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# PHARMACOLOGICAL CHEMISTRY

## Requirements for the PHARMACOLOGICAL CHEMISTRY B.S. Degree

The Pharmacological Chemistry major provides a strong background in chemistry and includes most courses required by California pharmacy schools. The major is intended primarily to prepare students for pharmacy school (Pharm.D.). Students fulfilling their elective requirements with appropriate courses would be prepared for graduate school to obtain a Ph.D. in pharmacology, biochemistry or other areas of science. Degree recipients would also be prepared for most jobs in the biotechnology and chemical industries.

Pharmacological chemistry students are strongly encouraged to complete a full year of general chemistry and a full year of lower-division biology. As with some medical programs, some pharmacy programs may require a full year of these courses and may not accept tests such as the Advanced Placement exam to satisfy these requirements.

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

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

1. Biology (BILD 1, 2 and 3 and either BICD 101, 111, 131, or BIPN 105 or BIMM 121). Alternatively, a year of biology with laboratory at a community college may be petitioned.
2. General chemistry including laboratory (Chem 6A-6C or 6AH-6CH, and 6BL, 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 usually the course required by pharmacy schools. It is accessible without Phys. 2C).
4. Calculus (Math. 20A–20D, or equivalent).
5. Economics (Econ. 1 or 3 or equivalent).
6. Pharmacology seminar (Chem. 92).

Most California pharmacy schools require a course in public speaking for admission to the school. Students planning to apply to these programs should take Introduction to Speech, Theatre THGE 25, or an appropriate course at a community college.

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

1. Two quarters of physical chemistry (Chem. 126-127 recommended; 131–133 acceptable).
2. Three quarters of organic chemistry (Chem. 140A-C or 141A-C).
3. Three quarters of biochemistry (Chem. 114A-B-C).
4. Four laboratory courses (Chem. 100A, 143AM or 143A, 143B and either 112A, 112B or 143C).
5. One quarter of pharmacology and toxicology (Chem. 118).
6. One chemistry elective course chosen from among all the upper-division and graduate courses offered by the Department of Chemistry and Biochemistry (except non-letter graded courses).

If ACS certification is desired, Chem. 120A, plus two additional laboratory courses (Chem. 105A and a lab chosen from Chem. 100B, 105B, 123, or 143C/112A/112B, if not already taken), are required. Any of these courses would satisfy #6. above.

**Suggested Program for Pharmacological Chemistry B.S. Major**  
**(ACS Certification requires additional courses)**

(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 Math. 20A	Chem. 6B Math. 20B BILD 1	Chem. 6C Chem. 6BL Chem. 92 Math. 20C
<b>SOPHOMORE YEAR</b>		
Chem. 100A * Chem. 140A Math. 20D	Chem. 140B Chem. 143AM Phys. 2A	Chem. 140C Chem. 143B Phys. 2B
<b>JUNIOR YEAR</b>		
Chem. 114A * Chem. 143C** Phys. 2D	Chem. 114B Econ. 1/3 BILD 2	Chem. 114C BILD 3 Phys. 2CL
<b>SENIOR YEAR</b>		
Chem. 126 Elective	Chem. 127 Bio. Lab***	Chem. 118

\* 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.

\*\* Chem. 112A or 112B may be substituted.

\*\*\* BICD 101, 111, 131, or BIPN 105 or BIMM 121 (some have prerequisites that must be taken in an earlier quarter).

**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)