

ESCI 0056F - FIELD GEOLOGY OF WESTERN NORTH AMERICA

Catalog Description

Formerly known as GEOL 53F

Hours: 54 (27 lecture, 27 laboratory)

Description: One-week field experience to selected areas of geologic interest. Emphasis placed on the geologic history of the many parks and monuments of the west. A three-hour pre-session prior to the trip is required. Hiking may be necessary. Camping, entrance and transportation fees may be required. (CSU)

Course Student Learning Outcomes

- CSLO #1: Compare and contrast geologic features of specific field localities.
- CSLO #2: Explain geologic processes responsible for producing specific landforms of the area covered.
- CSLO #3: Identify and interpret the tectonic setting of area covered.

Effective Term

Fall 2018

Course Type

Credit - Degree-applicable

Contact Hours

54

Outside of Class Hours

54

Total Student Learning Hours

108

Course Objectives

Through hands-on field experiences, discussion and assignments student will be able to:

Lecture:

1. Identify and describe rock lithologies and formations in a field setting;
2. Identify, describe, compare and contrast geologic features of the selected area;
3. Describe and evaluate the geologic history of the selected area; and
4. Analyze and evaluate geologic processes and deduce valid conclusions as to the tectonic and erosional activity of the selected area.

Laboratory:

1. Demonstrate critical thinking through synthesis of geologic information to form conclusions, solve problems, and understand earth processes; and
2. Create accurate written field notes.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- CSU Transferable

Methods of Evaluation

- Reports
 - Example: Students will write a report on a student-identified topic based on the trip. Example: Formations of the selected parks and adjacent areas.
- Other
 - Example: Students will create field notes including a clear description of the experience. Strong notes will be carefully written and present information in a road-log that includes mileage, turns, geology, photographs and/or drawings.

Repeatable

No

Methods of Instruction

- Laboratory
- Lecture/Discussion

Lab:

1. During a field activity, Instructor will demonstrate relationships between geologic structures and the evolution of the landscape. Students are expected to diagram the landscape.

Lecture:

1. Instructor will stop at a site that illustrates a particular geologic structure and through lecture and discussion diagram and explain the geological process that created it. Students are expected to take part in the discussion, take notes and diagram the geologic structure.

Typical Out of Class Assignments

Reading Assignments

1. Read the information on the "Grand Staircase" provided in the instructor handouts and be prepared to discuss.
2. Read geological books and/or periodicals and be prepared to discuss in class prior to writing a research paper.

Writing, Problem Solving or Performance

1. Using oral and written guidelines, create accurate field notes.
2. Complete a 2-4 page research paper based upon a topic identified by the student and approved by the instructor.

Other (Term projects, research papers, portfolios, etc.)

Required Materials

- Rough-Hewn Land: A Geologic Journey from California to the Rocky Mountains
 - Author: Keith Heyer Meldahl
 - Publisher: University of California Press
 - Publication Date: 2013
 - Text Edition: 1st
 - Classic Textbook?:
 - OER Link:
 - OER:
- Exploring Idaho Geology
 - Author: Terry Maley
 - Publisher: Idaho Museum of Mining & Geology
 - Publication Date: 2018
 - Text Edition: 3rd
 - Classic Textbook?:
 - OER Link:
 - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.

Map of area Field instruction book prepared by instructor for each trip
Supplemental library Handouts Supplemental reading related to field area