

GEOLOGY

Natural and Applied Sciences Division

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www.cabrillo.edu/programs

Program Description:

Geology is the study of Earth materials and processes. A masters or Ph.D. in this field will enable the graduate to have a career in a wide variety of fields such as research, academia, engineering/consulting, geohydrology, seismology, volcanology, geophysics, glaciology, and economic geology (ore and hydrocarbon deposits), to name a few. Geology and Earth Sciences are offered as majors at UC and CSU.

Model Program for Geology

The following Model Program fulfills requirements for the A.S. Degree in Geology at Cabrillo College. Specific lower division major preparation at four-year public institutions in California can be found at www.assist.org. Please see a counselor for advisement for transfer to any four-year institution.

A.S. Degree: Geology

A.S. General Education

21 Units

Core Courses (37-44 units)

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|---------|--|---|
| GEOL 10 | Introduction to Earth Science | 4 |
| CHEM 1A | General Chemistry I | 5 |
| CHEM 1B | General Chemistry II | 5 |
| MATH 5A | Analytic Geometry and Calculus I | 5 |
| MATH 5B | Analytic Geometry and Calculus II | 5 |
| MATH 5C | Analytic Geometry and Calculus III | 5 |
| PHYS 4A | Physics for Scientists and Engineers | 5 |
| PHYS 4B | *Physics for Scientists and Engineers | 5 |
| PHYS 4C | **Physics for Scientists and Engineers | 5 |

or

| | | |
|---------|-----------------------------|---|
| PHYS 2A | *General Physics | 4 |
| PHYS 2B | **General Physics | 4 |

Approved Electives (0-2 units)

| | | |
|----------|---|---|
| ENGR 1A | Surveying | 4 |
| ES 10 | Introduction to Environmental Science | 3 |
| GEOL 15 | Environmental Geology | 3 |
| GEOL 20 | California Geology | 4 |
| GEOL 25 | Geology of National Parks | 3 |
| MATH 6 | **Introduction to Linear Algebra | 3 |
| OCEAN 10 | Introduction to Oceanography | 4 |

Total Units

60

*fall only; **spring only

Geology Courses

GEOL 10

Introduction to Earth Science

4 units; 3 hours Lecture, 3 hours Laboratory

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces the phenomena and basic principles of physical geology with laboratory exercises illustrating the nature of minerals, rocks, geological processes, and the use and interpretation of topographic and geological maps.

Transfer Credit: Transfers to CSU, UC.

GEOL 15

Environmental Geology

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces the interactions among Earth systems, humans and the environment. Topics include Earth systems and the physical interactions among different systems, natural disasters (earthquakes, volcanoes, floods, and landslides), groundwater, waste disposal, pollution, resources and population, engineering geology and land-use planning.

Transfer Credit: Transfers to CSU, UC.

GEOL 20

California Geology

4 units; 3 hours Lecture, 3 hours Laboratory

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces the geologic history of California. Includes the phenomena and basic principles of geology and a survey of the topography, structure, geologic history, climate and resources of each geomorphic province of California. Field trips required.

Transfer Credit: Transfers to CSU, UC.

GEOL 25

Geology of National Parks

3 units; 3 hours Lecture

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Introduces the geologic history, structure and materials of National Parks in North America. Includes a survey of associated internal and external Earth processes responsible for shaping our National Parks such as plate tectonics and mountain building, earthquakes, volcanoes, mass wasting, weathering, erosion, rivers and glaciers. May be offered in a Distance-Learning Format.

Transfer Credit: Transfers to CSU, UC.

GEOL 27

Geology of the Pinnacles National Monument

1 unit; 1 hour Lecture, 0.5 hour Laboratory

Corequisite: ASTRO 27.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Provides a weekend field lecture course allowing the student to study, through direct observation, the geologic history and processes that have formed and shaped the Pinnacles. Camping and hiking required.

Transfer Credit: Transfers to CSU.

GEOL 30A-Z

Field Geology

1 - 2 units; 0.7 hour Lecture, 0.8 hour Laboratory

Repeatability: May be taken a total of 4 times.

Recommended Preparation: Eligibility for ENGL 100 and READ 100.

Studies the rocks, minerals and geologic history of the designated field area through direct observation. Various field areas include Point Lobos and the Big Sur Region, Yosemite National Park, Grand Canyon, Zion and Bryce National Parks. Camping may be required. Each A-Z course may be taken only once. Some offerings may be in conjunction with ENGL 17 and HIST 26.

Transfer Credit: Transfers to CSU.