

BACHELOR OF SCIENCE IN CHEMISTRY (IMPACTED)

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-Chemistry** 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 Rules

Freshman need to complete Math 122 and CHEM 111A within one calendar year. CHEM 111B and CHEM 220A within two calendar years, all with a grade of "C" or better. Transfer students need to complete CHEM 220A and PHYS 151 within one calendar year, all with a grade of "C" or better.

Semester	Grade	Course #	Course Title	Prerequisites
		MATH 122	Calculus I (4)	MDPT placement or MATH 111 and 113
		MATH 123	Calculus II (4)	MATH 122
		MATH 224	Calculus III (4)	MATH 123 or 222
		PHYS 151	Mechanics and Heat (4)	<i>Pre/corequisite:</i> MATH 122
		PHYS 152	Electricity and Magnetism (4)	PHYS 151; <i>Pre/Corequisite</i> MATH 123

Select either:

		CHEM 111A	General Chemistry (5) AND	A passing score on the CPT; <i>Corequisite:</i> MATH 109 or higher CHEM 111A
		CHEM 111B	General Chemistry (5)	

OR

		CHEM 112A	Advanced General Chemistry (5) AND	Department Consent
		CHEM 112B	Advanced General Chemistry (5)	CHEM 112A

Take ALL of the following courses:

		CHEM 220A	Organic Chemistry I (3)	CHEM 111B
		CHEM 220B	Organic Chemistry II (3) (*lab required same semester)	CHEM 220A <i>Corequisite:</i> CHEM 320L

Either take ALL of the following:

		BIOL 211	Intro. to Evolution and Diversity (4)	<i>Pre/Corequisite:</i> CHEM 111A BIOL 211, CHEM 111A. <i>Pre/Corequisite:</i> CHEM 111B
		BIOL 212	Intro. to Cell and Molecular Biology (4)	

OR ONE of the following:

		BIOL 200	General Biology (4)	GE Foundation
		BIOL 205	Human Biology (4)	GE Foundation
		BIOL 207	Human Physiology (4)	GE Foundation

UPPER DIVISION COURSES (See your faculty advisor.)

Take ALL the following courses:

		CHEM 320L	Organic Chemistry Laboratory (2)	CHEM 220A; <i>Corequisite:</i> CHEM 220B
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		CHEM 331	Inorganic Chemistry (3)	CHEM 111B
		CHEM 332	Inorganic Chemistry Laboratory (2)	<i>Pre/corequisite:</i> CHEM 331
		CHEM 361	Chemical Communications (3)	Prerequisites: GE Foundation requirement. Score 11 or higher on the GWAR or completed the necessary portfolio course that is a prerequisite for a GWAR Writing Intensive Capstone. <i>Pre/Corequisite:</i> CHEM 220A
		CHEM 371A	Physical Chemistry: Thermodynamics and Kinetics (3)	CHEM 111B, MATH 123, PHYS 152. <i>Pre/corequisite:</i> MATH 224
		CHEM 371B	Physical Chemistry: Quantum Mechanics and Spectroscopy (3)	CHEM 111B, MATH 123, PHYS 152. <i>Pre/corequisite:</i> MATH 224
		CHEM 373	Physical and Inorganic Chemistry Laboratory (3)	CHEM 111B; CHEM 371A or 377A or 377B. <i>Corequisite:</i> CHEM 371B
		CHEM 431	Advanced Inorganic Chemistry (3)	CHEM 331 and 371B
		CHEM 451	Instrumental Methods of Analysis (5)	PHYS 152, CHEM 361; CHEM 371B OR 377B
		CHEM 461	Chemistry Capstone (1)	Department Consent

Take ONE of the following:

		CHEM 420	Advanced Organic Chemistry Laboratory (3)	CHEM 220B or CHEM 320L and <i>either</i> CHEM 361 or 466 Major GPA 3.0 or >, 3 units of CHEM 496 with a grade of "A", consent of instructor
		CHEM 498	OR Senior Thesis	

Take ONE of the following:

		CHEM 441A	Biological Chemistry (3)	Either CHEM 320L or <i>both</i> CHEM 220B and 223B. Recommended: a BIOL or MICR course. CHEM 220B
		CHEM 448	OR Fundamentals of Biological Chemistry (3)	

Take an additional 7 units of chemistry electives including at least one unit of CHEM 496 and 3 units of upper-division courses. CHE 330, CHE 430, or CHE 475 may be used as chemistry electives.

Students are also advised to take one or more additional courses in mathematics, such as MATH 247, MATH 364A, MATH 370A, MATH 380.