Geology GEOL

Degree: AS-T – Geology for Transfer

Required Program

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<th>Course</th>
<th>Units</th>
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<tr>
<td>CHEM 400 General Chemistry I</td>
<td>5</td>
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<td>CHEM 401 General Chemistry II</td>
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<tr>
<td>GEOL 302 Physical Geology</td>
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<td>GEOL 310 Historical Geology</td>
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<td>GEOL 311 Historical Geology Laboratory</td>
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<td>MATH 400 Calculus I</td>
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<td>MATH 401 Calculus II</td>
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Total Units Required 28

Associate in Science for Transfer Degree

The Associate in Science in Geology for Transfer (AS-T) degree may be obtained by completion of 60 transferable, semester units with a minimum 2.0 GPA, including (a) the major or area of emphasis described in the Required Program, and (b) either the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.

GEOL 302 Physical Geology 4 Units

Prerequisite: None.
Advisory: MATH 100 with a grade of “C” or better and ENGRD 310 and ENGW 300, or ESLR 340 and ESLW 340, with grades of “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 44 hours LEC; 54 hours LAB
This in-depth course provides an understanding of the dynamic nature of Earth through the study of earth processes including plate tectonics, the major rock types and the minerals that comprise them, volcanoes, earthquakes and Earth’s interior, crustal deformation and mountain building, fossils and deep time, energy and mineral resources, surface water and groundwater, oceans and coasts, glaciers, deserts, and global change. The course uses real-world examples of the scientific method as a foundation for understanding the geological sciences and focuses on the relevance of geology to our everyday lives. At least one field trip (for example to Cache Creek Canyon or Point Reyes National Seashore) or an appropriate alternative activity will be required as an introduction to geological environments and field methods in geology. (C-ID GEOL 101)
GEOL 305  Earth Science  3 Units
Prerequisite: None.
Advisory: MATH 100 with a grade of “C” or better and ENGRD 310 and ENGWR 300, or ESLW 340 and ESLR 340, with grades “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LEC

Earth science is an introductory science course that covers a broad range of topics including geology, oceanography, meteorology, and astronomy. Sub-topics are introduced and placed into the context of the scientific method. Using recent, historical, and prehistorical earth science events as examples, the course emphasizes the interrelatedness of the various disciplines and focuses on Earth as a dynamic, synthetic, and continually evolving – yet stable – planet. (C-ID GEOL 120)

GEOL 306  Earth Science Laboratory  1 Unit
Prerequisite: None.
Corequisite: GEOL 305
Advisory: MATH 100 with a grade of “C” or better and ENGRD 310 and ENGWR 300, or ESLW 340 and ESLR 340, with grades “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B3; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LAB

This course emphasizes scientific methods and systematic laboratory procedures in the earth sciences. It includes practical and written experience in rock and mineral identification, plate tectonics and earthquakes, river and glacial topography, geologic and topographic maps, oceanography and meteorology exercises, and concepts in astronomy. At least one field trip (for example to Cache Creek Canyon or Point Reyes National Seashore) or an appropriate alternative activity will be required as an introduction to geological environments and field methods in geology. The course is not available for credit to students who have completed GEOL 302. (C-ID GEOL 120L)

GEOL 308  Introduction to Geology  3 Units
Prerequisite: None.
Advisory: MATH 34 with a grade of C or better and ENGRD 110 and ENGWR 101, or ESLR 320 and ESLW 320, with grades of “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LEC

This course provides an introduction to geological processes and the dynamic nature of Earth as a system. It includes discussion of fundamental geological concepts such as plate tectonics, the major rock types and the minerals that comprise them, volcanoes, earthquakes and Earth’s interior, crustal deformation and mountain building, deep time, fossils and evolution, and the history of Earth. A focus on the relevance of geology to our everyday lives makes this course ideal for introductory-level and non-science majors and those students desiring a stronger background in the basic sciences.

GEOL 310  Historical Geology  3 Units
Prerequisite: None.
Advisory: ENGRD 310 and ENGWR 300, or ESLR 340 and ESLW 340, and MATH 100, with grades of “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LEC

This course covers the origin and geologic history of the Earth and the evolution of its living organisms. Plate tectonic theory is used to explain changes in composition and structure of rocks of the Earth’s crust from the formation of the Earth to the present. Emphasis is placed on the formation of sedimentary rocks and the fossils contained within them for the purpose of understanding how they record changes in Earth’s environmental processes and ecosystems. Evolution and extinction are studied to understand how they reflect environmental changes in the Earth’s ocean, atmosphere, and surface. (C-ID GEOL 110)

GEOL 311  Historical Geology Laboratory  1 Unit
Prerequisite: None.
Corequisite: GEOL 310
Advisory: ENGRD 310 and ENGWR 300, or ESLR 340 and ESLW 340, and MATH 100, with grades of “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B3; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LAB

This course covers the environmental effects and applications of Earth-related processes. It focuses on earthquakes, volcanic eruptions, landslides, flooding, and hurricanes, as well as covering related current events. Topics also include the availability and exploitation of natural resources, waste disposal, and global climate change. Humans as a force in environmental change are emphasized. This course addresses geology, engineering, environmental studies, natural resources, geography, and science education. One field trip is required.
GEOL 345  Geology of California  3 Units
Prerequisite: None.
Advisory: ENGRD 310 and ENGW 300, or ESLR 340 and ESLW 340, and MATH 100, with grades of “C” or better; or placement through the assessment process.
General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course provides a survey of the physical and historical aspects of California geology, emphasizing the linkage of geology and people through economic and social impacts. This course is recommended for non-majors and majors in geology and is of particular value to science, engineering, environmental studies, education, and economics majors. One field trip may be required (for example to Cache Creek Canyon or Point Reyes National Seashore). (C-ID GEOL 200)

GEOL 391  Field Studies in Geology  1-3 Units
Prerequisite: GEOL 302, 305, 308, or 310 with a grade of “C” or better
Enrollment Limitation: For course topic “Geology and Natural History of the Eel River, Northern California,” students must demonstrate swimming and basic canoeing abilities. Students must be able to swim 50 yards and demonstrate they can enter and exit a canoe from beach and dock; paddle forward, turn, stop and reverse; right a capsized canoe; and perform an assisted entry from the water. Swim testing and canoe testing will be administered by the CSU Sacramento Aquatic Center at Lake Natoma or the Humboldt State University Center Activities Program at Humboldt Bay.
Course Transferable to UC/CSU
Hours: 18 hours LEC; 108 hours LAB
This course requires field trips to selected locations of geologic interest. Course content varies according to field trip destination but may include topics in physical geology, environmental geology, economic geology, natural history, and/or introduction to tools and techniques used for geosciences field research [e.g. map and compass, the Global Positioning System (GPS), Geographic Information Systems (GIS), etc.]. Units are awarded based on both lecture and laboratory (one unit per 18 hours lecture and/or 54 hours laboratory or a combination of lecture and laboratory hours).

GEOL 495  Independent Studies in Geology  1-3 Units
Prerequisite: None.
Course Transferable to UC/CSU
Hours: 162 hours LAB
An independent studies project involves an individual student or small group of students in study, research, or activities beyond the scope of regularly offered courses. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions.

GEOL 499  Experimental Offering in Geology  .5-4 Units
Prerequisite: None
Course Transferable to UC/CSU
Hours: 54 hours LEC; 36 hours LAB
See Experimental Offering. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions.