

BACHELOR OF SCIENCE IN BIOLOGY (IMPACTED)

Option in Organismal Biology Major Requirements Worksheet

2015-2016 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><u>ALL</u> Biology Department courses require a "C" or better.</i>
		BIOL 211	Introduction to Evolution and Diversity (4)	Pre/Corequisite: CHEM 111A
		BIOL 212	Introduction to Cell and Molecular Biology (4)	BIOL 211 and CHEM 111A; Pre/Corequisite: CHEM 111B
		BIOL 213	Introduction 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

Select ONE course from each block:

		MATH 119A MATH 122	Survey of Calculus I (3) OR Calculus I (4)	MDPT placement* or MATH 113 MDPT placement* or MATH 111 and 113
		MATH 119B MATH 123	Survey of Calculus II (3) OR Calculus II (4)	MATH 119A or 122 MATH 122
		PHYS 100A PHYS 151	General Physics (4) OR Mechanics and Heat (4)	MATH 109 or 113 or 119A or 122 Pre/Corequisite: MATH 122
		PHYS 100B PHYS 152	General Physics (4) OR Electricity and Magnetism (4)	PHYS 100A PHYS 151; Pre/Corequisite: MATH 123

Take ONE of the following course combinations in Organic Chemistry or Biochemistry (Groups A or B):

GROUP A

		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. 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

GROUP B

		CHEM 227	Fundamentals of Organic Chemistry (3)	CHEM 111A; CHEM 111B Recommended
		CHEM 448	Fundamentals of Biological Chemistry (3)	CHEM 220B or CHEM 227

UPPER DIVISION COURSES (See major faculty advisor)

Take ALL of the following courses:

		BIOL 312	Evolutionary Biology (3)	BIOL 211, 212, 213, 260
		BIOL 350	General Ecology (3)*	BIOL 211, 212, 213, 260; MATH 119A or 122

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 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.

Although BIOL 340 is not required for this option it is a prerequisite for many 400-level courses and may be used as an elective.

Take ONE of the following courses/course pairs (3-4) units:

	BIOL 345 BIOL 345L	Comparative Animal Physiology (3) Lab in Comp Animal Physiology (1)	BIOL 211, 212, 213 <i>Pre/Corequisite:</i> BIOL 345
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OR

	BIOL 447	Molecular Plant Physiology (3)	BIOL 340, 370
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Take TWO of the following courses in organismal diversity, One of the courses *must* be BIOL 313, 316, 324, 427, or 439:

	BIOL 313	Invertebrate Zoology (4)	BIOL 211, 212, 213
	BIOL 316	General Entomology (4)	BIOL 211, 212, 213
	BIOL 324	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) (<i>SP Only, odd years</i>)	BIOL 260, 350, <i>and</i> one additional upper division biology course. Recommended: BIOL 312, 324, or 370.
	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.
	BIOL 427	Vascular Plant Systematics (4) (<i>SP Only</i>)	BIOL 312 or 370
	BIOL 439	Plant Morphology (4) (<i>FA Only</i>)	BIOL 312 or 370

Select a *minimum* of **TWO** courses from the following - any combination of courses from the two groups is acceptable: (See catalog for pre/corequisites):

<p><u>Ecology and Evolution Courses</u> BIOL/MICR 355 Microbial Ecology (3) BIOL 412 Advanced Evolutionary Biology (3) BIOL 450 Plant Ecology (3) BIOL 451 Wetlands and Mangrove Ecology (3) BIOL 452 Behavioral Ecology (3) BIOL 454B Research in Tropical Terrestrial Ecology (3) BIOL 456 Population Ecology (3) BIOL 457 Field Methods in Ecology (3) BIOL 459 Conservation Biology (3) BIOL 472 Molecular Evolution (3)</p>	<p><u>Physiology Courses</u> BIOL 442 Physiology at the Limit (3) BIOL 443 Endocrinology (3) BIOL 444 Reproductive Biology (3) BIOL 449 Fish Physiology and Endocrinology (3) BIOL 464 Aquatic Toxicology (3)</p>
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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 301, BIOL 304, BIOL 305; MICR 300.