BIO 342
		BIOL 345 + BIOL 345L	Comp. Animal Physiology (3); Lab. in Comparative Animal Physiology (1)	BIOL 211 and 212 and 213; <i>Pre/Corequisite:</i> BIO 345
		BIOL 447	Molecular Plant Physiology (3)	BIOL 340 and 370

Take TWO of the following courses in organismal diversity: (*one must be BIOL 313, 316, 324, 427, or 439)

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 311	General Microbiology (4)	BIOL 211 and 212 and CHEM 111B
		BIOL 313*	Invertebrate Zoology (4)	BIOL 211 and 212 and 213; instructor consent
		BIOL 316*	General Entomology (4)	BIOL 211 and 212 and 213
		BIOL 324*	Vertebrate Zoology (4)	BIOL 211 and 212 and 213
		BIOL 419	Ichthyology (3)	BIOL 211 and 212 and 213 and 260; at least 6 additional units of upper division biology course
		BIOL 421	Herpetology (3)	BIOL 260 and 350; one additional upper division biology course
		BIOL 423	Mammalogy (3)	BIOL 312 or 324 or 350
		BIOL 424	Ornithology (3)	BIOL 211 and 212 and 213 and 260; 3 units of upper division biology course. <i>Recommend:</i> BIOL 350
		BIOL 427*	Vascular Plant Systematics (4)	BIOL 312 or 370
		BIOL 439*	Plant Morphology (4)	BIOL 312 or 370

Take THREE additional upper division courses:

Take three additional upper division courses in the Department of Biological Sciences totaling a minimum of nine units. At least six of these units must be at the 400 level. Courses outside of BIOL that can also count toward these units include CHEM 441A and 448, and GEOG 481. Courses that will NOT count towards these units are BIOL 301 and 304 and 305 and 300 and MICR 300.

Semester	Grade	Course #	Course Title	Prerequisites

Students Contemplating Graduate or Professional School

Students contemplating graduate or professional school should consider taking 1-3 units of BIOL 496 in addition to the requirements listed above. With prior permission of the advisor for this option, students may use 3 units of BIOL 496 as an elective.