

# BACHELOR OF SCIENCE IN MARINE BIOLOGY (IMPACTED)

## Major Requirements Worksheet

2014-2015 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-Biology** 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, 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.

Semester	Grade	Course #	Course Title	Prerequisites <i>ALL Biology Department courses require a "C" or better.</i>
		BIOL 153	Introduction to Marine Biology (3)	Courses that fulfill the A1 and B2 GE Requirements
		<b>BIOL 211</b>	<b>Intro. to Evolution and Diversity (4)</b>	<i>Pre/Corequisite:</i> CHEM 111A
		BIOL 212	Intro. to Cell and Molecular Biology (4)	BIOL 211 <i>and</i> CHEM 111A; <i>Pre/Corequisite:</i> CHEM 111B
		BIOL 213	Intro. to Ecology and Physiology (4)	BIOL 211, 212 <i>and</i> CHEM 111B
		BIOL 260	Biostatistics (3)	BIOL 211 or BIOL 207 or MICR 200; MATH 111 or 113 or 119A or 122
		<b>CHEM 111A</b>	<b>General Chemistry (5)*</b>	A passing score on the CPT; <i>Corequisite:</i> MATH 109 or higher
		<b>CHEM 111B</b>	<b>General Chemistry (5)</b>	CHEM 111A <i>and</i> MATH 113 or 115 or 119A or 122

### Select ONE course from each block:

		<b>MATH 119A</b> <b>MATH 122</b>	<b>Survey of Calculus I (3) OR</b> <b>Calculus I (4)</b>	MDPT placement* or MATH 113 MDPT placement* or MATH 111 and 113, or MATH 117
		PHYS 100A PHYS 151	General Physics (4) <b>OR</b> Mechanics and Heat (4)	MATH 109 or 113 or 119A or 122 <i>Pre/Corequisite:</i> MATH 122

### Take CHEM 227 or ALL of the following CHEM 220A, CHEM 220B, CHEM 223A, and CHEM 223B.

		CHEM 227	Fundamentals of Organic Chemistry (3)	CHEM 111A; CHEM 111B recommended
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**OR**

		CHEM 220A	Organic Chemistry I (3) (*lab required same semester)	CHEM 111B. Must be taken concurrently with CHEM 223A.
		CHEM 220B	Organic Chemistry II (3) (*lab required same semester)	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 <i>and</i> CHEM 223A <i>Corequisite:</i> CHEM 220B

### UPPER DIVISION COURSES (See major faculty advisor)

### Take ALL of the following courses:

		BIOL 312	Evolutionary Biology	BIOL 211, 212, 213, and 260
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NOTE: See the catalog for courses that do not meet any specific or elective requirements for the major

\* See exception or clarification in the catalog

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		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 or MATH 122
		BIOL 353	Marine Biology (3)	BIOL 153, 211, 212, 213, 260
		BIOL 370	General Genetics (4)	BIOL 211, 212, and <i>either</i> BIOL 260 or 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, and 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, BIOL 420, BIOL 449, BIOL 451, BIOL 454A, BIOL 455, BIOL 457, BIOL 463, BIOL 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.

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


**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.