ESCI 145: GEOLOGY OF NATIONAL PARKS

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2025
Credits:	2
Total Contact Hours:	36
Lecture Hours :	36
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	72
Total Student Learning Hours:	108
District General Education:	B2. Natural Sciences - Physical Sciences
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

A study of the geologic materials and processes of national parks. The primary emphasis is on the unique geomorphology and tectonic history of various terranes within the western US. Course also includes the study of regional minerals and rocks, glacial processes, and faulting. Includes a weekend trip to a national park. A transportation/activities fee may be charged. 36 lecture hours.

Course Objectives

- Learn geologic mapping techniques using topographic and geologic maps
- Develop field skills - learn how to interpret and identify rocks in the field
- Analyze geologic data using online software and field experiences, and combining both methods to communicate regional tectonic hypotheses
- Establish ethical practices for conservation using National Parks as an example

Major Course Content

1. Identification of Igneous Rocks, Metamorphic Rocks, and Minerals
2. Topographic and Geologic Maps used in conjunction with Google Earth
3. Plate Tectonics and its effect on the landscape of National Parks
4. Environmental stressors and methods for conservation
5. Extrusive and Intrusive Volcanic Processes
6. Erosional and Depositional Environments
7. Geomorphology of Arid Landscapes
8. Geologic History of National Parks

Suggested Reading Other Than Required Textbook

Geology of National Parks Author(s): David A. Foster , David Hacker , Ann G Harris
Edition: 8
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Examples of Required Writing Assignments

Essay
Give a brief geologic history of the San Andreas Fault. How has tectonic movement along this fault line contributed to the complex mountain building and terrane rotation in the Transverse Range and Sierra Nevada? As movement along the fault line is ongoing, please describe how this affects the complex geomorphology of the national park

Examples of Outside Assignments

Rock Report
Please identify your chosen rock sample and give a brief report on its mineralogy, age, and geologic history.
How does this relate to the geologic history of the national park?
Where would you expect this rock to be forming in the ancient tectonic environment and how is that reflected today in the visited outcrops?

Instruction Type(s)

Lecture