

# GEOLOGY

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

- Planning to transfer to a four-year institution and prepare for a career in geology or related fields,
- Fulfilling the undergraduate general education science requirement, and
- Better understanding 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.

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## Contact Information

Division: Science (PS - 148)

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

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- Geology Associate in Science for Transfer Degree

### GEOL 101 3 Units

#### Introduction to Physical Geology

**Lecture:** 54 contact hours

**Advisory:** Eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

Earth is an amazing place, and for millennia cultures and civilizations have attempted to explain the various topics that relate to our understanding of our blue planet. From the various minerals, rocks, and resources found on it that power our cellphones and televisions to the dramatic features, such as mountains, volcanoes, canyons etc. that shape our landscape. From the consequential natural disasters such as earthquakes that we in California and people around the world deal with on an annual basis to the disproportionate effects of global climate change. In this course we build a fundamental understanding of these topics (and many more) by emphasizing the overarching Theory of Plate Tectonics, the processes that created the continents and the ocean basins, and the internal and external processes that change the landscape and impact the planet in a variety of ways we seek to put ourselves in the context of our planet.

**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

**Advisory:** GEOL 101 and GEOL 111 and eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

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

**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 140 3 Units

#### Earth Science

**Lecture:** 54 contact hours

An introduction to the essentials of Earth Science including the geosphere, atmosphere, hydrosphere, and solar system. This course focuses on the interactions between physical and chemical systems of the Earth such as the tectonic cycle, rock cycle, hydrologic cycle, weather, and climate.

**Associate Degree Applicable**

**Transfers to both UC/CSU**

**C-ID:** GEOL 120

**GEOL 141 1 Unit****Earth Science Laboratory****Lab:** 54 contact hours**Prerequisite/Corequisite:** GEOL 140

In this laboratory component of the GEOL 140 Earth Science lecture course, you will use hands-on, field-based, and in-class experiences to better understand and appreciate the geosphere, atmosphere, hydrosphere, and solar system. This course focuses on the physical and chemical systems of the Earth such as the tectonic cycle, rock cycle, hydrologic cycle, weather, and climate. This course is recommended for students concurrently enrolled in GEOL 140 or who have successfully completed the course within the last three years. Students should be prepared to participate in one or more off-campus field exercises.

**Associate Degree Applicable****Transfers to both UC/CSU****C-ID:** GEOL 120L**GEOL 170 1 Unit****Geological History of the Great Basin Province****Lecture:** 9 contact hours**Lab:** 27 contact hours

**Advisory:** GEOL 101 or GEOG 110 or GEOL 112 and eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

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 222 1-3 Units****Independent Study in Geology****DIR:** 54 contact hours**Prerequisite:** GEOL 101

Students with previous course work in Geology may work on 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

**Advisory:** GEOL 101 or GEOG 110 and eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

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

**Advisory:** GEOL 101 or GEOG 110 or GEOL 111 or GEOG 111 or GEOG 111H and eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

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**Advisory:** GIS 130 or GEOG 130

This course emphasizes demonstration, discussion, and practice of field investigations of geologic environments. Activities include describing, mapping, and identifying geologic phenomena using traditional and cutting-edge field survey methods. 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

**Advisory:** GEOL 101 or GEOL 112 or GEOG 110 and eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

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**