## 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
- ESS 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, 153, 150L, 156, 160, 170, 177L, 180, 197, 250L (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 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 Chemical Education

### 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 three 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:
- □ 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

Effective Fall 2019