

BACHELOR OF SCIENCE IN BIOLOGY (IMPACTED)

Option in Molecular Cell Biology and Physiology (MCBP) 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</i> Biology Department courses require a "C" or better.
		BIOL 211	Intro. to Evolution and Diversity (4)	Pre/Corequisite: CHEM 111A
		BIOL 212	Intro. 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, or MATH 117
		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 ALL of the following courses:

		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

UPPER DIVISION COURSES (See major faculty advisor)

Take ALL of the following courses:

		BIOL 340	Molecular Cell Biology (3)	BIOL 211, 212
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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 370	General Genetics (4)	BIOL 211, 212, and 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.
		CHEM 441A	Biological Chemistry (3)	CHEM 220B or CHEM 223B
		CHEM 441B	Fundamentals of Biological Chem (3)	CHEM 441A

Select ONE of the following:

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

Take at least ONE of the following laboratory course/course pairs:

		BIOL 342	Human/Mammalian Physiology (3)	BIOL 211, 212, 213. Recommended: PHYS 100A,B
		BIOL 342L	Lab in Human/Mammalian Physiology (1)	<i>Pre/Corequisite:</i> BIOL 342

OR

		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

		BIOL 440L	Molecular Cell Biology Laboratory (3)	BIOL 340, 370
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Take FOUR of the following upper division elective courses:

		BIOL/MICR 416	Virology (3)	MICR 320 or BIOL 340
		BIOL/MICR 430	Immunology (3)	BIOL 340
		BIOL 431	Biology of Cancer (3)	BIOL 340, 370
		BIOL 432	Stem Cell Biology (3)	BIOL 433
		BIOL 433	Developmental Biology (3)	BIOL 340; BIOL 370 or MICR 371
		BIOL 440L	Molecular Cell Biology Lab (3)	BIOL 340, 370 (440L does not double-count. It will count as an elective only if 342/342L or 345/345L was taken for lab requirement above.)
		BIOL 442	Physiology at the Limit (3)	BIOL 342 or 345
		BIOL 443	Endocrinology (3)	BIOL 340 or CHEM 441B; CHEM 220A or CHEM 227; and one of BIOL 341, 342, 345, 445, 448; CHEM 441A or 448
		BIOL 444	Reproductive Biology (3)	BIOL 342 or 345
		BIOL 445	Metabolic Regulation (3)	BIOL 340, 342 or 345; CHEM 441A
		BIOL 447	Molecular Plant Physiology (3)	BIOL 340, 370
		BIOL 448	Principles of Neurobiology (3)	BIOL 340 or CHEM 441B and one of BIOL 341, 342, or 345
		BIOL 449	Fish Physiology and Endocrinology (3)	BIOL 345
		BIOL 472	Molecular Evolution	BIOL 370
		BIOL 473	Molecular Genetics	BIOL 370 or MICR 371; CHEM 220A,B and 223 A,B or CHEM 227
		BIOL/MICR 477	Biotechnology & Bioinformatics (4)	BIOL 340 or 370 or CHEM 441A,B

* See exception or clarification in the catalog