

BACHELOR OF SCIENCE IN BIOLOGY
Option in Molecular Cell Biology and Physiology (MCBP)
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 112B or 113 or 119A or 122
		CHEM 111A	General Chemistry (5)	Passing score on the CPT or other measures. <i>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 MATH 123 or MATH 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 340	Molecular Cell Biology (3)	BIOL 211 and 212
		BIOL 370	General Genetics (4)	BIOL 211 and 212; BIOL 260 or CHEM 251
		BIOL 480	Seminars (1)	Department consent
		CHEM 441A	Biological Chemistry (3)	CHEM 220B; CHEM 320L or 223B
		CHEM 441B	Biological Chemistry (3)	CHEM 441A

Take ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 312	Evolutionary Biology (3)	BIOL 211 and 212 and 213 and 260
		BIOL 350	General Ecology (3)	BIOL 211 and 212 and 213 and 260; MATH 119A or 122

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

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 FOUR additional courses totaling at least 12 units selected from the following:

BIOL 311, 416, 430, 431, 432, 433, 435, 440L, 442, 443, 444, 445, 447, 448, 449, 472, 473, 474, 477. With permission of the appropriate advisor, students may substitute one course in the biological sciences that is not on the above list for one of these four courses.

Semester	Grade	Course #	Course Title	Prerequisites

These courses do not meet any specific or elective requirements for this major: BIOL 300, BIOL 301, BIOL 304, BIOL 305, 309; and NSCI 492.

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.