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GEOG 476/576 (03340/03360)
Fall 2008-2009; 4/5 credits
TTh 1:10-3:00
115 Clippinger

Additional materials will be available on the course Blackboard site

Field Methods

The intent of this course is to expose you to all phases of conducting fieldwork, including the mapping of a study area, collection of data, and their analyses. We will go over fundamentals of research design, basic surveying, and various sampling techniques. You will be exposed to a number of field techniques; the goal is not so much to master each of these, but to become aware of techniques that are available for any subsequent research. The emphasis will be on physical geography, but many of the methods will extend to other applications as well.

Textbook and supplies

There is no required textbook for the course. Materials will be handed out in class and also made available on the Blackboard site. I also have placed several texts on Reserve (Circulation desk, 4th floor) in Alden Library, if you would like to consult a particular reference:

Measurements for Terrestrial Vegetation, C. D. Bonham (1989)

Surveying and Mapping for Field Scientists (esp. Chapters 2 & 3), W. Ritchie, M. Wood, R. Wright, and D. Tait (1988)

Methods in Stream Ecology (esp. Chapter 3), F. R. Hauer and G.A. Lamberti, eds. (2006)

Overview of geographic field techniques:

Introduction to geographic field methods and techniques, J.F. Lounsbury and F.T. Aldrich (1986)

In addition to these printed materials, you will need a field notebook and calculator. Wear appropriate dress for working outdoors, taking the weather into consideration.

Grading

Exams will cover lecture material and will include use of instruments and procedures treated in class. They are designed to test your comprehension of both the theory and practice of field methods.

Assignments emphasize fundamental principles of research design, basic surveying and mapping, and data analysis. Active class participation in the collection of field data that serve as the basis for the exercises is considered to be part of the assignments. Since this class relies heavily on group-compiled data, the expectation of quality and timeliness holds for all students. If for any reason you have to miss a class, please let me know as soon as possible so that we can plan accordingly.

In addition to differences in course requirements (outlined below), graduate students will be held to a higher standard in their class work.

	<u>Points:</u>	
	<u>Undergrad</u>	<u>Grad</u>
<u>Assignments (150 points)</u>		
Methods Critique	25	25
Biogeography Exercise	50	50
Surveying Exercise	50	50
Hydrology Exercise	25	25
 <u>Exams (100 points)</u>		
Midterm	50	50
Final	50	50
 <u>Project (50/100 points)</u>		
Written Proposal	50	50
Oral Project Presentation	--	50
	300	350

Be aware that we are subject to the vagaries associated with any field-based research (including the weather!); the grading schedule above is a “best guess” for the quarter, but is subject to change. We may also cover small in-class projects on the use of air photos in field research, and basics of soil analysis. It is a good practice to save all of your graded and returned assignments until you receive your grade for the course. **All requirements must be met to pass the course.**

Grading scale:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93-100%	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	≤59

Students who have any disability that might affect their performance in this class are encouraged to speak with the instructor at the beginning of the quarter.

☠ Academic dishonesty will result in a zero for the assignment; the student also may be reported to the Director of University Judiciaries for further action.

A word on the exercises ...

The proper use of field techniques and the collection of data are meaningless, *if the collected data are not properly analyzed and the results clearly presented.* To this end, assignments that you turn in must report your findings neatly (ideally typed), and clearly (with questions presented in numerical order, with work and relevant data plainly shown). Do NOT turn in loose pages of raw data or spreadsheet pages, or questions out of sequence – i.e., do not turn in a “draft” of the report. Papers that do not meet these criteria will be returned ungraded, and a late penalty will accrue until a proper report is turned in.

The Project

The project/proposal provides you with an opportunity to apply the principles discussed in the course. The project should be a small but original study based on field research, in which you identify a physical geography research problem and formulate an appropriate research hypothesis and design a research methodology that addresses your research questions. Graduate students also will collect the necessary data, analyze it, and present their results to the class.

An important part of scientific research is the ability to secure funding to do it. To this end, all students will be required to write a research proposal for their project, in which they describe the project, its methods, and the significance of performing the research (“why should we pay you to do this?”). The ability to write a good proposal is an important skill to learn, regardless of whether or not it is for a field project in physical geography.

Ohio University Graduate Student Senate (GSS) awards “Original Work Grants” three times per year, which are designed to “fund direct project-related expenses such as travel, lodging, materials and equipment related to research.” All students will be required to complete an application for a GSS Original Work Grant for this course. Graduate students may consider actually submitting their proposals. Guidelines are available under “Course Documents” on the Blackboard site. There you will note that some components of the GSS Grants are not required for the course proposal.

Important Dates

By **September 30th**, all students must e-mail me the following information regarding their topic:

Description of project:

Overview of sampling methods:

Significance/Rationale of project (i.e., why it is worth doing):

By this date, you should have thought carefully about your project, and be able to provide me with specific details about it. The deadline is early enough in the quarter, however, for me to provide feedback for helping you write your final proposal.

Proposals are due the last day of class, **November 13th**. Graduate students also will present the results of their project to the class on this day. Presentations should be 12-15 minutes, and should be appropriate for a professional meeting, such as the East Lakes Division meeting of the AAG, an Ohio Academy of Science meeting, etc. Additional guidelines for the presentation can be found on the course Blackboard site.

TENTATIVE LECTURE SCHEDULE

- I. Introduction to course and field methods
- II. Vegetation analysis: sampling (quadrats, point-centered quarter method), vegetation data analysis; introduction to tree-ring analysis

Midterm Exam (focusing on vegetation analysis) – *exact date to be announced in class*
- III. Surveying: use of compass, pacing and chaining distances, determining height and slope, using a level, introduction to GPS
- IV. Hydrologic sampling (determination of velocity, cross-sectional area, discharge)

If time: soils analysis (determination of soil texture), and air photo basics

Final Exam (covering material since midterm) – **Tuesday November 18th @ 2:30 pm**

Other important dates:

September 30th – E-mail proposal topic for approval

November 13th – Proposal due; Graduate student presentations