

# BACHELOR OF SCIENCE IN CHEMISTRY

## Major Requirements Worksheet

2012-2013 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. The Chemistry Degree Progress Rules are as follows: Freshman need to complete MATH 122 and CHEM 111A within one calendar year. CHEM 111B and either CHEM 320A or CHEM 251 within two calendar years, all with a grade of "C" or better. Transfer students: need to complete MATH 123 and CHEM 111B within one calendar year. CHEM 320A and CHEM 251 within 2 calendar years. All with a grade of "C" or better.

Grade	Course #	Course Title	Semester	Prerequisites
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Take **EITHER BOTH** of the following:

	BIOL 211	Introduction to Evolution and Diversity (4)		CHEM 111A (can also be a Corequisite)
	BIOL 212	Introduction to Cell and Molecular Biology (4)		BIOL 211 and CHEM 111A

**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

Take **ALL** of the following courses:

	CHEM 111A	General Chemistry (5)		A passing score on the CPT, and either MATH 113*, or 117*, or 119A*, or 122*
	CHEM 111B	General Chemistry (5)		CHEM 111A*
	CHEM 251	Quantitative Analysis (4)		CHEM 111B*(highly recommended to take CHEM 251**)
	MATH 122	Calculus I (4)		MDPT placement** or MATH 111* and 113*, or MATH 117*
	MATH 123	Calculus II (4)		MATH 122*
	MATH 224	Calculus III (4)		MATH 123* or 222*
	PHYS 151	Mechanics and Heat (4)		MATH 122 (can also be a Corequisite)
	PHYS 152	Electricity and Magnetism (4)		PHYS 151; Pre/Corequisite MATH 123
	PHYS 254	Applied Modern Physics (3)		PHYS 152 or EE 210; Prerequisite/Corequisite: MATH 224
	PHYS 255	Laboratory on Modern Physics (1)		Prerequisite/Corequisite: PHYS 254

**Upper Division** (for upper division advising, see your faculty advisor). Take **ALL** of the following courses:

	CHEM 320A	Organic Chemistry (3)		CHEM 111B (CHEM 251 is also recommended)
	CHEM 320B	Organic Chemistry (5)		CHEM 320A
	CHEM 331	Inorganic Chemistry (3)		CHEM 111B, 251
	CHEM 332	Inorganic Chemistry Laboratory (2)		CHEM 331 (may be taken concurrently)
	CHEM 361	Chemical Communications (3)		GE Foundation requirement, concurrent or previous enrollment in CHEM 320A
	CHEM 371A	Physical Chemistry: Thermodynamics and Kinetics (3)		CHEM 251, MATH 123, PHYS 152; and MATH 224 (may be taken concurrently)
	CHEM 371B	Physical Chemistry: Quantum Mechanics and Spectroscopy (3)		CHEM 251, MATH 123, PHYS 152; and MATH 224 (may be taken concurrently)
	CHEM 373	Physical and Inorganic Chemistry Laboratory (3)		CHEM 251, CHEM 371A or CHEM 377A or 377B. Corequisite CHEM 371B
	CHEM 420	Advanced Organic Chemistry Laboratory (3)		CHEM 251, CHEM 320B and either CHEM 361, or 466
	CHEM 431	Advanced Inorganic Chemistry (3)		CHEM 331, 371B
	CHEM 441A	Biological Chemistry (3)		Either CHEM 320B or both CHEM 322B and 323B
	CHEM 451	Instrumental Methods of Analysis (5)		PHYS 152, CHEM 251; 361; 371B or 377B

Take an additional 3 units of upper division chemistry electives including at least one unit of CHEM 496. CHE 330, 425, 430, or 475 may be used as chemistry electives. Students are also advised to take one or more additional courses in mathematics, such as MATH 247, 364A, 370A, 380.

\* Must receive a "C" or better \*\*See catalog for more detail

NOTE: See the catalog for courses that do not meet any specific or elective requirements for the major  
Updated 12/10/12 LM