

# BACHELOR OF SCIENCE IN MARINE BIOLOGY (IMPACTED)

## Major Requirements Worksheet

### 2017-2018 Catalog

Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

*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. CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification. **Pre-Biochemistry majors must complete their GE Foundation courses, and the highlighted† areas below all with a “C” or better and a cumulative GPA of 2.5, by 60 units to be considered for the major.***

#### Degree Progress

*Pre-Biology majors must complete CHEM 111A, CHEM 111B, 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. Students who have not met the requirements by the required semester must either declare another major or meet with an Academic Advisor to determine if the student's performance in the courses merits an additional semester to complete.*

ALL Biology Department courses require a “C” or better in prerequisites.

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 153	Introduction to Marine Biology (3)	Courses that fulfill GE A1 and B2
		BIOL 211†	Intro. to Evolution and Diversity (4)	Pre/Corequisite: CHEM 111A
		BIOL 212	Intro. to Cell and Molecular Biology (4)	BIOL 211, CHEM 111A. Pre/Corequisite: CHEM 111B
		BIOL 213	Intro. to Ecology and Physiology (4)	BIOL 211, 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)	A passing score on the CPT; Corequisite: MATH 109 or higher
		CHEM 111B†	General Chemistry (5)	CHEM 111A and MATH 113 or 115 or 119A or 122

#### Choose ONE of the following groups:

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 227	Fundamentals of Organic Chemistry (3)	CHEM 111A; CHEM 111B recommended

**OR**

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 220A	Organic Chemistry I (3)	CHEM 111B. Corequisite: CHEM 223A.
		CHEM 220B	Organic Chemistry II (3)	CHEM 220A Corequisite: CHEM 223B or 320L
		CHEM 223A	Organic Chemistry Laboratory I (1)*	Corequisite: CHEM 220A
		CHEM 223B	Organic Chemistry Laboratory II (1)*	CHEM 220A and CHEM 223A Corequisite: CHEM 220B

\*See exception or clarification in the catalog

#### Choose ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		MATH 119A†	Survey of Calculus I (3) <b>OR</b>	MDPT placement* or MATH 113
		MATH 122†	Calculus I (4)	MDPT placement* or MATH 111 and 113

\*See exception or clarification in the catalog

**Choose ONE of the following courses:**

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

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, 212, 213, <i>and</i> 260
		BIOL 313	Invertebrate Zoology (4)	BIOL 211, 212, 213
		BIOL 340	Molecular Cell Biology (3)	BIOL 211, 212
		BIOL 345	Comparative Animal Physiology (3)	BIOL 211, 212, 213
		BIOL 345L	Lab in Comparative Animal Physiology (1)	BIOL 345
		BIOL 350	General Ecology (3)	BIOL 211, 212, 213, 260; MATH 119A <i>or</i> MATH 122
		BIOL 353	Marine Biology (3)	BIOL 153, 211, 212, 213, 260
		BIOL 370	General Genetics (4)	BIOL 211, 212, <i>and either</i> BIOL 260 <i>or</i> CHEM 251
		BIOL 419	Ichthyology (3)	BIOL 211, 212, 213, 260 <i>and</i> at least 6 additional units of upper division biological science. Recommended: BIOL 350, 353, <i>and</i> 370.
		BIOL 425	Phycology (4)	BIOL 353
		BIOL 480	Seminars (1)	Consent of the department. Undergraduates must have filed for graduation and be in their last semester.

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

BIOL 411, 415, 420, 449, 451, 454A, 455, 457, 463, 464; BIOL/MICR 415; GEOG 481; GEOL 465, GEOL 466; PHYS 100B *or* PHYS 152; MATH 119B *or* MATH 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.

**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.