

Geography 180: Field Methods for Physical Geography Spring 2024

Friday 1-3, 183 McCone; 3-5 pm, see below

Professor:

Dave Wahl

Office: 109 McCone

Office Hours: Fridays 10-11, or by appointment

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Course Description:

Physical geographers employ a wide range of field techniques to explore phenomena at the earth's surface. This course is intended to give students practical experience in designing and implementing a research project in physical geography. We will complete several projects, during the course of which you will learn to use field instruments and computer techniques for recording, analyzing, and presenting data. This course is not intended as an exhaustive survey of field techniques; rather it will provide the framework for exploring ways of approaching research questions in physical geography.

As this is a field-oriented class, you should be prepared for conditions associated with outdoor work. We may be working in inclement weather, steep terrain, running water, and dense vegetation (possibly including poison oak!). Field sites may necessitate hiking several miles each way. If you have concerns about any aspects of the course you should talk to the instructor during the first week of classes.

Course Requirements

Class meetings:

We will use our class time for lectures, equipment demonstrations/data collection, computer labs, and field trip preparation. It is very important that you attend meetings; you are responsible for any material you miss.

Reading:

There is no required text, although there will be several reading assignments and seminar style discussions of topical papers. You are fully expected to have read the material prior to the class meeting and come prepared for a discussion.

Homework:

Several homework assignments will be given out during the course. These assignments are designed to give you experience using both the field equipment and computer programs you have been introduced to.

Materials/Costs:

You will need a clipboard or some means to facilitate taking notes in the field (beginning next week); a field book is the best option for this. A camera (even just a disposable) will be needed to document your field work. You will need clothes that you don't mind getting dirty and/or ripping. Field clothes should be long-sleeved and -legged and your shoes should be close-toed. You will also need rain gear (nothing fancy needed--cheap nylon garments will do).

Equipment:

Equipment required to carry out the homework assignments and field work will be available for check out. I will itemize the camping items (gear and clothing) you will need before our first overnight trip.

Projects:

Students will be working in groups of 3 or 4 (TBD) to carry out research projects. Each student will be fully responsible for their contributions to each component of the project. Each group will use their project to produce a 25 minute presentation and a 20 page paper. Beyond my own observations on individual effort, I require each student to complete a group evaluation at the end of the semester. The aim here is to motivate equal effort.

Field Trips:

Data collection for research projects will be carried out during two weekend (Friday-Sunday) field trips. Attendance on all field trips is an essential component to this course.

Grading:**(25%) Homework exercises**

Several exercises that will require you to apply the methods introduced in class meetings.

(15%) Participation

This will be based on attendance, class discussions, and effort in the field.

(15%) Research Proposal

Outline of project and literature review.

(25%) Written report

A 20 page report on the group field project.

(20%) Oral Presentation

A 25 minute conference style presentation of your research.

I assign + / - grades to students with total points within 2% of a grade (for example, an 88 / 89% will be a B+, a 91 / 90% will be an A-). The exception to this is an A+, which I assign to the highest total points earned (note–this can be more than one student).

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schedule subject to change

Week	Date	Topic	Location	Time
1	1/19	Introduction	575 McCone	1-2 pm
2	1/26	Basic surveying, field notes Surveying 1: Compass and level	575 McCone campus	1-3 pm 3-5 pm
3	2/2	Research design, field sites, proposed projects Surveying 2: Optical/auto level	575 McCone campus	1-3 pm 3-5 pm
4	2/9	Groups/projects assigned, proposal guidance Dendrochronology	575 McCone campus	1-3 pm 3-5 pm
5	2/16	Group meetings 1 hour/group: research questions, methods	575 McCone	1-3 pm 3-5 pm
6	2/23	Sediment analysis/sediment coring Hoffman Marsh--coring	575 McCone campus	1-3 pm 3-5 pm
7	3/1	Global positioning systems, **Proposals Due** GPS: Trimble System	575 McCone campus	1-3 pm 3-5 pm
8	3/8	Biogeography Vegetation Analysis	575 McCone	1-5 pm
9	3/15	Guest Lecture: Rob Rhew Gas Flux Measurement	575 McCone campus	1-3 pm 3-5 pm
10	3/22	Guest Lecture: Nico Tripcevich RTK Surveying **Revised Proposals Due**	575 McCone	1-5 pm
11	3/29	**Spring Break**		
12	4/5-7	Field Trip 1: Leonard Lake Reserve	Rear of McCone	1 pm
13	4/12-14	Field Trip 2: Leonard Lake Reserve	Rear of McCone	1 pm
14	4/19-21	Field Trip 3: Leonard Lake Reserve	Rear of McCone	1 pm
15	5/3	Research presentations	575 McCone	1-5 pm
Finals	5/7	Final Paper Due	online	