



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

Plan (Major) **CHEMISTRY**

Catalog Year **2017-2018**

Name _____

Subplan/Option **Biochemistry**

Minimum Units Required **180**

Student ID _____

Required Core Courses

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)
CHM 305 - Elements of Physical Chemistry (3)

CHM 327 - Biochemistry (3) and
CHM 327L - Biochemistry Laboratory (1)

CHM 328 - Biochemistry (3) and
CHM 328L - Biochemistry Laboratory (1)

CHM 329 - Biochemistry (3) and
CHM 329L - Biochemistry Laboratory (1)

Choose 8-12 units from the following 4 courses:

CHM 331/331L - Clinical Chemistry (2/2)
CHM 417 - Computational Biochemistry (4)
CHM 451/451L - Enzymology (3/1)
CHM 453 - Recombinant DNA Biochemistry (3)

Total Units 27-31

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)
BIO 303 - Genetics (4)
BIO 310 - Cell and Molecular Biology (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)

Total Units 37

Restricted Support Electives

Select a minimum of 4 units from the following courses:

BIO 410 - Biophysics (4) cross-listed as
PHY 410 - Biophysics (4)

BIO 431/431L - Radiation Biology (3/1)

BIO 451 - Molecular Biology Techniques (3) and
BIO 451L - Molecular Biology Techniques Laboratory (2)

BIO 455/455L - Molecular Biology of Recombinant DNA (2/2)
BIO 459/459L - Bioinformatics (3/2)

Total Units 4

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 121 units.

Total Units 0-1

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 catalog for 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.