



**California State Polytechnic University, Pomona
Degree Curriculum Sheet**

Plan (Major) **CHEMISTRY, B.S.**

Catalog Year **2017-2018**

Name _____

Subplan/Option **Industrial Chemistry**

Minimum Units Required **180**

Student ID _____

Required Core Courses

Required of all students. A 2.0 cumulative GPA is required in core courses, including subplan courses, in order to receive a degree in the major.

CHM 121 - General Chemistry (3) and
CHM 121L - General Chemistry Laboratory (1)

CHM 122 - General Chemistry (3) and
CHM 122L - General Chemistry Laboratory (1)

CHM 123 - General Chemistry (3) and
CHM 123L - General Chemistry Laboratory (1)

CHM 221/221L - Quantitative Analysis (2/2)
CHM 314 - Organic Chemistry (3)
CHM 315 - Organic Chemistry (3)
CHM 316 - Organic Chemistry (3)
CHM 317L - Organic Chemistry Laboratory (1)
CHM 318L - Organic Chemistry Laboratory (1)
CHM 319L - Organic Chemistry Laboratory (1)
CHM 342/342L - Spectroscopic Methods (2/2)
CHM 343/343L - Separation Methods (2/2)
CHM 344/344L - Electroanalytical Methods (2/2)
CHM 352/352L - Physical Chemistry/Laboratory (1/2)

CHM 422/422L - Organic Synthesis (2/2) or
CHM 424/424L - Organic Analysis (2/2)

CHM 491 - Senior Research Project (3)
CHM 492 - Senior Research Project (3)
CHM 493 - Undergraduate Seminar (2)

Total Units 55

Required Subplan/Option Core Courses

CHM 304/304A - Elements of Physical Chemistry (3/1) and
CHM 305 - Elements of Physical Chemistry (3)
or
CHM 311 - Physical Chemistry (3) and
CHM 312 - Physical Chemistry (3) and
CHM 313 - Physical Chemistry (3)

CHM 321/321L - Elements of Biochemistry (3/1)
or
CHM 327 - Biochemistry (3) and
CHM 327L - Biochemistry Laboratory (1)
or
CHM 401 - Inorganic Chemistry (3)

CHM 340 - The Chemist in Industry (4)

Continue next column

Required Subplan/Option Core Courses Con't.

Two courses from the following:

CHM 402 - Inorganic Chemistry (3)
CHM 409 - Polymer Chemistry (3)
CHM 413 - Introduction to Colloid and Surface Chemistry (3)
CHM 450 - Bioanalytical Chemistry (4)
CHM 452/452L - Biochemical Preparations (1/2)
CHM 459 - Green Chemistry (4)
CHM 460 - Air Pollution Problems (3)

Total Units 20-25

Required Support Courses

The following major support courses should be used to satisfy the indicated GE requirements. If these courses are not used to satisfy GE, the total units to degree may be more than 180 units.

BIO 115/115A/115L - Basic Biology (3/1/1) (B2, B3)
CS 128 - Introduction to C++ (4)
MAT 114 - Analytic Geometry and Calculus I (4) (B4)
MAT 115 - Analytic Geometry and Calculus II (4)
MAT 116 - Analytic Geometry and Calculus III (4)

PHY 131 - General Physics (3) (B1) and
PHY 131L - General Physics Laboratory (1) (B3)

PHY 132 - General Physics (3) and
PHY 132L - General Physics Laboratory (1)

PHY 133 - General Physics (3) and
PHY 133L - General Physics Laboratory (1)

SCI 470 - Cooperative Education (1-4) (4 units)
or
SCI 471 - Cooperative Education (1-4) (2 units) and
SCI 472 - Cooperative Education (1-4) (2 units) (If a suitable Co-op position is not available, students will take an additional advanced Chemistry elective [consult advisor])

STA 309 - Statistical Methods in Engineering and the Physical Sciences (3)

Total Units 40

Elective Support Courses

Select a minimum of 6 units from one approved elective package. (See Advisor)

Total Units 6

Unrestricted Electives

Select a sufficient number of courses so that the total from "Required Subplan/Option", "Required Support", "GE", and "Unrestricted Electives" is at least 119 units.

Total Units 0-3

General Education Requirements

Area A Communication & Critical Thinking (12 units)

1. Oral Communication
2. Written Communication
3. Critical Thinking

Area B Mathematics & Natural Sciences (16 units)

1. Physical Science
2. Biological Science
3. Laboratory Activity
4. Math/Quantitative Reasoning
5. Science & Technology Synthesis

Area C Humanities (16 units)

1. Visual and Performing Arts
2. Philosophy and Civilization
3. Literature and Foreign Language
4. Humanities Synthesis

Area D Social Sciences (20 units)

1. U.S. History, Constitution, American Ideals
 - a. United States History
 - b. Introduction to American Government
2. History, Economics and Political Science
3. Sociology, Anthropology, Ethnic & Gender Studies
4. Social Science Synthesis

Area E Lifelong Understanding & Self Development (4 units)

Total Units 68

American Institutions

Courses that satisfy this requirement may also satisfy GE Area D1

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American Cultural Perspectives Requirement

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.

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All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the quarter following completion of 120 units for undergraduates.