

Syllabus

Fall 2022

GEOL 210 Introduction to Geologic Field Methods

http://www.geology.cwu.edu/facstaff/egger/courses/GEOL_210.html

August 26 – September 9
To Bishop, California, and back
September 12-13 on campus

Course description: This course is intended for students who are considering or planning on majoring in the Geological Sciences and related fields. You will have the opportunity to apply your knowledge from introductory geology courses to a spectacular field location in eastern California, where you will learn standard geologic field techniques and data analysis.

When we return to campus, we will spend two days in the computer lab introducing you to ArcGIS and mapping digitally.

Instructors

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Overview and course goals

The discipline of geology is grounded in observations of the Earth. Geologists make observations of the Earth at all scales, from a satellite image to an outcrop to a hand sample to a microscopic image; they place these observations within geographic, spatial, and temporal frameworks in order to draw conclusions about processes that have occurred within the complex Earth system. The skills involved in making these types of observations and using them as evidence are critical for students of geology to learn, but are also important for anyone who will be teaching Earth science or working with geoscientists in the future.

The **primary goal** of this course is to provide you with the opportunity to learn and apply these skills that are fundamental to the discipline. By the end of this course, you will be able to:

- Collect and record data using common geologic field methods and tools;
- Synthesize geologic data you've collected in the field by producing geologic maps and cross-sections;
- Develop a reasonable geologic history based on multiple lines of evidence.

These are not the only goals we have, however, because we could do that without ever leaving Ellensburg. Our **additional goals** are to:

- Expose you to a spectacular environment, where several different geologic processes are present and well-exposed;
- Build a community of undergraduates who are interested in and excited about geology.

In order to achieve all of these goals, we will travel to Owens Valley in California, on the eastern side of the Sierra Nevada, and spend ten days working in two different field areas. This is a familiar and favorite area for many geologists, your instructors included, and we think you will see why very quickly.

Logistics

Course fee

GEOL 210 is a Fall Quarter course for 4 credits, so you will not pay summer tuition. However, this field course requires that each student pay **\$1200*** for (1) food & lodging at the White Mountain Research Center, (2) CWU van transportation, (3) a drafting kit, map board, and course packet. This charge will appear on your Fall term bill. Past GEOL 210 students have made arrangements with CWU's Financial Aid office in Barge Hall to increase their financial aid to cover these costs.

* **Note:** We are currently working hard to fundraise to reduce this fee for *all* students, so please stay tuned as this number may change. A likely scenario is that the full \$1200 will appear on your fall bill and then you will receive a refund.

Registration

This is a "by permission only" course, so you will send your ID number to Anne Egger (Anne.Egger@cwu.edu) to allow you to register. Registration for Fall Quarter opens May 9, 2022, and all students must be registered for GEOL 210 by August 20 for us to confirm our vans and lodging.

Insurance, liability, and food

To help us keep you safe and healthy throughout the course, you will fill out and return a form about insurance, liability, and the drug/alcohol policy. Please download it from the website and return it, filled out, to Anne Egger (Anne.Egger@cwu.edu or Discovery Hall 337) as soon as possible.

Another important part of this form is letting us know about food allergies so that we can tell the cooks at the field station.

Course materials

There is no textbook for this course, and all materials are included as part of the course fee. There is, however, an equipment list that describes all of the gear you need to have a productive time in the field; the list is available on the GEOL 210 website (http://www.geology.cwu.edu/facstaff/egger/courses/GEOL_210.html).

Where we stay

We stay at a field station that is part of the White Mountain Research Center (WMRC), owned by the University of California. We will spend our time at the Owens Valley Laboratory (OVL), near Bishop, CA. There are dorms with beds and showers as well as coin-operated laundry facilities. OVL has excellent cooks who feed us well; **the station is tobacco-free**. The address for WMRC is 3000 East Line Street, Bishop, CA 93514, phone: 760-873-4344.

Schedule

Thursday, August 25	2:00 pm	Packing Meeting	Discovery Hall Room 110
Friday, August 26	6:00 am	Meet at Discovery Hall and leave Ellensburg	
Saturday, August 27	5:00 pm	Arrive in Bishop	
Sun., Aug. 28–Weds., Sept. 7		Field work!	
Thursday, Sept. 8	8:30 am	Depart Bishop	
Friday, Sept. 9	5:00 pm	Arrive in Ellensburg	
Mon.-Tues., Sept. 12-13	10:00-12:00 and 1:00-4:00 pm		Discovery Hall Room 105

The nature of field work

The Owens Valley is high desert. Most of our field work will take place between 4500' and 6500' and daytime temperatures can reach the upper 90's (or even low 100's). We will be hiking and working outside most days from 8:30 to 4:30, and it is important to take care of yourself by wearing sunscreen, drinking water, eating enough food, and wearing a hat and appropriate clothing. You can also help prepare yourself by doing some walking and hiking this summer before our trip, but the work we do is accessible for people at many different fitness levels.

What happens when we get back?

After we return, we will meet for two days for two hours in the morning and three in the afternoon in the Discovery Hall computer lab (room 105) to digitize the work you've done and start to learn how to use ArcGIS. There will be a final project due from the digitizing that is part of your grade for the course.

Van drivers and navigators

We need students who are qualified to drive CWU's 12-passenger vans. In order to qualify, you must be comfortable driving a large vehicle and have some experience with it (please be honest – this is a significant responsibility) and pass CWU's driving exam. If you are not already qualified and are interested in being qualified, you need to take the driving exam. Go to www.cwu.edu/vansafety/course.asp

Username: cwu

Password: drivesafe

They will need a copy of your driver's license on file at Motorpool as well. Once you have completed the course, please email your completion certificate to Keegan Fengler (Keegan.Fengler@cwu.edu).

On the road, we caravan in a pre-defined order. Keep both the vehicle in front of you and behind you in view. We will share cell phone numbers to contact one another if necessary and try to give advance warning for all maneuvers.

Assessment

Grading is based on the assignments and point values below, and will follow a grading scale (90-100% → A- to A; 80-89% → B- to B+; 70-79% → C- to C+; 60-69% → D- to D+; <60% → F).

Assignment		Points	Project points
Big Pine project	Map	10	
	Descriptions	10	20
Owens Valley project	Fish Springs Hills map	25	
	Cinder cone map	15	
	Cross-sections	10	
	Regional map	10	
	Geologic history	15	
	Field notebook	10	
	Unit descriptions	15	100
Poleta project	Map and explanation	60	
	Cross-section	20	
	Stratigraphic column	20	100
Digitized map	Owens Valley digital map	40	40
		Total	260 pts

Alcohol policy

This is a dry trip. Drinking will not be tolerated. If you are caught with alcohol at any time on the trip, you will be sent home and will not complete the course. Seriously.

Disability Support

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any obstacles to learning, contact Disability Services to discuss a range of available options. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

Academic Honesty

Academic integrity is expected from all students. Do not submit joint work for credit on individual assignments. Any assignments of a questionable nature will receive no credit. Additional steps may be taken, including reporting of violations to higher authorities. Further information is provided under CWUR 2-90-040(22): <http://www.cwu.edu/resources-reports/cwur-2-90-040-academic-and-general-regulations#Grade%20Appeals> Details on prohibited student conduct is provided at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=106-125-020>

Mental Health Resources

Stress and other life circumstances that may be out of your control can make learning and focusing difficult. If you find stress or other mental health concerns make academics difficult, Central has resources to support you. We encourage you to reach out as soon as you notice you're struggling.

- Student Counseling Services – crisis appointments available – 509-963-1391
www.cwu.edu/medical-counseling/counseling-clinic

- Mental health crisis support outside of normal business hours – 1-800-273-8255; Text HOME to 741741
- Wellness Center – confidential sexual assault and other victim advocacy – 509-963-3213 www.cwu.edu/wecare, www.cwu.edu/path
- Disability Services – registration for accommodation – 509-963-2214 – www.cwu.edu/disability-services

Commitment to Diversity

CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events.

Religious Obligations

University Policy, CWUP 5-90-040(37), provides for reasonable accommodation of student absences for religious holidays in accordance with RCW 28B.137.010. Students seeking reasonable accommodations under this policy must provide written notice to their instructors within the first two weeks of class specifying the dates for which religious accommodations are requested. Contact the Dean of Student Success at (509) 963-1515 for further information.

Sexual Misconduct

Central Washington University is committed to providing all community members with a learning and work environment that is free from sexual harassment and assault. Students have options for getting help if they have experienced sexual assault, relationship violence, and sexual harassment, or stalking. Information can be found at <http://www.cwu.edu/wecare> and in CWUP 2-35-050: Sexual Harassment. Faculty are required to report information regarding sexual misconduct or related crimes. Students may speak to someone confidentially by contacting the CWU Wellness Center, 509-963-3213, or the CWU Student Counseling Clinic, 509-963-1391.