Name: 2019-2020 University Catalog
Plan: Chemistry, B.S.
SubPlan/Option: American Chemical Society
Min. Units Required: 120 units

Major Required 48 units
CHM1210 - General Chemistry I (3) (B1)
CHM1210L - General Chemistry Laboratory I (1) (B3)
CHM1220 - General Chemistry II (3) (B1)
CHM1220L - General Chemistry Laboratory II (1) (B3)
CHM2210 - Quantitative Analysis (2)
CHM2210L - Quantitative Analysis Laboratory (2)
CHM2910A - Chemical Communication Activity (1)
CHM3140 - Organic Chemistry I (4)
CHM3140L - Organic Chemistry Laboratory I (1)
CHM3150 - Organic Chemistry II (3)
CHM3150L - Organic Chemistry Laboratory II (1)
CHM3270 - Biochemistry I (3)
CHM3270L - Biochemistry Laboratory I (1)
CHM3420 - Spectroscopic Methods (1)
CHM3420L - Spectroscopic Methods Laboratory (1)
CHM3430 - Separation Methods (1)
CHM3430L - Separation Methods Laboratory (1)
CHM3520L - Physical Chemistry Laboratory (2)
MAT1140 - Calculus I (4) (B4)
MAT1150 - Calculus II (4) (B4)
PHY1510 - Introduction to Newtonian Mechanics (3) (B1)
PHY1510L - Newtonian Mechanics Laboratory (1) (B3)
PHY1520 - Introduction to Electromagnetism and Circuits (3)
PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)

Subplan/Option Required 24 units
BIO1150 - Basic Biology (3) (B2)
BIO1150L - Basic Biology Laboratory I (1) (B3)
CHM3110 - Classical Physical Chemistry (3)
CHM3120 - Quantum Physical Chemistry (3)
CHM3440 - Electroanalytical Methods (1)
CHM3440L - Electroanalytical Methods Laboratory (1)
CHM4010 - Inorganic Chemistry (4)
CHM4220 - Organic Synthesis (2) and
CHM4220L - Organic Synthesis Laboratory (2)
OR
CHM4230 - Physical Organic Chemistry (2) and
CHM4230L - Physical Organic Chemistry Laboratory (2)
OR
CHM4240 - Organic Analysis (2) and
CHM4240L - Organic Analysis Laboratory (2)
MAT2250 - Linear Algebra with Applications to Differential Equations (4)

Subplan/Option Electives 7-9 units
CHM 3000/4000 level - Chemistry courses not already counted in Major/Option Required (2-4)
CHM4610 - Senior Project I (2)
CHM4620 - Senior Project II (2)
CHM4630 - Research Student Seminar (1)

Note(s):
CHM 4610 / CHM 4620 / CHM 4630 recommended for graduate school.

Unrestricted Electives 0-2 units
Select a sufficient number of courses so that the total from "Major Required", "Subplan/Option Required", "Subplan/Option Electives", "GE", and "Unrestricted Electives" is at least 120 units.

General Education Requirements 48 Units
Students should consult the Academic Programs website
https://www.cpp.edu/academic-programs/general-education-course-listings.shtml
for current information regarding this requirement. Unless specific courses are required, please refer to the list of approved courses under General Education Requirements, Areas A through E.

Area A. English Language Communication and Critical Thinking (9 units)
At least 3 units from each sub-area
1. Oral Communication
2. Written Communication
3. Critical Thinking

Area B. Scientific Inquiry and Quantitative Reasoning (12 units)
At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3
1. Physical Sciences
2. Life Sciences
3. Laboratory Activity
4. Mathematics/Quantitative Reasoning
5. Science and Technology Synthesis

Area C. Arts and Humanities (12 units)
At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2
1. Visual and Performing Arts
2. Literature, Modern Languages, Philosophy and Civilization
3. Arts and Humanities Synthesis

Area D. Social Sciences (12 units)
At least 3 units from each sub-area
1. U.S. History and American Ideals
2. U.S. Constitution and California Government
4. Social Science Synthesis

Area E. Lifelong Learning and Self-Development (3 units)

Interdisciplinary General Education 21 Units
An alternate pattern for partial fulfillment of GE Areas A, C, and D available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Please refer to the University Catalog General Education Program section for additional information.

How IGE fulfills General Education Requirements:

<table>
<thead>
<tr>
<th>Year</th>
<th>Completion of IGE Courses</th>
<th>Satisfies GE Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>IGE 1100, IGE 1200</td>
<td>A2 and C2</td>
</tr>
<tr>
<td>Second/Third</td>
<td>IGE 2100, IGE 2200</td>
<td>C1 and C2</td>
</tr>
<tr>
<td>Third/Fourth</td>
<td>IGE 2300, IGE 2400</td>
<td>D1 and D3</td>
</tr>
<tr>
<td></td>
<td>IGE 3100</td>
<td>C3 or D4</td>
</tr>
</tbody>
</table>

American Institutions 6 Units
Courses that satisfy this requirement may also satisfy GE Area D1 and D2.

American Cultural Perspectives Requirement 3 Units
Refer to the University Catalog General Education Program section for a list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements.

Graduation Writing Test
All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the semester following completion of 60 units for undergraduates.

https://www.cpp.edu/~academic-programs/academic-advising/toolsheets-roadmaps/index.shtml