

## CHEMICAL EDUCATION

### Requirements for the **CHEMICAL EDUCATION B.S.** Degree

The Chemical Education major offers an excellent preparation for teaching physical science in secondary schools, including chemistry, physics, earth science, biology, and mathematics. The chemical education program is sufficiently intensive that students with this degree should be admissible as graduate students in chemistry, biochemistry, and teacher education programs at most universities. This program is also excellent preparation for students interested in a career in science writing.

The program is basically a chemistry major with earth science and biochemistry as electives, combined with three courses in the Teacher Education Program.

If you are interested in earning a California teaching credential through UCSD, contact the Teacher Education Program for information about the prerequisite and professional preparation requirements. It is recommended that you contact TEP as early as possible in your academic career.

**The following courses must be taken for a letter grade:**

#### ***Lower-Division Requirements***

1. General chemistry including laboratory (Chem. 6A-6C or 6AH-6CH, and 6BL, or equivalent).
2. Calculus (Math. 20A-20D, or equivalent).
3. Calculus-based physics including laboratory (Phys. 2A-2B and 2D or equivalent, and either 2BL, 2CL or 2DL. Phys. 2CL is recommended and is accessible without Phys. 2C).
4. Biology (BILD1).

#### ***Upper-Division Requirements***

1. Three quarters of organic chemistry (Chem. 140A-C or 141A-C).
2. Two quarters of physical chemistry (Chem. 126-127 recommended; 131-133 acceptable).
3. One quarter of inorganic chemistry (Chem. 120A).
4. One quarter of biochemistry (Chem. 114A).
5. Six laboratory courses (Chem. 100A, 143AM or 143A, 143B, 105A, and two of the following: 100B, 105B, 112A, 112B, 123, 143C, or 143D).
6. One additional elective course chosen from among all of the upper-division and graduate courses offered by the Department of Chemistry and Biochemistry (except non-letter graded courses).
7. Two earth science courses (Erth. 101 and Erth. 102 or 103). Other biology or chemistry courses may be arranged by petition.
8. Chem. 195, 196, or 199. Chem 195 is recommended.
9. TEP 129A-B-C.

## Suggested Program for Chemical Education B.S. Major

(Talk to your college for planning general education courses)

Many courses have enforced prerequisites or are offered once per year.

| FALL  | WINTER                                      | SPRING                               |
|---|---|--------------------------------------|
| <b>FRESHMAN YEAR</b>                                |   |                                      |
| Chem. 6A<br>Math 20A                                | Chem. 6B<br>BILD 1<br>Math. 20B             | Chem. 6C<br>Chem. 6BL<br>Math. 20C   |
| <b>SOPHOMORE YEAR</b>                               |   |                                      |
| Chem. 100A *<br>Chem. 140A<br>Math. 20D<br>Phys. 2A | Chem. 140B<br>Chem. 143AM<br>Phys. 2B       | Chem. 140C<br>Chem. 143B<br>Phys. 2D |
| <b>JUNIOR YEAR</b>                                  |   |                                      |
| Chem. 126 *<br>Erth. 101                            | Chem. 127<br>Elective Lab<br>Erth. 102/103  | Phys. 2CL<br>Elective                |
| <b>SENIOR YEAR</b>                                  |   |                                      |
| Chem. 114A<br>Chem. 120A<br>TEP 129A                | Chem. 105A<br>Chem. 195/196/199<br>TEP 129B | Elective Lab<br>TEP 129C             |

\* Best time to study abroad. Education Abroad Program deadlines for upcoming year vary by country. See EAP website. See the Chem/Biochem Undergraduate Advisor for assistance in planning to study abroad.

### RESOURCES

To be successful in your academic career, you will need to make the most of the services available to you at UCSD. Get connected to the services available to you as soon as possible to make the most of your education!

#### American Chemical Society-Student Affiliates

Email: [acssa@ucsd.edu](mailto:acssa@ucsd.edu)

[www-ac.s.ucsd.edu/~acssa](http://www-ac.s.ucsd.edu/~acssa)

UCSD Web Site: [www.ucsd.edu](http://www.ucsd.edu)

#### UCSD General Catalog

[www.ucsd.edu/catalog](http://www.ucsd.edu/catalog)

purchase at UCSD Bookstore, 858-534-7323

#### UCSD Career Services Center

858-534-3750, [www-csc.ucsd.edu](http://www-csc.ucsd.edu)

#### UCSD Undergraduate Admissions

858-534-4831, [admissions.ucsd.edu](http://admissions.ucsd.edu)

#### Campus Walking Tours

858-822-1455, [campustours@ucsd.edu](mailto:campustours@ucsd.edu)

#### Education Abroad Program

858-534-1123,

<http://pao.ucsd.edu/acadint/chemistry.htm>

#### Undergraduate Colleges

The colleges determine the general education requirements that you must complete in addition to your major requirements. Be sure to meet with a college adviser.

**Thurgood Marshall**, 858-534-4110,

[www.provost.ucsd.edu/marshall](http://www.provost.ucsd.edu/marshall)

**John Muir**, 858-534-3580,

[www.provost.ucsd.edu/muir](http://www.provost.ucsd.edu/muir)

**Revelle**, 858-534-3490,

[www.provost.ucsd.edu/revelle](http://www.provost.ucsd.edu/revelle)

**Eleanor Roosevelt**, 858-534-9864,

[www.provost.ucsd.edu/roosevelt](http://www.provost.ucsd.edu/roosevelt)

**Earl Warren**, 858-534-4350,

[www.provost.ucsd.edu/warren](http://www.provost.ucsd.edu/warren)

**Sixth College**, 858-822-5955,

[www-sixth.ucsd.edu](http://www-sixth.ucsd.edu)