

BACHELOR OF SCIENCE IN BIOCHEMISTRY

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	Need to take	Prerequisites (All Prerequisites must have a "C" or better)
	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**)
	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
	MATH 122	Calculus I (4)		MDPT placement** or MATH 111 and 113, or MATH 117
	MATH 123	Calculus II (4)		MATH 122
	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

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

	BIOL 340	Molecular Cell Biology (3)		BIOL 211, 212; CHEM 320A or 322A or 327
	CHEM 320A	Organic Chemistry (3)		CHEM 111B (CHEM 251 is also recommended)
	CHEM 320B	Organic Chemistry (5)		CHEM 320A
	CHEM 361	Chemical Communications (3)		GE Foundation requirement, concurrent or previous enrollment in CHEM 320A
	CHEM 441A	Biological Chemistry (3)**		Either CHEM 320B or both CHEM 322B and 323B
	CHEM 441B	Biological Chemistry (3)**		CHEM 441A
	CHEM 443	Biological Chemistry Laboratory (4)		CHEM 251, 441B, and either CHEM 361 or 466

Select ONE from EACH box

	CHEM 371A	Physical Chemistry: Thermodynamics and Kinetics (3)** OR		CHEM 251, MATH 123, PHYS 152; MATH 224 (may be taken concurrently)
	CHEM 377A	Fundamentals of Physical Chemistry (3)		CHEM 251, MATH 123, and PHYS 100B or 152
	CHEM 371B	Physical Chemistry: Quantum Mechanics and Spectroscopy (3)** OR		CHEM 251, MATH 123, PHYS 152; and MATH 224 (may be taken concurrently)
	CHEM 377B	Fundamentals of Physical Chemistry (3)		CHEM 251, MATH 122, PHYS 100B or 152; MATH 123 (may be taken concurrently)
	CHEM 420	Advanced Organic Chemistry Lab (3) OR		CHEM 251, CHEM 320B and either CHEM 361, or 466
	CHEM 451	Instrumental Methods of Analysis (5)		PHYS 152, CHEM 251; 361; 371B or 377B
	MICR 371	Microbial Genetics (3) AND		MICR 211
	MICR 372	Methods in Microbial Genetics (2)		MICR 211, MICR 371 recommended
		OR		BIOL 211, 212 and either BIOL 260 or CHEM 251
	BIOL 370	General Genetics (4)		

Take three additional units of elective chosen from: BIOL 445, 448, 473 and BIOL 342 plus 342L; CHEM 331, 373, 420, 421, 431, 451; MICR 452, 473, 480.

* Does not require a "C" or better, but still recommended

NOTE: See the catalog for courses that do not meet any specific or elective requirements for the major

**See catalog for more detail

Updated 12/10/12 LM