

BACHELOR OF SCIENCE IN MARINE 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-Marine 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 153	Introduction to Marine Biology (3)	Courses that fulfill GE A1 and B2 requirements
		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	Intro. to Ecology and Physiology (4)	BIOL 211 and 212 and CHEM 111B
		BIOL 260	Biostatistics (3)	BIOL 211 or BIOL 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

Take either CHEM 227*:

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 227*	Fundamentals of Organic Chemistry (3)	CHEM 111A. <i>Recommend:</i> CHEM 111B

OR all FOUR of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		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 Laboratory I (1)	<i>Corequisite:</i> CHEM 220A
		CHEM 223B	Organic Chemistry Laboratory II (1)	CHEM 220A and 223A. <i>Corequisite:</i> CHEM 220B

***Note to Pre-Health Professions students:** Few, if any, health-related professional schools (e.g. veterinary medicine) will accept CHEM 227. Some graduate programs with masters or doctorates in biology and/or marine biology may also not accept CHEM 227. Students interested in these programs might consider taking PHYS 100B or PHYS 152; MATH 119B or MATH 122; CHEM 220A/B and CHEM 223A/B. CHEM 227 is not acceptable as a prerequisite for CHEM 441A. CHEM 227 is acceptable toward the Minor in Chemistry.

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

These courses do not meet any specific or elective requirements for this major: BIOL 101, BIOL 200, BIOL 200L, BIOL 201, BIOL 205, BIOL 205L, BIOL 207, and BIOL 208.

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

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 312	Evolutionary Biology	BIOL 211 and 212 and 213 and 260
		BIOL 313	Invertebrate Zoology (4)	BIOL 211 and 212 and 213
		BIOL 340	Molecular Cell Biology (3)	BIOL 211 and 212
		BIOL 345	Comparative Animal Physiology (3)	BIOL 211 and 212 and 213
		BIOL 345L	Lab in Comparative Animal Physiology (1)	<i>Pre/Corequisite:</i> BIOL 345
		BIOL 350	General Ecology (3)	BIOL 211 and 212 and 213 and 260; MATH 119A or 122
		BIOL 353	Marine Biology (3)	BIOL 153 and 211 and 212 and 213 and 260
		BIOL 370	General Genetics (4)	BIOL 211 and 212; BIOL 260 or CHEM 251
		BIOL 419	Ichthyology (3)	BIOL 211 and 212 and 213 and 260; at least 6 additional units of upper division biology
		BIOL 425	Phycology (4)	BIOL 353
		BIOL 480	Seminars (1)	Department consent

Take a minimum of THREE courses from the following (9 units required):

BIOL 411, 415, 420, 449, 451, 454A, 455, 457, 464; GEOG 481; GEOL 465, GEOL 466; PHYS 100B or PHYS 152; MATH 119B or 123; and, with prior consent of marine biology advisor for both BIOL 490, and 3 units of BIOL 496.

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; and NSCI 492.