



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

Plan (Major) **GEOLOGY**

Catalog Year **2016 - 2017**

Name _____

Subplan/Option _____

Minimum Units Required **180**

Student ID _____

Required Core Courses

Required of all students. A 2.0 cumulative GPA is required in Geology core courses to receive a degree in the major
 GSC 111 - Principles of Geology (4)
 GSC 112 - Earth, Time and Life (3)
 GSC 141L - Principles of Geology Laboratory (1)
 GSC 145L - Megascopic Petrography Laboratory (1)
 GSC 151L - Earth, Time and Life Laboratory (1)
 GSC 215/215L - Mineralogy (3/1)
 GSC 255L - Field Methods Laboratory (2)
 GSC 300/300L - Introduction to Geochemistry (3/1)
 GSC 307/307L - Introduction to Global Geophysics (3/1)
 GSC 323/323L - Geomorphology (3/1)
 GSC 333/333L - Structural Geology (3/1)
 GSC 360/360L - Hydrogeology (3/1)
 GSC 410 - Earth Science Seminar (2)

GSC 401/401L - GIS Applications for Earth Scientists I (1/2) or
 GSC 411/411L - GIS Applications for Earth Scientists II (1/2)

Total Units 41

Elective Core Courses

Select 6 units from the list below:

GSC 461 - Senior Project (2) and
 GSC 462 - Senior Presentation (2)

GSC 463 - Senior Thesis (2)
 300- or 400-level GSC course(s) (2-6)

ENG 301 - Writing for the Professions (4) or
 CE 362/362A - Technical Communications and Documentation/Activity (2/1)

Total Units 6

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 115/115A/115L - Basic Biology (3/1/1) (B2, B3)

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

Continue next column

Required Support Courses Con't.

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

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

GSC 350 - Natural Disasters (4) (B5)
 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) or
 GSC 225 - Quantitative Applications in the Earth Sciences (4)

PHY 121 - College Physics (3) and
 PHY 121L - College Physics Laboratory (1)

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

PHY 122 - College Physics (3) and
 PHY 122L - College Physics Laboratory (1)

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

PHY 123 - College Physics (3) and
 PHY 123L - College Physics Laboratory (1)

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

Total Units 44-45

Restricted Support Electives

Choose 34 units from a chosen Emphasis on the back side.

Total Units 34

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 0-3

Subject Matter Preparation - Program for Prospective Teachers of Science with a Concentration in Geology:

Note: The listed curriculum is pending approval by the State Commission on Teacher Credentialing. Anyone interested please check with the Department of interest for current status.

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

8

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.

4

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.

Geology Emphasis:**34 Units**

GSC 325/325L - Optical Mineralogy (2/2)
 GSC 331/331L - Invertebrate Paleontology (3/1)
 GSC 423/423L - Sedimentary Geology (3/2)
 GSC 424 - Igneous and Metamorphic Petrology (3)
 GSC 425L - Igneous and Metamorphic Petrology Laboratory (2)

GSC 433/433L - Ore Deposits (3/1) or
 GSC 444/444L - Geotectonics (3/1)

GSC 490L - Summer Field Geology Laboratory (8) or
 GSC 491L - Field Module Laboratory (2) (8 units required)

300- or 400-level GSC course(s) (4)

Geophysics/Earth Exploration Emphasis:**34 Units**

GSC 116 - Introduction to Astronomy (4) or
 GSC 120 - Introduction to Oceanography (4) or
 GSC 195 - Earthquake Country (4)

GSC 304 - Meteorology (4) or
 GSC 320 - Studies of a Blue Planet (4) or
 GSC 495 - Planetary Science (4)

GSC 321/321L - Engineering Geology I (3/1)
 GSC 415/415L - Engineering Geology II/Laboratory (3/1)
 GSC 434/434L - Shallow Subsurface Geophysics (3/1)
 GSC 450/450L - Introduction to Seismology, Earthquakes and Earth Structure (3/1)
 GSC 491L - Field Module Laboratory (2)

CS 128 - Introduction to C++ (4) or
 CS 140 - Introduction to Computer Science (4)

300- or 400-level GSC course(s) (4)

Environmental Resources Emphasis:**34 Units**

(Choose 34 units from the list of classes outlined below):

GSC 110 - Water in a Changing World (4)
 GSC 304 - Meteorology (4)
 GSC 320 - Studies of a Blue Planet (4)
 GSC 335 - Exploring the Oceans: Oceanography (4)
 GSC 432/432L - Soil Physics (3/1)
 GSC 434/434L - Shallow Subsurface Geophysics (3/1)
 GSC 491L - Field Module Laboratory (2)
 GSC 495 - Planetary Science (4)
 BIO 304 - Environment and Society (4)
 CE 351/351L - Environmental Engineering/Laboratory (3/1)
 EC 439 - Water Resource Management (4)
 GEO 303 - Climatology (4)
 GEO 442/442A - Advanced Geographic Information Systems I (3/1)
 GEO 443/443A - Advanced Geographic Information Systems II (3/1)
 IME 402 - Ethical Considerations in Technology and Applied Science (4)
 PHY 301 - Energy and Society (4)
 PLT 231/231L - Basic Soil Science (3/1)
 PLT 431/431L - Soil Chemistry (3/1)
 RS 414/414L - Current Applications in Regenerative Studies (3/1)
 URP 482 - California Water (4)

Breadth Courses:**Biological Courses:**

BIO 121/121L - Foundations of Biology: Energy and Matter - Cycles and Flows (3/2)
 BIO 122/122L - Foundations of Biology: Reproduction and Development (3/2)
 BIO 123/123L - Foundations of Biology: Biodiversity (3/2)

Chemistry:

CHM 121 - General Chemistry (3)
 CHM 121L - General Chemistry Laboratory (1)
 CHM 122 - General Chemistry (3)
 CHM 122L - General Chemistry Laboratory (1)
 CHM 123 - General Chemistry (3)
 CHM 123L - General Chemistry Laboratory (1)

Geosciences:

GSC 111 - Principles of Geology (4)
 GSC 141L - Principles of Geology Laboratory (1)
 GSC 116 - Introduction to Astronomy (4)
 GSC 350 - Natural Disasters (4)

Physics:

PHY 121 - College Physics (3) *
 PHY 121L - College Physics Laboratory (1) *
 PHY 122 - College Physics (3) *
 PHY 122L - College Physics Laboratory (1) *
 PHY 123 - College Physics (3) *
 PHY 123L - College Physics Laboratory (1) *

Note(s):

*PHY 131/PHY 131L, PHY 132/PHY 132L, and PHY 133/PHY 133L are acceptable substitutes.

Interdisciplinary Science:

SCI 200 - Special Study for Lower Division Students (1-2) or
 SCI 299/299A/299L - Special Topics for Lower Division Students (1-4/1-4/1-4) or
 SCI 400 - Special Study for Upper Division Students (1-2) or
 SCI 499/499A/499L - Special Topics for Upper Division Students (1-4/1-4/1-4) with permission of department

SCI 461 - Senior Research I (2)
 SCI 462 - Senior Research II (2)
 SCI 463 - Senior Seminar (4)

IGE 222 - Ways of Doing: Technology and Human Purpose (4) and
 IGE 223 - Ways of Living: The Contemporary World (4)
 or
 STS 201 - Introduction to Science, Technology, and Society (4) and
 PHL 483 - Philosophy of Science (4)

Depth Courses in Geological Sciences:

GSC 112 - Earth, Time and Life (3)
 GSC 151L - Earth, Time and Life Laboratory (1)
 GSC 120 - Introduction to Oceanography (4)
 GSC 145L - Megascopic Petrography Laboratory (1)
 GSC 215/215L - Mineralogy (3/1)
 GSC 255L - Field Methods Laboratory (2)
 GSC 300/300L - Introduction to Geochemistry (3/1)
 GSC 304 - Meteorology (4)

GSC 401/401L - GIS Applications for Earth Scientists I (1/2) or
 GSC 411/411L - GIS Applications for Earth Scientists II (1/2)

GSC 320 - Studies of a Blue Planet (4)
 GSC 321/321L - Engineering Geology I (3/1)
 GSC 323/323L - Geomorphology (3/1)
 GSC 360/360L - Hydrogeology (3/1)