

SIO 16R: Geology of National Parks Online

Course Syllabus Spring Quarter 2021

About

Three Earth Science faculty members from UC Santa Cruz, UC Davis, and UC San Diego collaboratively created Geology of National Parks Online. This course will cover introductory geologic concepts as they apply to U.S. National Parks. The “learning management system” for this class is called Canvas. *It’s important to understand up front that this online course will require an equal effort as would a similar face-to-face class.*

Through activities, mini-lectures, and readings from the textbook, we’ll explore how geologic processes influence the landscapes in our national parks. Along the way you’ll learn about the concepts of geologic time, plate tectonics, and how the rocks composing the parks can be used to reconstruct their geologic origins. The intent is to make your next visit to a national park a more rewarding experience because you’ll understand what you’re seeing on a deeper level.

Instructors

Prof. Jeff Gee, UC San Diego: jsgee@ucsd.edu

James Muller, TA, UC San Diego: jamuller@ucsd.edu

Online Office Hours

Office hours will be held using the Zoom Conferencing software, accessed via the Online Meeting Room tool on the left column of the course home page. The easiest way to find/join these Zoom meetings is via the links that will appear in the "Coming Up" section in the bottom right of the course home page. We will have online office hours 4 times during the week.

| | |
|------------|-----------------|
| Tuesdays | 1 p.m. - 2 p.m. |
| Wednesdays | 1 p.m. - 2 p.m. |
| Thursdays | 2 p.m. - 3 p.m. |
| Fridays | 11 a.m. - noon |

We are also happy to schedule additional meeting times as needed.

Textbook

Exploring Geology, 3rd, 4th or 5th edition, by Stephen Reynolds, Julia Johnson, Paul Morin, and Chuck Carter (hard copy or ebook). I would suggest getting the ebook or buying a used hardcopy. Note that some of the least expensive versions of the text at Amazon are for black/white international versions. The ebook versions (either renting or buying) are cheaper and can be accessed via a free Kindle Reader. You'll be expected to read select sections of the book and the quizzes and exams will have some questions from the reading. The textbook is an important component of the course, so don't delay in getting it.

Module Workflow

Read & Watch (3-4 hours per module)

- Watch each mini-lecture – **take notes** as you would in a face-to-face class
- Read assigned text – **take notes** that relate to the material in the mini-lectures
- You may find it beneficial to alternate reading and watching

Apply (1-3 hours per module)

- Watch the tutorials and walk-through videos as necessary
- Complete the module activity and submit

Connect (1 hour per module)

- Interact with your classmates and instructors through Canvas Discussion Board and Office Hours

Assess

- You must complete a module quiz before moving on to the next module

There are hard deadlines for submitting assignments and taking quizzes and exams that are intended to keep you on pace to finish the course. Download the syllabus you're currently reading from the link above and follow it closely as the course progresses.

You will not be able to access a module activity or module quiz after the deadline has passed. Please be sure to maintain a pace and submit each activity and module quiz before each deadline. **We will not accept late work.**

Module Activities

Each module has a hands-on activity designed to expand upon the course material in the mini-lectures and readings. These activities are analogous to a Discussion section in a face-to-face class. You will be provided with video tutorials and walk-throughs to help

with the activities and your professor and TA will be available during office hours and via the Canvas Discussion Board. No late assignments will be accepted but your lowest activity score will be dropped from the computation of your class grade.

Quizzes

There are three different uses of the term “quiz” in this course: (This is an unavoidable Canvas thing.)

1. Module "quizzes" – these are short and easy quizzes that assess your understanding of the overall module. You will have unlimited attempts to complete each module quiz.
2. "Quiz 1" and "Quiz 2" - these cover material from Modules 1-3 (Quiz 1) and 6-8 (Quiz 2) and have approximately 25 questions each. Unlike the end of module quizzes, you will only have 1 chance to submit these quizzes, so you will need to study ahead of time. You will have 30 minutes to complete each quiz.
3. Activity “quizzes” – within each activity, Canvas asks you to “Take the Quiz,” which is Canvas-speak for answering questions associated with the activity.

Exams

Students need to plan to take the midterm and final exam online on the specific dates and times scheduled. The midterm will be a 1 hour timed exam and the final a 3 hour timed exam on the dates indicated below.

- **Midterm: Thursday, May 6, one hour duration starting anytime between 8 AM and 9 PM (PDT)**
- **Final: Wednesday, June 9, three hour duration starting anytime between 8 AM and 9 PM (PDT)**

Grading

Total points = 960 (Lowest Activity Grade Worth 40 Points Will Be Dropped)

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|----------------------|-----|---------|
| 1 Final | 25% | 250 pts |
| 1 Midterm | 15% | 150 pts |
| 2 Quizzes | 10% | 100 pts |
| 10 Module Activities | 40% | 400 pts |
| 10 Module Quizzes | 10% | 100 pts |

The midterm, final and quizzes will be primarily multiple choice but may include some short answer questions. Final letter grades may be curved, based on the distribution of point totals. More detail on this later.

Academic Integrity

- We expect the highest levels of academic integrity in this class. Any suspected cheating will be dealt with following the [UC San Diego Policy on Integrity of Scholarship](#).
- Work may be collaboratively done, but the work that you hand in must be your own. A simple way to figure out if the work is your own is to ask whether or not you can reproduce it completely without the aid of other people.

Content Overview

****The midterm and final exams are the only time students will be required to complete class work within a specified window of time.***

| Week | Module | Geologic Province | National Parks |
|----------------------|-----------------------------|--------------------------|--|
| 1 (Mar. 29 - Apr. 2) | 1 | Colorado Plateau | Grand Canyon |
| 2 (April 5 - 9) | 2 | | |
| 3 (April 12 - 16) | 3 | | Zion, Bryce Canyon, Arches, Canyonland |
| | Quiz (Modules 1 - 3) | | |
| 4 (April 19 - 23) | 4 | Cascade Range | Mt. Rainier, Mt. St. Helens, Crater Lake |
| 5 (Apr. 26 - 30) | 5 | Hotspot Volcanism | Hawaii Volcanoes, Yellowstone |
| Thurs. May 6 | *Midterm Exam (Modules 1-5) | | |

| | | | |
|------------------------|------------------------------|-------------------------|------------------------------------|
| 6 (May 3 - 7) | 6 | Sierra Nevada | Yosemite, Kings Canyon, Sequoia |
| 7 (May 10 - 14) | 7 | Rockies | Rocky Mountain |
| 8 (May 17 - 21) | 8 | Basin and Range | Death Valley, Glacier, Grand Teton |
| Quiz 2 (Modules 6 - 8) | | | |
| 9 (May 24 - 28) | 9 | San Andreas | Pinnacles, Point Reyes |
| 10 (June 1 - 4) | 10 | American West Synthesis | |
| Wed. June 9 | *Final Exam (Modules 1 - 10) | | |

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