

### **CNSM Academic Advising Center**

College of Natural Sciences and Mathematics California State University Long Beach www.csulb.edu/cnsm/advising

# BACHELOR OF SCIENCE IN BIOLOGY OPTION IN MOLECULAR CELL BIOLOGY AND PHYSIOLOGY FOUR YEAR DEGREE WORKSHEET 2017-2018 Catalog

This degree worksheet is intended to help you develop a balanced course schedule while completing your degree within 4 years. The same sequence of courses (with fewer courses each semester) is also recommended for students completing their degree in 5 or 6 years. This worksheet is not intended to replace academic advising with your assigned advisor. Students should consult with their assigned advisor to determine the appropriate sequence of required courses and electives based on their academic goals.

CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification.

#### Year 1

Semester	Course #	Course Title (Units)	Prerequisites	Notes
1	CHEM 111A	General Chemistry (5)	passing score on the CPT	
	MATH 119A;	Survey of Calculus I (3);	MDPT placement or MATH 113;	
	OR	OR	OR	
	MATH 122	Calculus II (3)	MATH 111 and 113	
	GE (area A1)	Written Communication (3)		
	GE (area C,D,E)	Other Exploration (3)		
	NSCI 190A	Experience Success Program 1 (1)		Fall only
2	CHEM 111B	General Chemistry (5)	CHEM 111A and MATH 119A or 122	
	BIOL 211	Intro. to Evolution and Diversity (4)	Pre/Corequisite: CHEM 111A	
	GE (area A2)	Oral Communication (3)		
	GE (area A3)	Critical Thinking (2)		
	Elective	Elective Requirement (1)		

## Year 2

Semester	Course #	Course Title (Units)	Prerequisites	Notes
3	CHEM 220A	Organic Chemistry I (3)	CHEM 111B. Corequisite: CHEM 223A	
	CHEM 223A	Organic Chemistry Laboratory I (1)	CHEM 111B. Corequisite: CHEM 220A	
	BIOL 212	Intro. to Cell and Molecular Bio. (4)	BIOL 211 and CHEM 111A	
	BIOL 260	Biostatistics (3)	BIOL 211 and MATH 119A or 122	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	Elective	Elective Requirement (1)		
4	CHEM 220B	Organic Chemistry II (3)	CHEM 220A and 223A. Corequisite: CHEM 223B	
	CHEM 223B	Organic Chemistry Laboratory II (1)	CHEM 220A and 223A. Corequisite: CHEM 220B	
	BIOL 213	Intro. to Ecology and Physiology (4)	BIOL 211, 212 and CHEM 111B	
	BIOL 340	Molecular Cell Biology (3)	BIOL 211, 212	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	Elective	Elective Requirement (1)		

# Year 3

Semester	Course #	Course Title (Units)	Prerequisites	Notes
	BIOL 342 & BIOL 342L;	Human/Mammalian Physio. (3) & Human/Mammalian Physio. Lab (1);	BIOL 211, 212, 213 & Pre/Corequisite: BIO 342;	
	OR	OR	OR	
5	BIOL 345 & BIOL 345L;	Comparative Animal Physio. (3) & Comparative Animal Physio. Lab (1);	BIOL 211, 212, 213 & Pre/Corequisite: BIO 345;	440L is Fall only
	OR	OR	OR	
	BIOL 440L	Molecular Cell Biology Lab (3)	BIOL 340, 370	
	CHEM 441A	Biological Chemistry (3)	CHEM 220B and CHEM 223B	
	PHYS 100A;	General Physics (4);	MATH 109 or 113 or 119A or 122;	
	OR	OR	OR	
	PHYS 151	Mechanics and Heat (4)	Pre/Corequisite: PHYS 100B or 152	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	Elective	Elective Requirement (1)		

Semester	Course #	Course Title (Units)	Prerequisites	Notes
	PHYS 100B;	General Physics (4);	PHYS 100A;	
6	OR	OR	OR	
	PHYS 152	Electricity and Magnetism (4)	PHYS 151; Pre/Corequisite: MATH 123	
	CHEM 441B	Biological Chemistry (3)	BIOL 441A	
	BIOL 370	General Genetics (4)	BIOL 211, 212, and 260 and MATH 119A or 122 (B2), GE Written Communication (A1), GE Critical Thinking (A3), and GE Oral Communication (A2)	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	Elective	Elective (1)		

## Year 4

Semester	Course #	Course Title (Units)	Prerequisites	Notes
7	Upper Division Elective	Biological Science (3)		
	Upper Division Elective	Biological Science (3)		
	Upper Division Elective	Biological Science (3)		
	GE Capstone (area F)	General Education & Foundation (3)	GE Written Communication (A1), GE Critical Thinking (A3), and GE Oral Communication (A2), MATH 119A or MATH 122 (B2)	
	GE Capstone (area F)	General Education & Foundation (3)	GE Written Communication (A1), GE Critical Thinking (A3), and GE Oral Communication (A2), MATH 119A or MATH 122 (B2)	
	BIOL 312;	Evolutionary Biology (3);	BIOL 211, 212, 213, 260;	
8	OR	OR	OR	
8	BIOL 350	General Ecology (3)	BIOL 211, 212, 213, 260 and MATH 119A or 122	
	BIOL 480	Seminars (1)	Take in last semester	
	Upper Division Elective	Biological Sciences (3)		
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	Elective	Elective (2)		