

# BACHELOR OF SCIENCE IN BIOLOGY (IMPACTED)

## Option in Organismal Biology Major Requirements Worksheet 2016-2017 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, 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 on prerequisites.

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 211	Intro. to Evolution and Diversity (4)	<i>Pre/Corequisite:</i> CHEM 111A
		BIOL 212	Intro. to Cell and Molecular Biology (4)	BIOL 211, 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
		CHEM 111A	General Chemistry (5) <i>AND</i>	A passing score on the CPT; <i>Corequisite:</i> MATH 109 or higher
		CHEM 111B	General Chemistry (5)	CHEM 111A <i>and</i> MATH 113 or 115 or 119A or 122

### Choose ONE of the following courses:

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

### Choose ONE of the following courses:

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

### Choose ONE of the following courses:

Semester	Grade	Course #	Course Title	Prerequisites
		PHYS 100B	General Physics (4) <i>OR</i>	PHYS 100A
		PHYS 152	Electricity and Magnetism (4)	PHYS 151; <i>Pre/Corequisite:</i> MATH 123

### Choose ONE of the following groups:

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 227	Fundamentals of Organic Chemistry (3)	CHEM 111A; CHEM 111B recommended
		CHEM 448	Fundament. of Biological Chemistry (3)	CHEM 220B or CHEM 227

*OR*

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 <i>and</i> CHEM 223A <i>Corequisite:</i> CHEM 220B

## 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, 212, 213, 260
		BIOL 350	General Ecology (3)*	BIOL 211, 212, 213, 260; MATH 119A or 122
		BIOL 370	General Genetics (4)	BIOL 211, 212, <i>and</i> either BIOL 260 or CHEM 251
		BIOL 480	Seminars (1)	Consent of the department. Undergraduates must have filed for graduation and be in their last semester.

Choose **ONE** of the following groups:

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 345	Comparative Animal Physiology (3)	BIOL 211, 212, 213
		BIOL 345L	Lab in Comp Animal Physiology (1)	<i>Pre/Corequisite:</i> BIOL 345

**OR**

Semester	Grade	Course #	Course Title	Prerequisites
		BIOL 447	Molecular Plant Physiology (3)	BIOL 340, 370

Take **TWO** of the following courses in organismal diversity:

One of the courses *must* be BIOL 313, 316, 324, 427, or 439.

Semester	Grade	Course #	Course Title	Prerequisites
		<b>BIOL 313</b>	Invertebrate Zoology (4)	BIOL 211, 212, 213
		<b>BIOL 316</b>	General Entomology (4)	BIOL 211, 212, 213
		<b>BIOL 324</b>	Vertebrate Zoology (4)	BIOL 211, 212, 213
		BIOL 419	Ichthyology (3)	BIOL 211, 212, 213, 260 <i>and</i> at least 6 additional units of upper division science with "C" or better. Recommended: BIOL 350, 353, 370
		BIOL 421	Herpetology (3)	BIOL 260, 350, <i>and</i> one additional upper division biology course. Recommended: BIOL 312, 324, or 370. <i>Spring Odd Years Only</i>
		BIOL 423	Mammalogy (3)	BIOL 312 or 324 or 350
		BIOL 424	Ornithology (3)	BIOL 211, 212, 213, BIOL 260 and 3 units of UD BIOL. Recommended: BIOL 350.
		<b>BIOL 427</b>	Vascular Plant Systematics (4)	BIOL 312 or 370. <i>Spring Only</i>
		<b>BIOL 439</b>	Plant Morphology (4)	BIOL 312 or 370. <i>Fall Only</i>

Select a minimum of **TWO** courses from the following:

*Ecology and Evolution Courses:* BIOL/MICR 355, BIOL 412, 450, 451, 452, 454B, 456, 457, 459, 472.

*Physiology Courses:* BIOL 442, 443, 444, 464.

Any combination of courses from the two groups is acceptable. See catalog for pre/corequisites.

Semester	Grade	Course #	Course Title	Prerequisites

Take **2-3** additional upper division courses totaling **6-9** units in the Department of Biological Sciences:

So that a minimum number of 36 upper division units are completed. At least three of these units must be at the 400 level. Note that many 400 numbered courses require BIOL 340, which can also count as one of these elective courses. Courses outside of BIOL that can also count toward these units include GEOG 481, CHEM 441A, and CHEM 448. Courses that will not count towards these units are BIOL 300, 301, 304, 305.

Semester	Grade	Course #	Course Title	Prerequisites

\*See exception or clarification in the catalog