

GEOLOGY

The Geology Department offers courses, which examine the earth's history, structure, and economic resources. These courses meet the need for:

1. Students planning to transfer to a four-year institution and prepare for a career in geology or related fields,
2. Students fulfilling the undergraduate general education science requirement, and
3. Students who wish to better understand the planet on which we live.

Students planning to transfer to a four-year institution and major in geology should consult with a counselor regarding the transfer process and lower division requirements.

Contact Information

Division: Science (PS - 148)

Division Phone Number: (909) 384-8645

Faculty Chairs: Todd Heibel (theibel@sbccd.edu), Ph.D. and Matthew Robles (mrobles@sbccd.edu), M.S.

- Geology Associate of Science Degree (<http://catalog.valleycollege.edu/degree-certificate-program-index/geology/geology-as-degree/>)
- Geology Associate of Science Transfer Degree (<http://catalog.valleycollege.edu/degree-certificate-program-index/geology/geology-ast-degree/>)

GEOL 101 3 Units

Introduction to Physical Geology

Lecture: 54 contact hours

Prerequisite: ENGL 914 or eligibility for ENGL 015 as determined through the SBVC assessment process and MATH 942 or eligibility for MATH 952 as determined by the SBVC assessment process.

Advisory: GEOL 111

This course is an introduction to the study of the Earth, with emphasis on the materials that make up the Earth. It emphasizes Plate Tectonics, the processes that created the continents and the ocean basins, and the processes that change the landscape.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: GEOL 100

GEOL 111 1 Unit

Introduction to Physical Geology Laboratory

Lab: 54 contact hours

Prerequisite/Corequisite: GEOL 101

This course is a hands-on introduction to the study of the Earth, with an emphasis on the materials that make up the Earth. Students will participate in one or more field trips. This course is recommended for students concurrently enrolled in GEOL 101 or who have successfully completed GEOL 101 within the last two years.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: GEOL 100L

GEOL 112 4 Units

Historical Geology

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: ENGL 015 or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC process and MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process.

Advisory: GEOL 101 and GEOL 111

This course reviews the geologic history of the Earth. Specific topics include the planet's origin and chronological processes that produce major continental and oceanic features, plate tectonics, stratigraphy, interpretation of Earth history from rock and fossil records, and the evolutionary development of plant and animal life. Students should anticipate participating in one or more field trips.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: GEOL 111

GEOL 122 3 Units

Environmental Geology

Lecture: 54 contact hours

Prerequisite: ENGL 015 or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC process. MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process. |

Advisory: GEOL 101 or GEOG 110

This course introduces the relationships among geologic processes, natural resources, and the needs of society. Topics include natural hazards such as earthquakes, landslides, and mudflows; mineral and energy resources; and the particular problems associated with urbanization, resource use, and pollution. Students should anticipate participating in one or more field trips.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: GEOL 130

GEOL 170 1 Unit

Geologic History of the Great Basin Province

Lecture: 9 contact hours

Lab: 27 contact hours

Prerequisite: ENGL 015 or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC assessment process and MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process.

Advisory: GEOL 101 or GEOG 110 and GEOL 112

Students will discuss and observe the physical and historical geology of the Great Basin Province of the United States, with special emphasis on the geology of Death Valley National Park. Coursework will involve a series of lectures leading to a three to four-day field trip through the Great Basin in and around Death Valley. Students must attend the field trip for the successful completion of the course. The field trips will emphasize the geological features and anthropological history of the Great Basin Province.

Associate Degree Applicable

Transfers to CSU only

GEOL 201 4 Units**Mineralogy****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** GEOL 101 and GEOL 111 and CHEM 101 or CHEM 150 or CHEM 150H.

This course emphasizes the classification and origin of minerals through chemical and physical tests, as well as spectroscopic, optical, and x-ray diffraction analyses. There is an ancillary study of crystal structures with models, natural crystals, and stereographic projections. Students should anticipate participating in one or more field trips.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** GEOL 280**GEOL 222 1-3 Units****Independent Study in Geology****DIR:** 54 contact hours**Prerequisite:** GEOL 101

Students with previous course work in Geology may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Geology. Prior to registration, a written contract must be prepared jointly by the instructor and the student.

Associate Degree Applicable**Transfers to CSU only****GEOL 250 3 Units****Geology of California****Lecture:** 54 contact hours**Prerequisite:** ENGL 015 and or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC process. MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process.**Advisory:** GEOL 101 or GEOG 110

This course introduces students to the physical and historical geology of California, emphasizing the distinctive geologic features of each of California's twelve geomorphic provinces. Students should anticipate participating in one or more field trips.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** GEOL 200**GEOL 251 3 Units****Geology of the National Parks and Monuments****Lecture:** 54 contact hours**Prerequisite:** ENGL 015 and or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC process; MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process.**Advisory:** GEOL 101 or GEOG 110 and GEOL 111 or GEOG 111

This course comprises a study of the geology of selected national parks, monuments, seashores, recreational areas, and other public sites of geologic interest within the United States and its territories. There is an emphasis on the geologic processes that formed these notable sites. Students should anticipate participating in one or more field trips.

Associate Degree Applicable**Transfers to both UC/CSU****GEOL 260 3 Units****Introduction to Field Geology****Lecture:** 36 contact hours**Lab:** 54 contact hours**Prerequisite:** GEOL 101 or GEOL 112 or GEOL 201**Advisory:** GIS 130

This course emphasizes demonstration, discussion, and practice of field investigations of geologic environments. Activities include describing, mapping, and identifying geologic phenomena using the Brunton compass, GPS units, and topographic maps. As this is a hands-on course, students will spend time in the field.

Associate Degree Applicable**Transfers to both UC/CSU****GEOL 270 1 Unit****Geology of the Eastern Sierra Nevada****Lecture:** 9 contact hours**Lab:** 27 contact hours**Prerequisite:** ENGL 015 and or eligibility for ENGL 101 or ENGL 101H as determined by the SBVC process. MATH 952 or MATH 962 or eligibility for MATH 090 as determined by the SBVC assessment process.**Advisory:** GEOL 101 or GEOG 110 or GEOL 112

This course provides a lecture discussion and field observation of the physical and historical geology of the Eastern Sierra Nevada Province. It includes a three to four-day field trip along the boundary between the Sierra Nevada and Basin and Range Provinces. A three to four-day field trip demonstrates volcanic, glacial, and other geologic or economic processes. This field trip is required for the successful completion of the course.

Associate Degree Applicable**Transfers to CSU only**