

## BACHELOR OF SCIENCE IN CHEMISTRY 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; <b>OR</b> CHEM 112A	General Chemistry (5); <b>OR</b> Advanced General Chemistry (5)	passing CPT score; <i>Corequisite</i> : MATH 109 or higher; <b>OR</b> department consent	112A not offered
	MATH 122	Calculus I (4)	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
2	CHEM 111B; <b>OR</b> CHEM 112B	General Chemistry (5); <b>OR</b> Advanced General Chemistry (5)	CHEM 111A and MATH 122; <b>OR</b> CHEM 112A	112B not offered
	MATH 123	Calculus II (4)	MATH 122	
	GE (area A2)	Oral Communication (3)		
	GE (area A3)	Critical Thinking (3)		

## Year 2

Semester	Course #	Course Title (Units)	Prerequisites	Notes
3	MATH 224	Calculus III (4)	MATH 123	
	PHYS 151	Mechanics and Heat (4)	MATH 122	
	CHEM 251; <b>OR</b> Elective	Quantitative Analysis (4); <b>OR</b> Approved Elective (4)	CHEM 111B; <b>OR</b> varies	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
4	CHEM 220A	Organic Chemistry I (3)	MATH 122 and CHEM 111B	
	CHEM 361; <b>OR</b> NSCI 361	Chemical Communications (3); <b>OR</b> Scientific Research Comm. (3)	GE Written Communication (A1), GE Critical Thinking (A3), and GE Oral Communication (A2), and MATH 122, and CHEM 111B and GVAR; <i>Corequisite:</i> CHEM 220A	
	PHYS 152	Electricity and Magnetism (4)	PHYS 151	
	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)	

## Year 3

Semester	Course #	Course Title (Units)	Prerequisites	Notes
5	CHEM 220B	Organic Chemistry II (3)	CHEM 220A. <i>Corequisite:</i> CHEM 320L	
	CHEM 320L	Organic Chemistry Laboratory (2)	CHEM 220A. <i>Corequisite:</i> CHEM 220B	
	BIOL 200; <b>OR</b> BIOL 205; <b>OR</b> BIOL 207; <b>OR</b> BIOL 211	General Biology (4); <b>OR</b> Human Biology (4); <b>OR</b> Human Physiology (4); <b>OR</b> Intro to Evolution and Diversity (4)	GE Written Communication (A1), GE Critical Thinking (A3), and MATH 122; <b>OR</b> (211): CHEM 11A	211 needs 212 after
	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)	

Semester	Course #	Course Title (Units)	Prerequisites	Notes
6	CHEM 371B	Physical Chemistry (3)	CHEM 111B, MATH 123, PHYS 152	Spring only
	CHEM 420; <b>OR</b> CHEM 498	Advanced Organic Chemistry Lab (3); <b>OR</b> Senior Thesis (3)	CHEM 320L and 220B and 361; <b>OR</b> CHEM 496 and instructor consent	
	CHEM 441A; <b>OR</b> CHEM 448	Biological Chemistry (3); <b>OR</b> Fund. of Biological Chemistry (3)	CHEM 220B and 320L; <b>OR</b> CHEM 220B;	
	GE (area C,D,E)	Other Exploration (3)	GE (area C, D, and E)	
	GE Capstone (area F)	General Education & Foundation (3)	GE Written Comm. (A1) and GE Oral Communication (A2) and GE Critical Thinking (A3) and MATH 122 (B2)	

## Year 4

Semester	Course #	Course Title (Units)	Prerequisites	Notes
7	CHEM 371A	Physical Chemistry (3)	CHEM 111B, MATH 123, PHYS 152	Fall only
	CHEM 373	Phys. and Inorganic Chem. Lab. (3)	CHEM 371B or 371A; and 111B	
	CHEM 331	Inorganic Chemistry (3)	CHEM 111B or 112B. <i>Corequisite:</i> CHEM 332	
	CHEM 332	Inorganic Chemistry Laboratory (2)	CHEM 111B or 112B. <i>Corequisite:</i> CHEM 331	
	CHEM 496	Undergrad. Directed Research (1-3)		
	GE Capstone (area F)	General Education & Foundation (3)	GE Written Comm. (A1) and GE Oral Communication (A2) and GE Critical Thinking (A3) and MATH 122 (B2)	
8	CHEM 451	Instrumental Methods of Analysis (5)	CHEM 152 and CHEM 361 and CHEM 371B	
	CHEM 461	Chemistry Capstone (1)	Must take in last semester	
	CHEM 431	Advanced Inorganic Chemistry (3)	CHEM 331 and CHEM 371B	Spring only
	Upper Division Elective	Chemistry (2)		
	Elective	Elective (2)		
	BIOL 212 (if 211 taken)	Introduction to Cell and Molecular Biology (4)	BIOL 211	