

GEL20 – Geology of California – Spring 2022 Syllabus

Land Acknowledgement:

We should take a moment to acknowledge the land on which we gather for this course. For thousands of years, this land has been the home of Patwin people, including the Yocha Dehe Wintun Nation today. The Patwin people have remained committed to the stewardship of this land over many centuries. It has been cherished and protected, as elders have instructed the young through generations. We are honored and grateful to be working here today on their traditional lands.

Approved by Yocha Dehe Tribal Council (May 14, 2019)

What is this course about?

Geology 20 introduces the diverse geologic environments and the long and eventful geologic history of California. My goal is to explain the origin of our mountain ranges, basins, and coastline, as well as the source of the resources and risks that our geology presents. The overall theme is to develop appreciation for our amazing landscapes and the deep history and geologic processes that have given rise to them.

Professor: Eric Cowgill (he/his/him; pronounced “coe-gill”).

Office hour: By appt. or Mon. 1-2 initially outside Wellman 226 then in EPS 3121 & on Zoom.

Contact: Talk to me after class or in office hour. Note that I’m very slow to respond to email (multi-day lag). For time-sensitive things, put “URGENT” in the subject line of the email.

Teaching Assistant: Nikhil Boora

Office hour: time & location to be determined.

Contact: via Canvas email

Class: MW 12:10 – 1:00 PM; Wellman 226.

Schedule: see attached

Important Dates:

Midterm #1: Wed April 20 (in class)

Midterm #2: Wed. May 18 (in class)

Final exam: Wed. June 8 at 1:00 PM (in Wellman 226)

Course structure: In this class you’ll work through material posted on Canvas *before* we meet for class. I’ll use the class time for demonstrations, activities, or exercises that explain hard parts of the online material. The online material consists of a set of 19 modules on Canvas. Each module contains:

- A set of lecture notes
- Prerecorded videos (slides with me talking to explain them)
- other videos or animations related to the topic at hand
- An online assignment that is due *before* class.

A request for patience: During the pandemic I found that online learning offered some advantages over in-person lectures. As a result, I’m experimenting with a new format that seeks to use the strengths of both in person and online learning. While I’ve taught this course 3 times before, this is the first time I’m doing it with the flipped format. As a result, I ask for your patience with me as I experiment and learn a new way of teaching. My goal is to make this a

more interesting and rewarding experience for you by having the class be more engaging and by breaking up long lectures and giving you control over the speed at which they play.

Workload expectations: This course follows the UC Davis standard of expecting 2-3 hours of work outside of class for every 1 hour of time in class. We meet for 2 hrs. per week, so that's 4-6 hours of additional work out of class. The modules total to 21.7 hours, which I've distributed evenly through the quarter (i.e., ~2.2 hrs./week). The remaining time is for reading the lecture notes, reviewing material, and prepping for the exams.

Textbook (optional): *California Geology* (2004, 2nd ed.) by Deborah Harden. ***The book is not required but it is useful.*** Selective reading will clarify your understanding of topics we cover in class and will almost certainly improve your final grade. The book is well written, contains very useful figures, and serves as an important supplement to the lectures. A copy of the book is on reserve in Shields Library.

Grades: See detailed descriptions of each category below.

- 30% Exams (2 total, lowest 1 will be dropped)
- 20% Pre-class assignments (15 total, lowest 5 will be dropped)
- 20% In class assignments (15 total, lowest 5 will be dropped)
- 30% Final exam

Grading Scale: 100-90% = A; 89.99-80.0% = B; 79.99-70.0% = C; 69.99-60.0% = D; 59.99-0% = F, with + and - at the top and bottom 3.33% of each grade. Scores on the cusp of a letter grade boundary will be bumped up.

Exams (60%) will be closed book/note/web and taken in person during class time and the regularly scheduled final. Exams are multiple choice. Bring a Scantron 2000 for each exam. There are 2 exams during the quarter, and I will drop the lowest of the 2 scores.

Pre-class assignments (20%) are intended to give me feedback so that I know what to cover during class and to help you stay on top of the course. These are to be submitted on Canvas and will be *due before the class* in which the module is covered. These will include things like:

- Quiz questions that are drawn from past exams, so you can see what they look like
- Submit a question you had on the module material.
- Describe the murkiest part of the prior module.

In-class assignments (20%) are intended to give me feedback and help motivate your engagement in the class. These are to be submitted on paper to me or the TA *in class* and are *due at the end of the class period*. They will include things like:

- A completed handout or worksheet
- Submitting a question or feedback.
- An illustration or diagram that synthesizes information covered in class

Late policy: I've built flexibility into the course by dropping low scores (see above). For this reason, deadlines are firm and there are *no makeup/replacement midterm exams or assignments*. Makeup final only for university-excused situations.

How to do this course: The most important thing is to stay on top of the schedule by doing the modules *before* the class in which they are due. Here's the approach I recommend:

1. Start by reading the notes and flagging things that are unclear
2. Watch the videos.
3. *Complete the pre-class activity on Canvas*
4. Reread the notes and make sure the things you flagged have been cleared up. If not, *bring those questions to class*
5. Come to class, participate, ask questions, *make sure to submit things due during class.*
6. If you miss a module deadline, be make sure to still complete that because the information will be covered on the exams.
7. Study for the exams.

Health and safety:

- [Monitor your symptoms](#) and stay home if you are feeling sick.
- Take the [Daily Symptom Survey](#) to access campus facilities.
- Be fully vaccinated or hold an [approved exception for religious or medical reasons](#).
- [Wear face coverings inside](#) & on mass transit (+outside & in crowds if unvaccinated).
- Test every 2 weeks (or less) if vaccinated.
- Eat only in designated areas.
- If I can't attend lecture due to Covid, then either one of my colleagues will present the lecture for me, or I will deliver it remotely.

Code of Conduct: I expect each of us to treat people the way they want to be treated and to contribute to building a supportive and collaborative environment where everyone feels safe. Any type of harassment or discrimination by, or of, any member of the course community will not be tolerated. Expected behavior includes (but is not limited to):

- Treating all participants with respect and consideration
- Communicating openly with respect for others
- Critiquing ideas rather than individuals
- Avoiding personal attacks directed toward others
- Complying with UC Davis' Principles of Community
- Abiding by principles of academic integrity and ethical professional conduct.

I expect that no one will discriminate on the basis of race, color, national origin, religion, sex, gender identity, pregnancy, physical or mental disability, age, medical condition, ancestry, marital status, citizenship, sexual orientation, service in the uniformed services, or status as a Vietnam-era veteran or disabled veteran.

Responsibilities for the students, instructors, and all members of the community are:

- | Students: | Instructors: | Community: |
|--------------------------------------|--|--|
| - Attend course sessions. | - Attend course sessions. | - Be respectful of everyone in the course. |
| - Come to class prepared. | - Generate prompt and constructive feedback. | - Be willing to work with, and learn from, everyone in the course. |
| - Submit complete work on time. | - Foster an environment where students feel safe asking questions, and for help. | - Listen |
| - Participate in course discussions. | | - Show patience and compassion |
| - Ask questions | | |
| - Ask for help | | |

This Code of Conduct applies to all activities related to the class (in-person / virtual).

Plagiarism is a violation of the UCD student responsibilities and conduct standards, as well as the UC Davis Code of Academic Conduct. Plagiarism consists of presenting as your own work (ideas, writing, illustrations, etc.) created by another. You are committing plagiarism if you copy the work of another person and turn it in as your own, *even if you have the permission of that person*.

The UC Davis Code of Academic Conduct exists to support high standards of behavior and to ensure fair evaluation of student learning. The code is available at:

<https://supportjudicialaffairs.sf.ucdavis.edu/code-academic-conduct>. Students who violate the Code of Academic Conduct are subject to disciplinary sanctions that include Censure, Probation, Suspension, or Dismissal from the University of California. See the UC Davis Policy on Student Conduct and Discipline section 102.01.1 for details.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. I am committed to educational equity in the academic setting, and in serving a diverse student body. I encourage all students who are interested in learning more about the Student Disability Center (SDC) to contact them directly at sdc.ucdavis.edu, sdc@ucdavis.edu or 530-752-3184. If you are a student who requires academic accommodations, please submit your SDC Letter of Accommodation to me as soon as possible, ideally within the first two weeks of this course.

RESOURCES:

Are you new to UC Davis and need help navigating the university? Do you need help coping with the pandemic? Are you in need of food or housing? Do you need help finding academic assistance for this class or others?

There is information about learning remotely and links to information on health & well-being at this *Student Resources* page [<https://keepsteaching.ucdavis.edu/student-resources>]. ASUCD has excellent resources to address basic needs. The [ASUCD Mental Health Initiative](https://www.facebook.com/UCDMentalHealth/) [<https://www.facebook.com/UCDMentalHealth/>] actively works to provide students with mental health resources.

Many students at UC Davis need food and/or housing. If you are skipping or stretching meals, concerned about spending money on food and/or having difficulties accessing food, visit the [Aggie Compass Basic Needs Center](http://aggiecompass.ucdavis.edu) [aggiecompass.ucdavis.edu] located on the first floor of the MU, next to the UC Davis Market. Aggie Compass can provide immediate food and access to additional resources. The [ASUCD Pantry](https://thepantry.ucdavis.edu/) [<https://thepantry.ucdavis.edu/>] (located at 154 MU) provides free food for students.

You can find answers to a number of questions frequently asked by your fellow UC Davis students here: <https://ebeler.faculty.ucdavis.edu/resources/faq-student-resources/>

Additional information is available at:

[UC Davis Student Academic Success Center \[http://success.ucdavis.edu/\]](http://success.ucdavis.edu/)

[UC Davis Student Resources \[https://www.ucdavis.edu/students/resources/\]](https://www.ucdavis.edu/students/resources/)

You can also contact your major department or the academic advising office in your college to get connected to a student services advisor for assistance. To get started, see [the College of Letters and Science \[https://lettersandscience.ucdavis.edu/advising\]](https://lettersandscience.ucdavis.edu/advising)

GEL20: Schedule for Spring 2022 (3/27/22)

Wk #	Day	Date^	Due*	Topic
<i>California in the Context of Plate Tectonics</i>				
1A	M	3/28	M1	Introduction
1B	W	3/30	M2	Plate tectonics, "sets of 3", & deep time
<i>Origin & Assembly of California</i>				
2A	M	4/4	M3+4	Rifting & sedimentary rocks
2B	W	4/6	M5	Arc accretion & metamorphic rocks
<i>The California Subduction Factory</i>				
3A	M	4/11	M6+7	Sierran arc & igneous rocks
3B	W	4/13	M8	Great Valley basin
4A	M	4/18	M9	Franciscan & thrust faults
4B	W	4/20		EXAM 1 (covers modules 1-9)
<i>Birth of the San Andreas Margin</i>				
5A	M	4/25	M10	The San Andreas system & strike-slip faults
5B	W	4/27	M11	Basin & Range & normal faults
<i>Young California: The last ~5 Million Years</i>				
6A	M	5/2	M12	The modern San Andreas system
6B	W	5/4	M13	Modern Sierras & Glaciers
7A	M	5/9	M14	Cascades
7B	W	5/11	M15	Coastline
<i>The Geology of Now: Resources & Risks in the Anthropocene</i>				
8A	M	5/16	M16	Gold
8B	W	5/18		EXAM 2 (covers modules 1-16 but weighted on 10-16)
9A	M	5/23	M17	Earthquake Hazards
9B	W	5/25	M18	Volcanic Hazards
10A	M	5/30	-	<i>Holiday</i>
10B	W	6/1	M19	Water as resource & risk
	W	6/8		FINAL (covers modules 1-19) 1:00 PM in Wellman 226

^Dates in bold: check Canvas to submit pre-class assignment

**Modules on Canvas to be covered before class*