GEOGRAPHY 315/ENSP 428
FIELD METHODS

http://www.sonoma.edu/users/c/clamatth/geog315

SPRING SEMESTER 2009

Meeting times
This course will meet on select Fridays during the semester. See the course schedule for meeting days and hours.

Lecture: Stevenson 3065
Computer Lab: Stevenson 3059

Instructors

Dr. Caroline Christian Assistant Professor Environmental Studies and Planning	Email: caroline.christian@sonoma.edu Office: Rachel Carson 6 Office Hours: T 1:30-3:00 pm; Th 12:00-1:30 or by appointment Phone: 707-664-3144
Dr. Matthew Clark Assistant Professor Geography and Global Studies	Email: matthew.clark@sonoma.edu Office: Stevenson 3060 Office Hours: TuW 1:00-2:00 pm or by appointment Phone: 707-664-2558
Dr. Dorothy Freidel Professor Geography and Global Studies	Email: freidel@sonoma.edu Office: Stevenson 3056 Office Hours: MW 1:30-3:00 pm, Tu 3-4 pm or by appointment Phone: 707-664-2314

Course Overview:
This course provides hands-on experience with field sampling techniques commonly used in biophysical data collection and spatial inquiry. Course topics include sampling design, field measurements, statistical data analysis, report writing and the use of field equipment. Field work will be conducted on campus, Copeland Creek and at the Laguna de Santa Rosa. Data collected from vegetation sampling, soil descriptions, microclimate measurements, and geomorphologic observations will be used to interpret the natural and anthropogenic landscape. Throughout the course, students will work with Global Positioning System (GPS) receivers to accurately locate their field samples on the Earth, allowing for subsequent visualization or spatial analysis with tools, such as Geographic Information Systems.

Course Goals and Objectives

- Introduce common field techniques for collecting biological and physical data for scientific inquiry and analysis.
- Learn how to accurately locate field samples in geographic space using field equipment.
- Acquire data in the field and use these data for geographic visualization and scientific analysis and presentation.

Text Book and Readings

Text: Elzinga, C.L. et al. 2001. Monitoring plant and animal populations. Blackwell Science, Inc. ISBN 0-632-04442-X. You can order this book online at Amazon or elsewhere. A reserve copy of the book will be available in the SSU library by mid-February.

Online Readings and assignments: We will post additional readings and assignments on the course webpage. Reading materials, such as individual book chapters, will be available as Adobe Acrobat PDF files, which you can review on a computer or print out with a personal printer or through a copy store.

Quizzes and Exams

Quizzes will be given at the beginning of each class. The purpose of the quiz is to test your understanding of material found in the course reader, text and/or hand-outs provided in class. There will be a final, integrative exam during finals week.

Make-up quizzes or exams are possible only under extenuating circumstances, but you must notify Dr. Clark or Dr. Christian of the problem immediately -- preferably before the quiz or exam. You will need a note from a doctor, or some other suitable verification of the excuse. If the quiz or exam has already been graded and handed back, it will no longer be possible to make it up.

Participation in Field Exercises

Three labs will be conducted in the field. Lab 2 will be on SSU's campus, Lab 4 will be near campus, and Lab 6 will be in the Laguna de Santa Rosa. Note that Lab 6 is scheduled for April 24 from 8am to 4pm and transportation will be provided. More information about each field experience will be given in the lab meeting before the field day.

Given that this is a field methods class, it is vital that you participate in the activities on these field days. In particular, Labs 2 and 6 involve heavy data collection exercises and you will receive points for your participation and data products. The scheduled field days may be moved if there is rain or other inclement weather. There are 3 days on the course schedule that are planned as alternate lab days for situations where the field day must be rescheduled. Do not schedule work or other activities on these alternate days. Refer to the class webpage for the latest updates to the course schedule.

Lab Assignments

Labs 3 and 7 involve processing and analysis of field data using lab computers. These labs will be conducted in Stevenson 3059, the Geographic Information Systems (GIS) teaching lab. Lab materials

and instruction will be given in class. The lab assignment will likely take more than the scheduled class time to complete and you will have access to the lab computers to finish your work on your own. Be sure to visit your appropriate instructor in office hours if you have questions while finishing your lab assignment. All lab assignments are due 1 week after they are assigned. Late assignments will be reduced by 10% of their total points for each day they are late.

Prerequisites:
Required: Geog 205, with no exception but can be taken concurrently.

Tentative Course Schedule:

Date	Time	Location	Lecture/Lab Topic	Readings and Assignments
1/30	8am-9:30am	Stev 3065	Introduction to class	
2/6			No class	
2/13	8am-12pm	Stev 3065	**Lab 1**: Projections revisited; Global Positioning Systems; Surveying; Data dictionary	QUIZ 1 Bolstad, CH 5; Hurn, pp12-47 on course webpage
2/20	8am-12pm	Campus, meet in Stev 3065	**Lab 2**: Field data collection using GPS and rangefinder	
2/27	8am-12pm	Stev 3059 (lab)	**Lab 3**: Import and mapping of field data with Geographic Information Systems and Google Earth	
3/6	8am-12pm		Alternate day for Lab 1-3 (in case of rain)	
3/13	8am-12pm	Copeland Creek at Petaluma Hill Rd. – see webpage for site info	**Lab 4** (Freidel): Soils and Geomorphology	QUIZ 2 To be announced
3/20			No class	
3/27			No class	
4/3	9am-12pm	Stev 3065	**Lab 5** (Christian): Sampling design	QUIZ 3 Elzinga CH 1; CH 7 pp75-86; CH 8; CH 11
4/10	8am-4pm	Field trip – Meet at Lot C	**Lab 6** (Christian): Experimental design and the measurement of plant populations and vegetation	Elzinga CH 5; CH 11; CH 12
4/11	Saturday		Alternate day for Lab 6 (in case of rain)	
4/17			No Class (Spring Break)	
4/24	8am-12pm	Stev 3059 (lab)	**Lab 7** (Christian): Analysis and the presentation of data	Elzinga CH 9; CH 10
5/1			No class	
5/8	8am-12pm		Alternate day for Lab 4 (in case of rain)	
5/15	8am-12pm	Stev 3065	Lab Exam	

Grading Policy:

	% of Grade
Lab 1 - Quiz	5
Lab 2 - Participation	15
Lab 3 - Assignment	20
Lab 4 – Quiz	5
Lab 5 – Quiz	5
Lab 6 - Participation	15
Lab 7- Assignment	20
Lab Exam	15
Total for course	**100%**

Grades will be assigned as follows:
A = 100-90%, B = 89-80% C = 79-70%
D = 69-60%, F < 60%

Plagiarism will not be tolerated and could result in a failing grade. Each student is expected to turn in his/her own written responses to the assignments. Do not copy text verbatim from the Internet, labs, help manuals or other materials, as this is a form of plagiarism.

If you are a student with a disability and think you may need accommodations in this course, you should notify the instructor as soon as possible, preferably before the last date to drop the class. You should also contact the Disabled Students Services located in 1049 Salazar Hall,
(707) 664-2677.