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GPHY 385.01: Field Techniques

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GPHY 385- FIELD TECHNIQUES

Fall Semester 2016

Department of Geography
University of Montana

Meets:
Mondays 12:00-1:00 PM & Wednesdays 12:00-2:00 PM
Room 303, SG (Schreiber Gym)

Instructors:
David Shively (Lead Instructor)
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Office Hours: Monday 11-Noon or by appointment (Weeks 4, 5, 10, 11)

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Teaching Assistant:
Andrew Nemecek
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Office Hours: Thursday, 3-5pm, and Friday, 3-5pm, and by appointment.

Course Description

This course is intended to give you practical experience for use in designing and implementing research in the geographical sciences and in professional practice. We will emphasize a variety of geospatial, quantitative, and qualitative research methods used by geographers in the field to investigate problems and questions that are grounded in one or more of the five traditional foci of geography: spatial, earth science, human/environment interaction, regions, and place/landscape. You will complete several field projects and exercises that delve into physical and spatial geographic work such as geomorphology, climatology, cartography (basic mapping), global positioning systems (GPS), as well as human geographic approaches that involve interviewing, observation, social surveys, and content analysis.

Course Mechanics

This course meets twice weekly, once for a lecture, discussion, and lab overview, and again for conducting fieldwork (the laboratory). For the laboratory portion, you should be prepared to be working mostly outside, as much of the work will be oon and around campus, trudging up and down Mount Sentinel or wading into Rattlesnake Creek. You will be working in groups of three, four, or five, and on some occasions you may be working in the field outside of the scheduled field work time or perhaps on a different 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 present your work (via s or other means as directed)via lab reports or other means as directed).

Required Textbook and Supplementary Materials

There is no required textbook for this course. Readings will be provided via Moodle for given weeks. Be sure to read the assigned material prior to the pertinent class and/or lab session.

Classroom/Field Policies and Procedures

The following policies allow us 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 TA or actively participating in group discussion. If you are disturbing the lecture, you may be asked to exit the classroom. Please make sure your cell phone is muted before lecture begins. Refrain from texting, etc.
- **Be on time!** We expect everyone to be on time for class in order to not disturb the lecture. If for some reason you are late, please do 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 the instructor 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.

- Equipment: much of the field and computer equipment that you will use is relatively fragile and/or sensitive. You must take good care of this equipment and properly handle, store, check out, and return it as directed. Those observed mal-treating any equipment will be counseled as appropriate.

Other Policies

- Accommodations: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered

with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. We will work with you and Disability Services to provide an appropriate modification.

- All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code (it is posted on Moodle). The Code is available for review online http://www.umt.edu/vpsa/policies/student_conduct.php. Cheating and plagiarism are not tolerated and will be dealt with as outlined in the Code.
- Due to the dynamic nature of scheduling and unforeseen events, the instructors reserve the right to make changes to this syllabus as needed and if necessary.

Course Requirements and Grading

Required assignments & value:

Assignment	**Percentage**
1) UM Online Research Ethics Course	5
2) Rattlesnake Creek Stream Channel Units	5
3) GPS Data Collection	5
4) GPS Data Analysis	5
5) Mountain Line Survey Analysis	5
6) Survey Design	5
7) Field Observation	5
8) Content Analysis	5
9) UAS Flight Planning & Data Collection	5
10) UAS Data Manipulation & Analysis	5
11) Meteorological Field Data Collection	5
Course Project	35
Attendance	10
Total	**100**

A = 93 – 100%
A- = 90 – 92.99%
B+ = 87 – 89.99%
B = 83 – 86.99%
B- = 80 – 82.99%
C+ = 77 – 79.99%
C = 73 – 76.99%
C- = 70 – 72.99%
D+ = 67 – 69.99%
D = 63 – 66.99%
D- = 60 – 62.99%
F = 59.99% and below

The course is offered as traditional "T" letter grade only.

Assignments (Labs)/Fieldwork (55 percent of course grade):

The laboratories or fieldwork activities and associated assignments encompass the practical or applied side of the course. Each lab is designed to cover an aspect of a sub-discipline 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 the completion of the lab either during the second class

meeting of the week or outside of class-time. The labs and fieldwork form the crux of this course, and therefore constitute a major part of your final grade.

Course Project

Completion of the Course Project will allow you to demonstrate that you are able to successfully integrate the various elements of the course. You will prepare a Field Research Plan that will detail (appropriately introduce, describe, schedule) the following:

> **The Problem**: What is the issue or question that your field project would address? Human perceptions concerning access to a facility or feature, personal transport and/or mobility practices, meteorological variability across a landscape continuum, hillslope profile elements and erosion potentials related to slope modification, different types of physical units (plant associations, morphological features, habitats) that correspond to a particular landscape).
>
> **Background**: What do prior studies indicate about the nature of the particular issue or question (Problem) that you are proposing to investigate? Examine and summarize key findings from several relevant items of published literature in the form of scientific papers (peer reviewed journal articles, white papers or other gray literature), government reports, etc.
>
> **Methods**: What are the data you will need to collect? What are the data collection methods, tools, and/or instruments that you will use? How will you sample in such a way to ensure that you are obtaining a representative sample? How many observations are necessary to achieve sample validity? What are the analytical methods you will employ to analyze the data and develop your findings? What are the specific tools that you will use for data analysis, and why have you chosen to use these?
>
> **Findings**: What are the findings that you expect to produce?

Additional Information

1. Please consult the Class Schedule for relevant dates.

2. For assistance with writing, please consult the on-line resources of the UM Writing Center in the Mansfield Library.

Class Schedule*

All course reading materials and assignments are available on Moodle.

Week	Session	Topic	Assignment	Instructor
1	Aug 29 Sept 1	Introduction to Course What's the Problem?		Shively Shively
2	**Sept 5** Sept 7	**Labor Day Holiday – No Class** Research Design, Data Quality, Ethical Considerations in Research	NA **1)** UM Online Research Ethics Course	NA Kamp
3	Sept 12 Sept 14	Classifying and Sampling	Lecture **2)** Rattlesnake Creek Stream Channel Units	Shively Shively
4	Sept 19 Sept 21	GNSS Mapping	Lecture **3)** GNSS Field Data Collection	Beighle Beighle
5	Sept 26 Sept 28	GNSS Mapping	Lecture **4)** GNSS Navigation & Data Maintenance	Beighle Beighle
6	Oct 3 Oct 5	Human Subjects Survey Methods: Analysis	Lecture **5)** Mountain Line Survey Analysis	von Reichert von Reichert
7	Oct 10 Oct 12	Human Subjects Survey Methods: Design	Lecture **6)** Survey Design	von Reichert von Reichert
8	Oct 17 Oct 19	Qualitative Methods in Fieldwork	Lecture **7)** Field Observation	Halvorson Halvorson
9	Oct 24 Oct 26	Qualitative Methods in Fieldwork	Lecture **8)** Content Analysis	Halvorson Halvorson
10	Oct 31 Nov 2	Unmanned Aircraft Systems (UAS)	Lecture **9)** UAS Flight Planning	Beighle Beighle
11	Nov 7 Nov 9	Unmanned Aircraft Systems (UAS)	Lecture **10)** UAS Deliverables	Beighle Beighle
12	Nov 14 Nov 16	Meteorology & Climate Basics	Lecture; **Course Project Draft Due** **11)** Meteorological Field Data Collection	Klene
13	Nov 21 **Nov 23**	Course Project Feedback **Thanksgiving Travel Day – No Class**	NA NA	All NA
14	Nov 28 Nov 30	Presentations Presentations	NA NA	All All
15	Dec 5 Dec 7	Presentations Presentations	NA NA	All All
16	Dec 12	Presentations and Wrap Up		All
Final		**TBA**		

***This provisional schedule may be modified if needed by instructors.**