

# **GEO 4430 – FIELD METHODS**

## **TEXAS STATE UNIVERSITY, SPRING 2007**

**Instructor:** Mark A. Fonstad

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**Telephone:** (512) 245-7809

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**Office Hours:** 1:00 PM – 2:00 PM Mondays and Wednesdays or by appointment

**Class Time:** 2:00 PM – 2:50 PM Mondays and Wednesdays

**Classroom:** Evans Liberal Arts (ELA) Building, Room 156

**Course Line Number:** 309611

**Laboratory Associate:** Michael Sarhan, ELA 372, (512) 245-0377, ms1484@txstate.edu,

Laboratory Class Time: 3:00 PM - 4:50 PM Mondays and Wednesdays

### **COURSE DESCRIPTION**

The ultimate source of all geographic data is the Earth itself. Even techniques such as remote sensing and census analysis require "ground-truthing" and "population profiles". In this course we will focus upon this ultimate source of geographic knowledge in the context of contemporary geography. We will cover the major steps of field research to include research design, field techniques, and report generation. We will study phenomena and techniques from the full breadth of geography. You will perform an individual field research project on an approved topic of your choice from any subfield of geography.

### **LEARNING OUTCOMES**

#### ***Knowledge:***

Students will demonstrate the major steps of field research to prepare appropriate field reports. Students will compile geographic knowledge to predict various physical processes.

#### ***Skills:***

Students will demonstrate field mapping techniques to explain vegetation patterns in an urban setting. Students will utilize and apply field techniques to generate professional reports about various environmental processes.

### **PREREQUISITES**

The prerequisites for this course are GEO 2410 and GEO 3301.

### **COURSE MATERIALS**

Readings for this class will be in the form of weekly handout materials.

### **COURSE EVALUATION AND GRADING POLICIES**

I will evaluate your performance and assign grades based on three major areas of work in this course. First, I will assess your field methods knowledge through two non-cumulative examinations. Second, I will examine your work on four field exercises to assess your fieldwork expertise. Finally, each student will be required to complete a small, independent project of your own design, and your performance on this project will also count towards your final grade. All students are expected to prepare assignments by the scheduled time.

There will be a 100 point midterm and a 100 point final exam. The exams will emphasize both factual material and analytical applications. I will endeavor to return graded exams within a week of their submission.

Independent field study. During the second half of the semester you are to conduct and generate a report on a small individual field study (100 points). You will be evaluated on the research design, field analysis, and writeup of your research. Two persons may team up on this assignment (including the writeup); but, under no circumstances may a third person join the group for their individual study. The report for this study can be either a professional typed report or a professional style poster that will be no larger than 36 X 48 inches.

Class exercises. During the course we will conduct 4-50 point field exercises. **THERE WILL BE NO MAKE UP FIELD EXERCISES.** Each field exercise will take a few days, so if you miss a day in the field you still have a chance to complete an exercise. If you do not complete one or more of the four field exercises, you will get a grade of "0" for each exercises that you miss. Late exercises will have 10 points deducted from their score for each day late. For each exercise, students will work in groups; however, you must complete each of your exercise reports on your own. An outline of how the reports are to be written will be distributed in class. I will endeavor to return graded exercises within a week of their submission.

There is a maximum of 500 points for all of the field project activities and examinations. The basis for grading will be as follows: 200 points for class exercises (4 exercises at 50 points each), 100 points for an individual field project report, 100 points for the midterm examination, and 100 points for the final examination. The final grades will be determined based on the following rules:

A	≥90% (≥450 points)
B	≥80% and <90% (400 – 449 points)
C	≥70% and <80% (350 – 399 points)
D	≥60% and <70% (300 – 349 points)
F	<60% (< 299 points)

### **CLASSROOM AND ATTENDANCE POLICIES**

Good attendance in the class is key to your success in this course. First, the lectures will provide the basis for successful field exercise completion. Second, the field exercises are fairly intensive and will each take several days, so missing class will significantly reduce your opportunity to finish the stated exercise goals. Third, the individual research projects will require a deep familiarity with class material.

If you must miss class (or an exam) because of an illness, a personal emergency, or some other extenuating circumstance, please contact me as soon as possible, and preferable beforehand, so I can make alternative arrangements for you (this is key). Of course, good attendance means more than just showing up for class. Please read and adhere to the policy on classroom etiquette that appears below. These codes of conduct will allow everyone to participate equally as learners. Thank you for your cooperation.

In the Department of Geography, instructors strive to create an atmosphere of mutual trust and respect in which learning, debate, and intellectual growth can thrive. Creating this atmosphere, however, requires that instructors and students work to achieve a classroom in

which learning is not disrupted. At the most basic level, this means that everyone should attend class, be prepared with readings and assignments completed, and that students pay attention. This means no conversations with friends, reading the newspaper, coming late, or leaving early. Such behavior is disruptive to the instructor and to your fellow classmates.

### STUDENTS WITH DISABILITIES

Students having special needs/disabilities (as documented by the Office of Disability Services) that will require compensatory arrangements must contact the instructor no later than the fourth class period to discuss specific arrangements and logistics. Students who have not already done so will be required to contact the Office of Disability Services located at LBJ 5-5.1 (512-245-3451). Texas State is dedicated to provide these students with necessary academic adjustments and auxiliary aids to facilitate their participation and performance in the classroom.

### TEXAS STATE ACADEMIC HONESTY POLICY

Learning and teaching take place best in an atmosphere of intellectual fair-minded openness. All members of the academic community are responsible for supporting freedom and openness through rigorous personal standards of honesty and fairness. Plagiarism and other forms of academic dishonesty undermine the very purpose of the university and diminish the value of an education. Specific sanctions for academic dishonesty are outlined in *the Texas State Student Handbook*.

Schedule	Topics
January 15	<i>No Class, MLK Jr. Day</i>
January 17	Introduction, Intro to Field Research Design
January 22	Intro to Field Mapping, Field Note-Taking
January 24	Map & Photo Analysis 1
January 29	Map & Photo Analysis 2
January 31	LU/LC Mapping 1
February 5	LU/LC Mapping 2
February 7	Intro to Sampling Design, Vegetation, Taxonomy, <b>Ex. 1 Due</b>
February 12	More Vegetation Sampling and Classification
February 14	Catch-Up and Project Work Day
February 19	River Surveys 1
February 21	River Surveys 2
February 26	Stratigraphy/Soil Mapping 1
February 28	Stratigraphy/Soil Mapping 2
March 5	Introduction to Climate Measurement, <b>Ex. 2 Due</b>
March 7	<b>Midterm Examination</b>
March 12	<i>No Class (Spring Break)</i>
March 14	<i>No Class (Spring Break)</i>
March 19	Surveying 1 – Brunton & Tape
March 21	Surveying 2 – Leveling
March 26	Surveying 3 – Elevation, Triangulation
March 28	Surveying 4 – Contouring, Survey Systems, Closure
April 2	Catch-Up and Project Work Day
April 4	Ethics in Research, Human Subjects Guidelines, <b>Ex. 3 Due</b>

April 9                   Urban Sampling 1  
April 11                  Urban Sampling 2  
April 16                  Environmental Inventory  
April 18                  *No Class (AAG Meetings)*  
April 23                  Cognitive Mapping 1  
April 25                  Cognitive Mapping 2, **Ex. 4 Due**  
May 2                     **Final Examination May 2, 3:00 – 5:30 pm, and Project Due**

### **ABOUT THE INSTRUCTOR**

The instructor is Mark A. Fonstad, assistant professor of geography. He is a specialist in spatial and hydrological analysis of river systems, theoretical fluvial geomorphology, and applied remote sensing. Mark received his Ph.D. in Geography from Arizona State University (2000) where he researched mountain fluvial systems and the prediction of channel change in New Mexico. For the past six years, Mark has directed the field research on channel morphology, watershed hydrology, and the remote sensing of rivers in Yellowstone National Park.

