

Syllabus

Fall 2025

GEOL 210 Introduction to Geologic Field Methods

First meeting on campus August 28 at 1:00 pm
To Bishop, California, and back August 29 – September 12
On campus meetings September 13-14 (*weekend*)

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 ArcPRO 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 Bre MacInnes (breanyn.macinnes@cwu.edu) to allow you to register. Registration for Fall Quarter opens May 6, 2024, and all students must be registered for GEOL 210 by August 15 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 Bre MacInnes (breanyn.macinnes@cwu.edu) 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 and gear

There is no textbook for this course, and all materials are included as part of the course fee. The equipment list describes all of the gear you need to have a productive time in the field. You can find it on the GEOL 210 website (<https://www.cwu.edu/academics/geology/student-resources/courses/geol-210.php>).

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 and two nights at the Crooked Creek Station located in the Bristlecone/Limber Pine Forest. There are dorms with beds and showers; laundry facilities are expected to be installed by the time we will be there. WMRC has excellent cooks who feed us well; **the stations are tobacco-free**. The address for WMRC is 3000 East Line Street, Bishop, CA 93514, phone: 760-873-4344.

Schedule

Thursday, August 28	1:00 pm	Packing Meeting	Discovery Hall 110
Friday, August 29	6:00 am	Meet at Discovery Hall and leave Ellensburg	
Saturday, August 30	5:00 pm	Arrive in Bishop	
Sunday, Aug. 31–Weds., Sept. 10		Field work!	
Thursday, Sept. 11	8:30 am	Depart Bishop	
Friday, Sept. 12	5:00 pm	Arrive in Ellensburg	
Saturday, Sept. 13	1:00-5:00 pm	Discovery Hall 105 computer lab	
Sunday, Sept. 14	10:00-12:00; 1:00-5:00 pm	Discovery Hall 105 computer lab	

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 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

We need students who are comfortable driving loaded 8-person vans. You do not need to take a van safety test, but we are looking for people who have experience driving large vehicles. We will need at least six students (in addition to the TAs) in order to have two drivers per vehicle. On the day we pack up, drivers will go with the TAs to Motorpool, where they will make a copy of your driver's license.

On the road, we caravan in a pre-defined order. The person sitting shotgun has the job of navigator and comms operator (that means being in charge of the radio). The navigator and driver are a team! Keep both the vehicle in front of you and behind you in view. The navigator's responsibilities are to help the driver pay attention to directions, make sure the radio is on, and stay in communication with the other vehicles. We will carry radios and share cell phone numbers to contact one another if necessary and try to give advance warning for all maneuvers.

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.

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

CWU course policies and resources

Policy on diversity

University-level education is about broadening horizons and looking at academic issues from a variety of perspectives. With this in mind, the participants in this class are encouraged to bring their own life experiences and viewpoints to bear on classroom discussions and assignments. Along with the freedom to express one’s own views comes the responsibility to respect the views of others. No student will be discriminated against on the basis of race, ethnicity, age, creed, religion, gender, sexual orientation, marital-status, or political ideology. We believe that the diversity you bring to this class is a resource, strength and benefit to the whole. Please let us know ways to improve the effectiveness of the course for you personally, or for other students or student groups. Your suggestions are encouraged and appreciated.

Behaviors of Concern Form

Central Washington University is committed to providing a campus environment that fosters integrity, civility, and safety for all members. To accomplish this, there is an online Behaviors of Concern form that all members of the CWU community can use to connect to resources and/or to respond to concerning behavior that may impact our community. Please consider using the Behaviors of Concern form if you, or someone you know at CWU, has been struggling and in need of assistance or if you have been impacted by, or are aware of, behavioral concerns, sexual misconduct, bias incidents, or safety issues. We are here to support each other in our Wildcat community, and we want you to succeed. If you

have other questions, you can find more information regarding this online form and the multiple incident types online: <https://www.cwu.edu/student-life/student-support/student-rights/report-behaviors-concern>

Student conduct, including academic honesty

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. Our expectations of student conduct are in line with the Washington Administrative Code (see WAC 106-125-020).

Academic honesty: Students are expected to be academically honest. Academic dishonesty is defined in the *Student Judicial Code* and in CWUR 5-90-040(24) and CWUP-5-90-040(24) and by WA State in WAC 106-125-020. Plagiarism is defined as "the appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work offered for credit". Plagiarism may range from an entire paper to a phrase within a sentence. When you are paraphrasing an idea that is not your own and is not common knowledge, you need to cite the source. Copying the work of other students is also considered academic dishonesty. Academic dishonesty in any form will result in a failing grade.

Accessibility and Accommodations

In line with all employees of Central Washington University, we are committed to creating a learning environment that meets the needs of our diverse student body. If you anticipate or experience any obstacles to learning, please contact Disability Services to discuss a range of available options to removing barriers, including accommodations. You are also encouraged to discuss your concerns with us so that we can best support your learning. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

Policy on Sexual Misconduct

Central Washington University is committed to providing all community members with a learning and work environment that is free from [sexual misconduct](#) and discrimination. Students have [rights and options](#) for getting help if they have experienced sexual misconduct or discrimination. Information can be found at the [Office for Civil Rights Compliance website](#) or by contacting the [Title IX Coordinator](#). As [Responsible Employees](#), all faculty and staff are required to report information regarding sexual misconduct or related incidents and disclosures regarding sexual misconduct and discrimination to the [Title IX Coordinator](#), unless they are designated as a confidential resource. Students may receive confidential support by contacting [CWU PATH](#), 509-963-3213 or PATH@cwu.edu, or [CWU Student Counseling Services](#), 509-963-1391.

Religious, Faith and/or Spiritual Considerations

Please connect with us within the first two weeks of class so that we are aware of any particular religious accommodations you may need during this time and we will work with you to make adaptations for your coursework. University Policy, CWUP 5-90-040(37), provides for reasonable accommodation of student absences for religious holidays in accordance with [RCW 28B.137.010](#).

Mental Health

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 – <https://www.cwu.edu/student-life/health-wellness-services/counseling-services/>
- 24/7/365 **mental health support** can be accessed through *TimelyCare* at no additional cost to enrolled students. Register with your CWU email for access at <https://timelycare.com/>
- **Mental health crisis support** outside of normal business hours – 1-800-273-8255; Text HOME to 741741; Call 9-1-1; see more options on Counseling Services website
- **Wellness Center** (*confidential help with substance misuse and sexual violence*) – 509-963-3213 – <https://www.cwu.edu/student-life/health-wellness-services/>
- **Case Management** (*connect students with resources and support those most at-risk*) – 509-963-1515 – <https://www.cwu.edu/about/offices/case-management/>