

## CHEMISTRY DEGREE REQUIREMENTS

### **BASIC REQUIREMENTS**

- Math 2A       Math 2B       Math 2D
- Physics 7C-7D-7E-7LC-7LD
- Chem M2A/H2A-M2B/H2B-M3C/H2C
- Chem M2LA/H2LA-M2LB/H2LB     Chem M3LC/H2LC
- Chem 5
- Chem 51A/H52A-51B/H52B-51C/H52C
- Chem M/H52LA-M/H52LB-M/H52LC
- Chem 107       Chem 107L
- Chem 132A-132B-132C
- Chem 152

**Electives** (5 Courses; at least 3 of the courses must be offered by the Chemistry department, including at least 1 Chemistry lecture course and 1 Chemistry lab course.)

At least **two** lecture courses chosen from the Lecture list:

Bio Sci	98, 99
Chemistry	125, 127, 128, 133, 137, 138, 141, 145A, 145B, 177, any from 201-205, any from 201-205, 213-249, 271
ESS	122, 142, 144
Engineering	CBEMS 110, 112, 130, 135, 143, 154
Physics	111A, 111B, 112A, 112B

At least **two** laboratory courses chosen from the Lab list:

Bio Sci	M114L, M116L, M118L
Chemistry	128L, 133L, 152, 153, 156, 160, 170, 177L, 180, 197 (180/H180 may be counted only once)
Engineering	CBEMS 140A, 140B
Physics	120, 121W

- \_\_\_\_\_ (chem lecture)
- \_\_\_\_\_ (chem lab)
- \_\_\_\_\_ (any chem elective)
- \_\_\_\_\_ (any elective)
- \_\_\_\_\_ (any elective)

Concentration courses may be used to fulfill the lecture and lab electives, where overlap exists.

### **Optional Concentration in Chemical Biology**

- Bio Sci 97     Bio Sci 98     Bio Sci 99
- Chem 128     Chem 128L

### **Optional Specialization in Medicinal Chemistry**

- Chem 128     Chem 128L     Chem 160
- Chem 177     Chem 177L

### **Optional Specialization in Nuclear and Radiochemistry**

- Chem 133     Chem 133L     Chem 153     CBEMS 143

### **Optional Specialization in Synthetic Chemistry**

- Chem 125     Chem 127     Chem 156     Chem 160

### **Optional Specialization in Environmental Chemistry**

- ESS 144     Chem 141     Chem 153
- Chem 145A **OR** ESS 142

### **Optional Concentration in Chemistry Education**

- Educ 55     Phy Sci 5     Phy Sci 105     Chem 193

### **Secondary Teaching Certification Option:**

In addition to the Concentration requirements, students can earn a California Single Subject Teaching Credential by completing **all of these additional classes**:

- LPS 60
- Educ 109     Educ 143A     Educ 143B     Educ 148
- Educ 158     Educ 158 (two quarters required)
- \*\* Education 143A and 143B plus 148 count as two electives from the elective list. \*\*

### **Optional Concentration in Theoretical and Computational Chemistry**

- Math 3A     Math 3D
- Chem 150     Chem 150L
- Physics 50 **OR** Physics 100

Select at least nine courses from the courses below, at least one must be taken from each list, or the chemistry major electives list.

#### One from List #1:

Physics 111A, 111B, 112A, 112B, 113A, 113B, 113C, 115A, 125A, 125B

#### One from List #2:

Math 105A-LA, 105B-LB  
Stats 7, 110, 111, 112

#### One from List #3:

EECS 12, 20, 22, 22L

\*\* Chem 5, 107L, 152, and all electives under the regular Chemistry Major are not required and are optional for this concentration. \*\*

### **Optional American Chemical Society Certification**

- Chem 128     Chem 128L

Select 3 courses; at least one from each list:

- List #1: Chem 153, 156, 160, 180, H180
- List #2: Chem 125, 127, 133 & 133L, 138, 141, 150 & 150L, 177 & 177L, 201-205, 213-249
- Additional course from List #1 or #2  
(If Chem 133 or 150 or 177, then the lecture & lab must both be taken to satisfy one of the elective requirements)
- Chem 180W or H181W