



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

Plan (Major) **PHYSICS**
Subplan/Option _____

Catalog Year **2016 - 2017**
Minimum Units Required **180**

Name _____
Student ID _____

Required Core Courses

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

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

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

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

PHY 234 - Introduction to Electromagnetic Radiation and Special Relativity (3) and
PHY 234L - Introductory Laboratory on Electromagnetic Radiation and Special Relativity (1)

PHY 235 - Introduction to Quantum Physics (3) and
PHY 235L - Introductory Laboratory on Quantum Physics (1)

PHY 308 - Fundamentals of Mathematical Physics (4)
PHY 309 - Fundamentals of Mathematical Physics (4)
PHY 314 - Physics of Electric and Magnetic Phenomena (4)
PHY 315 - Physics of Electric and Magnetic Phenomena (4)

PHY 321 - Mechanics (4)
PHY 322 - Mechanics (4)

PHY 333 - Thermal Physics (4)

PHY 401 - Quantum Mechanics (4)
PHY 402 - Quantum Mechanics (4)

PHY 430L - Advanced Physics Laboratory (1)
PHY 431L - Solid State Physics Laboratory (1)

PHY 432L - Nuclear Physics Laboratory (1)
PHY 463 - Undergraduate Seminar (2)

Total Units 61

Elective Core Courses

Students must select 8 units of courses from the list below.

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

PHY 304/304L - Electronics for Scientists (3/1)
PHY 400 - Special Study for Upper Division Students (1-2) (up to 4 units total)
PHY 409 - Computational Physics (4)

PHY 417 - Optics (3) and
PHY 417L - Optics Laboratory (1)

PHY 441 - Internship in Physics (2) (up to 4 units total)

PHY 461 - Senior Project (2) and
PHY 462 - Senior Project (2)

Total Units 8

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 110/111L - Life Science (3/1) (B2, B3) or
BIO 121/121L - Foundations of Biology: Energy and Matter - Cycles and Flows (3/2) (B2, B3)

CHM 121 - General Chemistry (3) (B1) and
CHM 121L - General Chemistry Laboratory (1) (B3)

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

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

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)

MAT 214 - Calculus of Several Variables I (3)
MAT 215 - Calculus of Several Variables II (3)

MAT 216 - Differential Equations (4)

Total Units 42-43

Elective Support Courses

Advanced Electives

(To be chosen from upper division courses in Physics or related fields in consultation with advisor; at least 4 of these units must be in Physics).

Total Units 12

Unrestricted Electives

Select a sufficient number of courses so that the total from "Required Support", "GE", and "Unrestricted Electives" is at least 99 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 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.