
PHARMACOLOGICAL CHEMISTRY (CH35)

Major Requirements for the PHARMACOLOGICAL CHEMISTRY B.S. Degree Starting Fall 2017 and After

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. General Chemistry (CHEM 6A, 6B & 6C or 6AH, 6BH & 6CH)
2. General Chemistry Laboratory (CHEM 7L or CHEM 7LM)
3. Physics (PHYS 2A, 2B & 2C or 2D)
4. Physics Laboratory (PHYS 2BL, 2CL or 2DL)
5. Calculus (MATH 20A, 20B, 20C & 20D)
6. Organic Chemistry, including laboratory (CHEM 40A, 40B & 40C or 40AH, 40BH & 40CH)
7. Organic Chemistry Laboratory (CHEM 43A or 43AM)
8. Biology (BILD 1 & 2)

Upper-Division Requirements

1. Physical Chemistry (CHEM 126A & 126B recommended; CHEM 130, 131 & 132 acceptable)
2. Biochemistry (CHEM 114A, 114B, 114C)
3. Pharmacology and Toxicology (CHEM 118)
4. Medicinal Chemistry (CHEM 167)
5. Drug Synthesis and Design (CHEM 168)
6. Required Laboratory Courses:
 - Analytical Chemistry Laboratory (CHEM 100A)
 - Organic Chemistry Laboratory (CHEM 143B)
 - Choose One: Protein Biochemistry Lab (CHEM 108), Recombinant DNA Laboratory (CHEM 109), or Advanced Organic Chemistry Laboratory (CHEM 143C)
7. Elective: This elective is defined as a four-unit (minimum) upper division course offered by the Department of Chemistry and Biochemistry and taken for a letter grade. 4 units of a non-letter graded courses such as CHEM 199, may be petitioned to fulfill this elective.

For ACS Certification

Replace the elective listed above (#7) with the following 3 courses:

1. Inorganic Chemistry I (CHEM 120A)
2. Physical Chemistry Laboratory (CHEM 105A)
3. Select 1 of the following labs:
 - Instrumental Chemistry Laboratory CHEM 100B
 - Advanced Physical Chemistry Laboratory CHEM 105B
 - Advanced Inorganic Chemistry Laboratory CHEM 123
 - Molecular Design and Synthesis (CHEM 143D)
 - Protein Biochemistry Lab (CHEM 108), Recombinant DNA Laboratory (CHEM 109), or Advanced Organic Chemistry Laboratory (CHEM 143C) (if not already taken as the Biochemistry Laboratory)

Suggested Program for Pharmacological Chemistry B.S. Major

Began at UCSD Fall 2017

FALL	WINTER	SPRING
FRESHMAN YEAR		
CHEM 6A	CHEM 6B	CHEM 6C
MATH 20A	MATH 20B	MATH 20C
		CHEM 7LM or 7L
SOPHOMORE YEAR		
CHEM 40A	CHEM 40B	CHEM 40C
MATH 20D	CHEM 43AM or 43A	PHYS 2BL, 2CL or 2DL
PHYS 2A	PHYS 2B	PHYS 2C or 2D
JUNIOR YEAR		
CHEM 114A	CHEM 114B	CHEM 114C
CHEM 100A	CHEM 143B	CHEM 167*
BILD 1	BILD 2	
SENIOR YEAR		
CHEM 126A	CHEM 126B	CHEM 118*
CHEM 108 or 109 or 143C**	CHEM 168*	Chemistry Elective

*CHEM 118, 167, and 168 may not be offered in the quarter listed. They are each generally offered once per year, in either Winter or Spring Quarter. Please check course offering page or ask a CHEM advisor for the most up-to-date information.

**CHEM 108 and 109 are 6 units each. CHEM 143C has changed to a 4 unit course (effective S119)

IMPORTANT NOTES:

- Courses listed above only include **major requirements**. Speak with your college advisor for planning completion of general education and university requirements.
- The plan above not include classes required for ACS certification. To receive ACS certification, you must follow the instructions above under the "For ACS Certification" section.
- Most California pharmacy schools require additional coursework *that is not part of the Pharmacological Chemistry B.S.* for admission to pharmacy school. Students planning to apply to pharmacy school should review the common [pharmacy school prerequisite coursework](#) listed on the Career Center's website and meet with a [pre-pharm advisor](#) for advice on how to fit these courses into their 4 year plan (if applicable).
- The best time to study abroad is generally fall quarter of Sophomore or Junior year. Education Abroad Program deadlines for upcoming year vary by country. See [EAP website](#). See the Chemistry & Biochemistry Undergraduate Advisor for assistance in planning to study abroad.
- It is your responsibility to ensure that you meet the 48 upper-division unit requirement for your major. Check your degree audit to ensure you will meet this requirement. Transfer students should be especially careful with checking for completion of this requirement.
- Many courses have enforced prerequisites or are offered once per year. It is your responsibility to know which prerequisites are needed for each course. <https://www.ucsd.edu/catalog/courses/CHEM.html>