PHARMACOLOGICAL CHEMISTRY (CH35)

Major Requirements for the PHARMACOLOGICAL CHEMISTRY B.S. Degree
Starting Fall 2022 and After

The Pharmacological Chemistry major is intended primarily to prepare students for pharmacy school (Pharm.D.). Students fulfilling their elective requirements with appropriate courses are prepared to obtain a Ph.D. in pharmacology, biochemistry, or other areas of science. Degree recipients are also 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.

The following courses must be taken for a letter grade:

**Lower Division Requirements:**
- General Chemistry (CHEM 6A, 6B & 6C or 6AH, 6BH & 6CH)
- General Chemistry Lab (CHEM 7L or 7LM)
- Physics (PHYS 1A, 1B & 1C or PHYS 2A, 2B & 2C or 2D)*
- Physics Lab (PHYS 1AL, 1BL & 1CL OR PHYS 2BL or 2CL or 2DL)*
- Calculus (MATH 10A, 10B, 10C & 11 OR MATH 20A, 20B, 20C & 20D)*
- Organic Chemistry (CHEM 41A, 41B & 41C)
- Organic Chemistry Lab (CHEM 43A)
- General Cell Biology (BILD 1 & 2)

**Upper Division Requirements:**
- 1. Physical Chemistry (CHEM 126A & 126B)
- 2. Biochemistry (CHEM 114A, 114B, 114C)
- 3. Required Laboratory Courses:
  - a. Analytical Chemistry Lab (CHEM 100A)
  - b. Organic Chemistry Lab (CHEM 143B)
  - c. Choose One:
    - i. Protein Biochemistry Lab (CHEM 108)
    - ii. Recombinant DNA Lab (CHEM 109)
    - iii. Advanced Organic Chemistry Lab (CHEM 143C)
- 4. PHARM Restricted Elective: (choose one)
  - a. Pharmacology and Toxicology (CHEM 118)
  - b. Medicinal Chemistry (CHEM 167)
  - c. Drug Synthesis and Design (CHEM 168)
- 5. Two Restricted Electives:
  - a. Pharmacology and Toxicology (CHEM 118)*
  - b. Medicinal Chemistry (CHEM 167)*
  - d. Human Physiology I (BIPN 100)
  - e. Human Physiology II (BIPN 102)
  - f. Microbiology (BIMM 120)
  - g. Microbiology Lab (BIMM 121)
- 6. Open elective:
  - a. Four-unit (minimum) upper division course, not being used to fulfill another requirement.
  - b. CHEM 199 may be petitioned.

For ACS Certification (optional):

Replace the open elective listed above with the following 3 courses:
- Inorganic Chemistry I (CHEM 120A)
- Physical Chemistry Lab (CHEM 105A)
- Select 1 of the following labs:
  - a. Instrumental Chemistry Lab (CHEM 100B)
  - b. Advanced Physical Chemistry Lab (CHEM 105B)
  - c. Advanced Inorganic Chemistry Lab (CHEM 123)
  - d. Molecular Design and Synthesis (CHEM 143D)
  - e. Protein Biochemistry Lab (CHEM 108), Recombinant DNA Lab (CHEM 109), or Advanced Organic Chemistry Lab (CHEM 143C) (if not already taken as the Biochemistry Laboratory).

Sample 4-year Academic Plan for Pharmacological Chemistry B.S.

Majors sheets for students who entered prior to Fall 2017 can be found on our website:
http://chem-web.ucsd.edu/undergraduate/majors-minor/
### Majors Sheets for Students who entered prior to Fall 2022

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<table>
<thead>
<tr>
<th>FALL</th>
<th>WINTER</th>
<th>SPRING</th>
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<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
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<td>CHEM 6A</td>
<td>CHEM 6B</td>
<td>CHEM 6C</td>
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<td>MATH 10A</td>
<td>MATH 10B</td>
<td>MATH 10C</td>
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<tr>
<td>BILD 1</td>
<td>BILD 2</td>
<td>CHEM 7LM or 7L</td>
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<tr>
<td><strong>SECOND YEAR</strong></td>
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<td>CHEM 41A</td>
<td>CHEM 41B</td>
<td>CHEM 41C</td>
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<td>PHYS 1A, 1AL</td>
<td>PHYS 1B, 1BL</td>
<td>PHYS 1C, 1CL</td>
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<td>MATH 11</td>
<td>CHEM 43A or 43AM</td>
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<td>CHEM 114A</td>
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<td>CHEM 100A</td>
<td>CHEM 143B</td>
<td>PHARM Restricted Elective</td>
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<td><strong>FOURTH YEAR</strong></td>
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<td>CHEM 108, 109 or 143C</td>
<td>CHEM 126B</td>
<td>Restricted Elective</td>
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**IMPORTANT NOTES:**

- The plans above do not include GE/University requirements or courses required for ASC Certification.
- We do not recommend taking a lab your first quarter at UCSD and taking more than one lab per quarter.
- No more than one "D" grade is allowed in upper-division coursework. A "C-" grade is considered passing.
- 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 meet with a pre-pharm advisor for advice on how to fit these courses into their plan.