

# MINOR IN CHEMISTRY

## Major Requirements Worksheet

### 2016-2017 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.*

*Before adding any minors, students must check to see if this addition will affect CSULB's Timely Graduation for Undergraduate Students policy. Under this policy, students may earn up to 120% of the number of units required for the degree in their **declared primary major**. In addition, the policy requires that a student must file a Request to Graduate form with Enrollment Services by the time the student has completed 100% of the units required for the declared primary major. Any additional degree objectives (e.g., majors, minors, certificates, etc.) must be completed within the 120% unit limit. For more information, see*

*[http://www.csulb.edu/enrollment/graduation/bachelors/timely\\_grad\\_ugrad.html](http://www.csulb.edu/enrollment/graduation/bachelors/timely_grad_ugrad.html).*

The minor in Chemistry is available to any non-Chemistry or non-Biochemistry major. A minimum of 19 Chemistry units must include a minimum of 6 units of upper division Chemistry courses.

ALL prerequisites require a "C" or better. See catalog for more detail.

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 111A	General Chemistry (5)	A passing score on the CPT; <i>Corequisite:</i> MATH 109 or higher
		CHEM 111B	General Chemistry (5)	CHEM 111A and MATH 113 or 115 or 119A or 122

#### Choose an additional 12 units:

Students may use courses from only ONE of the TWO Organic Chemistry paths to meet the requirements of the minor.

Semester	Grade	Course #	Course Title	Prerequisites

### ORGANIC CHEMISTRY PATHS

If you choose to take Organic Chemistry you may take classes from only one of the paths to meet the requirements of the minor:

#### O-Chem Path 1: CHEM 227

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 227	Fundamentals of Organic Chemistry (3)	CHEM 111A; CHEM 111B is recommended

#### O-Chem Path 2: CHEM 220A and 220B

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 220A	Organic Chemistry I (3)	CHEM 111B; CHEM 223A must be taken concurrently if required by a degree plan.
		CHEM 220B	Organic Chemistry II (3)	CHEM 220A; <i>Corequisite:</i> CHEM 223B or CHEM 320L.

## PHYSICAL CHEMISTRY PATHS

If you choose to take Physical Chemistry you may take classes from only one of the paths to meet the requirements of the minor:

### P-Chem Path 1: CHEM 371A and 371B

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 371A	Thermodynamics and Kinetics (3)	CHEM 111B, MATH 123, and PHYS 152 <i>Pre/Corequisite:</i> MATH 224
		CHEM 371B	Quantum Mech. and Spectroscopy (3)	CHEM 111B, MATH 123, and PHYS 152 <i>Pre/Corequisite:</i> MATH 224

### P-Chem Path 2: CHEM 375

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 375	Physical Chemistry for Engineers (3)	MATH 123; PHYS 151 and either PHYS 152 or EE 210/EE 210L; CH E 310; CHEM 111A/B; and CHEM 220A or 227

### P-Chem Path 3: CHEM 377A and 377B

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 377A	Fundamentals of Physical Chemistry (3)	CHEM 111B, MATH 123, and PHYS 152.
		CHEM 377B	Fundamentals of Physical Chemistry (3)	CHEM 111B, MATH 123, and PHYS 152.

## BIOCHEMISTRY PATHS

If you choose to take Biochemistry you may take classes from only one of the paths to meet the requirements of the minor:

### Biochem Path 1: CHEM 441A and CHEM 441B

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 441A	Biological Chemistry (3)	<i>Prerequisites:</i> Either CHEM 320L or both CHEM 220B and CHEM 223B with a grade of "C" or better.
		CHEM 441B	Biological Chemistry (3)	<i>Prerequisites:</i> CHEM 441A with a grade of "C" or better.

### Biochem Path 2: CHEM 448

Semester	Grade	Course #	Course Title	Prerequisites
		CHEM 448	Fundamentals of Biological Chemistry (3)	<i>Prerequisites:</i> CHEM 220B or 227 with a grade of "C" or better.

The following courses are NOT acceptable towards the minor: CHEM 90, 100, 101, 105, 140, 224, 302, and 361.

In addition to the courses listed above the following courses may be used to complete the minor in chemistry: CHEM 223A, 223B, 251, 296, 320L, 331, 332, 373, 420, 421, 431, 443, 449, 451, 466, 480, and 496.