1-2014

GPHY 385.01: Field Techniques

Caleb Gikai Pan
The University of Montana, caleb.pan@umontana.edu

The University of Montana Department of Geography

GPHY 385 - Field Techniques

Spring Semester 2014

Monday 1:10 – 2:00 and Wednesday 1:10 – 3:00 PM

Room 217 Stone Hall

Instructor: Caleb Pan
Office: Room 307B Stone Hall
Office Telephone: (406) 243-4810
Email: caleb.pan@umontana.edu
Office Hours: M 4:00 – 5:00, R 2:00 – 3:00 and by appointment

Teaching Assistant: Dan Kozel
Office: Room 214 Stone Hall
Office Telephone:
Email: daniel.kozel@umconnect.umt.edu
Office Hours: TBA

Course Description

This course is intended to give you practical experience useful in designing and implementing a research project in geography. We will emphasize a variety of methods used by geographers in the field from both a qualitative and quantitative methodology by covering a number of subdisciplines. We will complete several field projects that coincide with the five traditions of geography—spatial, earth science, human/environment interaction, regions, and place/landscape. Example labs will include physical and spatial geographic work such as geomorphology (rockslides/alluvial fans), climatology (humidity and pressure), cartography (basic mapping), global positioning systems (GPS), topography (mapping and elevations), and compass reading, as well as human geographic concepts that incorporate interviewing, photograph interpretation, and surveys. This field class will teach you a basic knowledge of instrumentation and techniques used by geographers in the field.

Course Mechanics

This course meets twice weekly, the first class is 50 minutes and the second class is 1 ½ hours. Generally, the first meeting will be a lecture and includes a review of basic principles of fieldwork in geography. The second meeting is a lab and will be conducted outside where we apply those ideas and processes from lecture into the field. Regarding lab work, you should be prepared to be working mostly outside, as much of the work will be in and around campus trudging up and down Mount Sentinel and wading into Rattlesnake Creek and portions of the Clark Fork River. You will be working in groups of four or five as part of a lab team, and many times you may be working in the field outside of the scheduled field day. We will teach you the basics during the lab period, but it is up to you and your group to conduct the lab, record your findings, analyze the data, and write up a lab report. Indeed, if a student is unable to participate in

some or all of the field work due to a disability, accommodations will be provided by the instructor in order for that student to complete the coursework (see guidelines on the Disability Services for Students (DSS) website at: http://life.umt.edu/dss/name/dsshome).

Policies and Procedures

The following policies allow me to teach without distractions, and, it will provide each student with a pleasant atmosphere for learning:

Please refrain from talking in class unless engaging in questions with the instructor or actively participating in group discussion. If you are disturbing the lecture, I may ask that you exit the classroom.

No cell phones **on** in class! Please make sure your cell phone is off before lecture begins.

Be on time! I expect everyone to be on time for class in order to not disturb the lecture. If for some reason you are late, I ask that you be extremely quiet and not disturb anyone as you enter and sit down.

Please do not leave the class early. If you have a special reason for leaving early please contact me before class begins and sit close to the door in order to exit quietly.

No reading of any material during class is allowed. Please pay attention to each lecture.

Grading

Assignments (100 points total)

There will a number of class assignments (both in-class and out-of-class) administered arbitrarily throughout the semester. These are short exercises covering topics that we discuss in class and which are part of your readings. The purpose is to ensure that each student understands the concepts being discussed, practices and improves writing skills, completes the required reading assignment and attends each lecture. THESE ASSIGNMENTS WILL BE VERY IMPORTANT IN DETERMINING YOUR FINAL GRADE!

Labs/Fieldwork (500 total points):

Besides the lectures and assignments—covering the theoretical aspects of geography—the laboratories or fieldwork encompasses the practical or applied side of the discipline. Each lab is designed to cover an aspect of a subdiscipline within geography and requires a plan, procedure, analysis, and write-up. The labs will be assigned during the first class meeting of each week, and then the actual fieldwork will consist of a demonstration and perhaps the completion of the lab during the second class meeting of the week. The labs and fieldwork form the crux of this course, and therefore constitute a major part of your final grade.

Examinations (200 points total):

Each examination, including the final, is subjective, not comprehensive. This means that each exam will encompass only the material I cover in lectures between exams. In general, each examination will be a combination of multiple choice, matching, and short and long essays. There will be a total of two examinations throughout the semester.

The rules for the examinations are as follows:

1. You will take each exam as scheduled. Make-up exams are not allowed—except as listed in the Make-up exam policy below.
2. **Make-up Exam Policy**:
   -All Students must take the final exam as scheduled. Conflicts must be settled with the Dean. This is University Policy and there are no exceptions.
   -All Students must take each exam as scheduled. If an exam is missed, the student will receive a zero (0) on the exam.
   -These are the only exceptions that will warrant a make-up exam:
   --University events – such as sporting or music events.
   --Military obligations.
   --Religious holidays.
   --Serious family emergency.
   --Medical emergencies or serious illness.
   --Court-imposed legal obligations such as subpoenas or jury duty.
   --Serious weather conditions.
   --Special curricular requirements such as judging trips or field trips.
   -Any student requiring an exception under this policy must do so **prior** to the scheduled exam—unless in the case of an actual emergency (sudden hospitalization). A student must provide official documentation of the reason for absence in advance.

Grading Breakdown:

Assignments	100 points
Labs	500 points
Exams (2 x 100 points)	200 points
Total Points:	**800 points**

There is a total of 800 points available for the course—assignments = 100 points, labs = 500 points, Exams = 200 points = 800 points. All assignments and examinations, as well as the final grade, are based on the following scale:

A = 90 – 100%
B = 80 – 89.99%
C = 70 – 79.99%
D = 60 – 69.99%
F = 59.99% and below

Please note that in order to be fair to all students, I will not round up a grade. For example, if you receive a 79.99%, you will receive a "C" in the course.

Additional Information

In addition, be aware of the rules and regulations for student conduct in the Student Conduct Code at http://life.umt.edu/vpsa/studentconduct.php. Carefully review the sections on plagiarism [also consult

the UM Catalog]. **Cheating and plagiarism are not tolerated** and will be dealt with as outlined in the Code.

Class Schedule and Readings

All course reading material, course assignments, and laboratory descriptions are available on Blackboard. It is the responsibility of the student to print out these readings from Blackboard or, make copies from the ON RESERVE desk at the Mansfield Library—whatever works best for you.

SECTION I: INTRODUCTION

Week 1 – January 27, 29 — Introduction

Emphasis: Fieldwork and methods in geographic research

Readings [Due for this week]:

Huggett, Richard, Sarah Lindley, Helen Gavin and Kate Richardson. 2004. Chapter 5: Measuring and Monitoring. In *Physical Geography: A Human Perspective*, eds. R. Huggett, S. Lindley, H. Gavin and K. Richardson, 102-144. London: Arnold.

Parsons, J. J. 1977. Geography as Exploration and Discovery. *Annals of the Association of American Geographers* 67:1-25.

Sauer, C. O. 1956. The Education of a Geographer. *Annals of the Association of American Geographers* 46: 287-299.

Assignment #1 [Due on Monday February 3]: Methods and Fieldwork in Geography

Week 2 – February 3, 5 — Ethics

Emphasis: Ethics in geographic fieldwork

Readings [due for this week]:

Punch, Maurice. 1998. Chapter 5: Politics and Ethics in Qualitative Research. In *The Landscape of Qualitative Research,* eds. N. Denzin, and Y. Lincoln 156-184. Thousand Oaks, CA: SAGE Publications.

Silverman, David. 2006. Chapter 9: Research Ethics. In *Interpreting Qualitative Data, 3rd Edition*. London: SAGE Publications.

Online Ethics Course and the IRB http://phrp.nihtraining.com/users/login.php; http://www.umt.edu/research/complianceinfo/irb/

Assignment #2 [Due on Monday February 12]: Online Ethics Course/Ethics in Fieldwork

SECTION II: QUALITATIVE FIELDWORK

Week 3 – February 10, 12 — Qualitative Fieldwork

Emphasis: Defining Qualitative Research

Reading [due for this week]:

Cope, Meghan. 2010. Chapter 2: A History of Qualitative Research in Geography. In *The Sage Handbook of Qualitative Geography,* eds. D. DeLyser, S. Herbert, S. Aitkin, M. Crang, and L. McDowell. London: Sage.

Silverman, David. 2006. Chapter 2: What is Qualitative Research? In *Interpreting Qualitative Data, 3rd Edition*, 33-61. London: SAGE Publications.

Assignment #3 [Due on Monday February 19]: What is qualitative research?

Week 4 – February 17, 19 — Surveys

NO CLASS on Monday – PRESIDENTS DAY HOLIDAY

Emphasis: Surveys and questionnaires

Readings [due for this week]:

Hoggart, K. 2002. Chapter 5: Superficial encounters: social survey methods. In *Researching human geography*, eds. K. Hoggart, L. Lees, and A. Davies, 169-200. London: Arnold.

Assignment #4 [Due on February 26]: Conducting surveys

Lab # 2 [Due on Wednesday March 10]: Campus Social Survey

Week 5 – February 24, 26 — Surveys

Emphasis: Surveys and SPSS

Reading(s): No Readings

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Week 6 – March 3, 5 — Interviews

Emphasis: Interviews

Guest Lecture: Mr. Will Klaczynski

Readings [due for this week]:

Cloke, Paul, Ian Cook, Phillip Crang, Mark Goodwin, J. Painter, and Chris Philo. 2001. Talking to people. In *Practising human geography*, eds. P. Cloke, I. Cook, P. Crang, M. Goodwin, J. Painter, and C. Philo, 123-159. London: Sage.

Sangarasivam, Yamuna. 2001. Researcher, informant, "assassin," me. *The Professional Geographer* 91 (1-2): 95-104.

Silverman, David. 2006. Chapter 4: Interviews. In *Interpreting Qualitative Data, 3rd Edition*, 109-152. London: SAGE Publications.

Lab # 3 [Due on Wednesday March 17]: Interview and Data Collection

Week 7 – March 10, 12 Transcribing and Coding

Emphasis: Transcribing and Coding Qualitative Data

Readings [due for this week]:

Kitchin, Rob and Nicholas Tate. 2000. Chapter 8: Analysing and Interpreting Qualitative Data. In *Conducting research into human geography*, 229-256. Harlow, Essex: Pearson Education Limited

Week 8 – March 17, 19 Mid-Term Week

Midterm Examination on Wednesday March 19, 2014

SECTION III: QUANTITATIVE FIELDWORK

Week 9 – March 24, 26 Location

Emphasis: Basics of the pocket transit (compass) and conducting a traverse

Readings [Due for this week]:

Brunton Pocket Transits. Denver: Wm. Ainsworth and Sons, Inc. [Instruction booklet].

Compton, R. R. 1962. *Manual of Field Geology.* New York: John Wiley and Sons, 21-25 and 36-47.

Lounsbury, J. F., and F. T. Aldrich. 1986. *Introduction to Geographic Field Methods and Techniques.* New York: Macmillan Pub. Co, Appendix B, 46-48 and 59-61.

Assignment #5: [Due on Monday April 7]: Compass Basics

Lab #4 [Due on Wednesday April 9]: Azimuths, distances, and traverse

Week 10 – March 31 April 2 Spring Break

NO CLASSES on Monday and Wednesday – SPRING BREAK

Week 11 – April 7, 9 — Global Positioning Systems

Emphasis: High-Tech Location

Reading [Due for this week]:

Hurn, Jeff.1993. *Differential GPS Explained*. Trimble Navigation.

Kimerling, A. Jon, Aileen Buckley, Phillip Muehrcke, and Juliana Muehrcke. 2009. Chapter 14: GPS and Maps. In *Map use: reading and analysis*, 296-321. Redlands, CA: ESRI Press Academic.

Assignment #6: [Due on Monday April 14]: How Does GPS Work?

Lab # 5 [Due on Wednesday April 16]: GPS Cache

Week 12 – April 14, 16 — Topography and Mapping

Emphasis: Basic mapping techniques

Readings [due for this week]:

Compton, R. R. 1962. *Manual of Field Geology*. New York: John Wiley and Sons, 25-28.

Kimerling, A. Jon, Aileen Buckley, Phillip Muehrcke, and Juliana Muehrcke. 2009. **Chapter 6**: Relief portrayal. In Map use: reading and analysis, 100-125. Redlands, CA: ESRI Press Academic.

Huggett, Richard, Sarah Lindley, Helen Gavin and Kate Richardson. 2004. Chapter 6: Mapping and Analysis. In *Physical Geography: A Human Perspective*, R. Huggett et al., 145-155. London: Arnold.

Assignment #7 [Due on Monday April 21]: Basic Mapping

Lab #6 [Due on Wednesday April 23]: Land Surveying/Elevations and Mapping

Week 13 – April 21, 23 — Geomorphology

Emphasis: Landforms/Slides/Fans

Reading [due for this week]:

Leopold, Luna, Gordon Wolman, and John Miller. 1992. Chapter 8: Hillslope Characteristics and Processes. 333-386. In *Fluvial processes in geomorphology*, 131-150. New York: Dover Publications.

Small, R.J. 1970. Chapter 1: The Aims and Methods of Landform Study. In *The study of landforms*, 1-14. Cambridge: Cambridge University Press.

Small, R.J. 1970. Chapter 6: Slope Development. In *The study of landforms*, 194-224. Cambridge: Cambridge University Press.

Assignment #8 [Due on Monday April 28]: Geomorphologic Structures

Lab # 7 [Due on Wednesday April 30]: Slides and/or Fans

Week 14 – April 28, 30 Hydrology

Emphasis: Determining Drainage Areas and Discharge

Reading [due for this week]:

Leopold, Luna, Gordon Wolman, and John Miller. 1992. Chapter 5: The Drainage Basin as a Geomorphic Unit. In *Fluvial processes in geomorphology*, 131-150. New York: Dover Publications.

Chow, V.T. 1964 Part II, Section 4: Quantitative Geomorphology of Drainage Basins and Channel Networks. In *Handbook of Applied Hydrology*, 4-39 to 4-69. New York: McGraw-Hill Book Company.

Chow, V.T. 1964 Section 15: Streamflow Measurement. In *Handbook of Applied Hydrology*, 15-1 to 15-41. New York: McGraw-Hill Book Company.

Watson, Ian and Alister Burnett. 1995. Chapter 21—Streamflow. In *Hydrology: An Environmental Approach*, 457-478. Boca Raton, FL: CRC Press, Inc.

Assignment #9 [Due on Monday May 5]: Drainage and Discharge

Lab # 8 [Due on Wednesday May 7]: Drainage Areas and Streamflow

Week 15 – May 5, 7 Climatology

Emphasis: Basics of Climatology

Reading(s):

Lutgens, Frederick and Edward Tarbuck. 2010. Chapter Six—Air Pressure and Winds. In *The Atmosphere: An Introduction to Meteorology*, 161-173. New York: Prentice Hall.

Assignment #10 [Due on May 12]: Climatology

Lab # 9 [Due on Monday May 12]: Missoula climate

Week 16 – May 12 - 16 Finals Week

FINAL EXAM: Wednesday, May 14, 3:20 – 5:20. Stone Hall RM 217