

Notebook
Mechanical pencil with eraser
Water bottle, snack
Small flashlight – may come in handy

Please let me know at the start of the course if you have any medical condition(s) that would require special attention in case of an emergency, e.g., hypersensitivity to bee/wasp stings, etc. Please note that your accounts will incur a fee for travel expenses related to this course (~ \$30 - \$50).

Evaluation and grading

Your grade will be determined by two exams (100 pts. each), three reports (50; 50; 70 pts.), one research proposal (10 pts) and one report presentation (20 pts.), and seven laboratory exercises (10 pts. each). NOTE: We may complete as many as 8 laboratory exercises; final class grade will be based on the 7 highest.

Your **attendance** (25 pts.) and **participation** (5 pts.) in class will earn you 30 pts (6 % total grade). For example, if you attend class and sign only 15 (50%) of 30 attendance forms during the course, you will earn 12.5 points ($25 * 0.50 = 12.5$). **There will be no final exam.**

Exams (2) = 200
Reports (3), proposal and presentation (1,1) = 200
Laboratory exercises (7, of 8) = 70
Attendance and participation = 30

Thus, your course grade will depend on what proportion of the total 500 points you earn. **Make up exams will not be possible without an official excuse (signed physician's letter on letterhead).**

The following grading scale will determine your course letter grade:

Grade	Min. Pts.	%
A	463	92.5-100
A-	448	89.5-92.4
B+	438	87.5-89.4
B	408	81.5-87.4
B-	398	79.5-81.4
C+	388	77.5-79.4
C	348	69.5-77.4
D	298	59.5-69.4
F	<298	59.5

You are expected to attend all lecture and laboratory meetings unless posted otherwise. However, please read the below paragraph to educate yourself on exceptions and other matters related to absences.

This course abides by the Penn State Class [Attendance Policy 42-27](http://senate.psu.edu/policies/42-00.html#42-27): <http://senate.psu.edu/policies/42-00.html#42-27>, [Attendance Policy E-11](http://www.psu.edu/oue/aappm/E-11.html): <http://www.psu.edu/oue/aappm/E-11.html>, and [Conflict Exam Policy 44-35](http://www.psu.edu/ufs/policies/44-00.html#44-35): <http://www.psu.edu/ufs/policies/44-00.html#44-35>. Please also see [Illness Verification Policy](http://studentaffairs.psu.edu/health/welcome/illnessVerification/): <http://studentaffairs.psu.edu/health/welcome/illnessVerification/>, and [Religious Observance Policy](http://www.psu.edu/oue/aappm/R-4.html): <http://www.psu.edu/oue/aappm/R-4.html>. Students who miss class for legitimate reasons will be given a reasonable opportunity to make up missed work, including exams and quizzes. Students are

not required to secure the signature of medical personnel in the case of illness or injury and should use their best judgment on whether they are well enough to attend class or not; the University Health Center will not provide medical verification for minor illnesses or injuries. Other legitimate reasons for missing class include religious observance, family emergencies, and regularly scheduled university-approved curricular or extracurricular activities. Students who encounter serious family, health, or personal situations that result in extended absences should contact the [Office of Student and Family Services for help: http://studentaffairs.psu.edu/familyservices/](http://studentaffairs.psu.edu/familyservices/). Whenever possible, students participating in University-approved activities should submit to the instructor a [Class Absence Form available from the Registrar's Office: http://www.registrar.psu.edu/student_forms/](http://www.registrar.psu.edu/student_forms/), at least one week prior to the activity.

Academic integrity statement

Students in this class are expected to write up their problem sets individually, to work the exams on their own, and to write their papers in their own words using proper citations. Class members may work on the problem sets in groups, but then each student must write up the answers separately. Students are not to copy problem or exam answers from another person's paper and present them as their own; students may not plagiarize text from papers or websites written by others. Students who present other people's work as their own will receive at least a 0 on the assignment and may well receive an F or XF in the course. Please see: [Earth and Mineral Sciences Academic Integrity Policy: http://www.ems.psu.edu/current_undergrad_students/academics/integrity_policy](http://www.ems.psu.edu/current_undergrad_students/academics/integrity_policy), which this course adopts.

Accommodations for Students with Disabilities

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides [contact information for every Penn State campus: http://equity.psu.edu/ods/dcl](http://equity.psu.edu/ods/dcl). For further information, please visit the [Office for Disability Services Web site: http://equity.psu.edu/ods](http://equity.psu.edu/ods). In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, [participate in an intake interview, and provide documentation: http://equity.psu.edu/ods/guidelines](http://equity.psu.edu/ods/guidelines). If the documentation supports your request for reasonable accommodations, your [campus's disability services office](#) will provide you with an accommodation letter.

Campus Emergencies

Residence Instruction: Campus emergencies, including weather delays, are announced on [Penn State News: http://news.psu.edu/](http://news.psu.edu/) and communicated to cellphones, email, the Penn State Facebook page, and Twitter via PSUAlert ([Sign up at: https://psualert.psu.edu/psualert/](https://psualert.psu.edu/psualert/)).

Important dates/deadlines:

September 26: Submit Report 1 for student peer evaluation and grading

October 1: Submit Report 1 due for final instructor evaluation and grading

October 24: Exam 1

October 29: Submit Group Study Proposal

November 7: Submit Report 2 for final instructor evaluation and grading

December 5: Exam 2

December 12: Submit Report 3 final instructor evaluation and grading

December 10 & 12: Group Study Presentations

Completed lab exercises must be submitted no later than the following lab period, unless noted otherwise. It will be your responsibility to abide to the above. No late lab exercises will be accepted.

Late reports will incur a 10% deduction for every day they are late – yes, this is harsh but it is designed to reward students that submit their work on time. It's your choice – spend one of more days improving a report or lose points by submitting it late.

Please review carefully the schedule of activities presented in the following table and prepare accordingly.

NOTES:

TENTATIVE GEOG 313 COURSE OUTLINE – FALL 2014

Week	Date	Topic/Activity
1	August 27	Orientation & introduction; scope of geographic field methods
	August 29	The scientific method in research; Preparing/writing scientific reports
2	August 29 - Lab	Writing a scientific report – indoor activity Lab Exercise 1
	September 3	Introduction to headwaters
	September 5	Preparation/Instruction for afternoon laboratory
3	September 5 – Lab	Primary Headwater Habitat Stream evaluation – outdoors Report 1
	September 10	Researching/preparing the Study Area description
	September 12	Preparation/Instruction for afternoon laboratory
4	September 12 – Lab	The Web Soil Survey (WSS) – indoor location TBA Lab Exercise 2
	September 17	Mapping by measuring distance
	September 19	Mapping by measuring distances; preparation/instruction for afternoon laboratory
5	September 19 – Lab	Mapping by measuring distances – outdoor Lab Exercise 3
	September 24	Recap of mapping by measuring distances; discussion of Report 1
	September 26***	Student Report 1 evaluation; Report 1 due!
6	September 26 – Lab 4	Report 1 troubleshooting; intro to Group Study and Proposal
	October 1***	Direction, declination, navigation; measurement horizontal angles; Report 1 due!
	October 3	Preparation/Instruction for afternoon laboratory
7	October 3 – Lab 5	Direction, declination, navigation; measurement horizontal angles) Lab Exercise 4
	October 8	Wetlands, wetlands classification
	October 10	Wetlands cont. preparation/instruction for afternoon laboratory
8	October 10 – Lab 6	Microtopography in wetlands – outdoor Report 2
	October 15	Elevation and relief; measurement of vertical distance & angle
	October 17	Preparation/instruction for afternoon laboratory
9	October 17 – Lab 7	Measuring vertical distances and angles – outdoor Lab Exercise 5
	October 22	Review for exam 1
	October 24 ***	EXAM 1
10	October 24 – Lab 8	Report 2 troubleshooting; planning for Group Study (Report 3);
	October 29***	Global Positioning system (GPS); Group Study Report 3 Proposal due!
	November 31	Global Positioning system (GPS); preparation/instruction for afternoon laboratory
11	November 31 – Lab 9	Field data collection with GPS (Garmin) – outdoor Lab Exercise 6
	November 5***	GPS cont.; data dictionary
	November 7	Preparation/instruction for afternoon laboratory
12	November 7 – Lab 10***	Data dictionaries for GPS (Trimble) indoor; Report 2 due! Lab Exercise 7
	November 12	Historic and cultural factors
	November 14	Human geography; the interview process
13	November 14 – Lab 11	Independent work on Group Study Report 3
	November 19	Sampling concepts
	November 21	Sampling concepts & examples
14	November 21 – Lab 12	Sampling in practice: Green Lake Lab Exercise 8
	November 24 – 28	Thanksgiving Holiday – no classes on Week 14
	December 3	Review for Exam 2
15	December 5***	EXAM 2
	December 5 – Lab 13	Troubleshooting Group Study report (report 3)
	December 10***	Presentations
16	December 12***	Presentations
	December 12*** – Lab 14	Presentations - Report 3 due!

*** deadlines and exams

Field Geography – Week 1

No ideal or best definition to capture what field geography is about; different activities to different folks engaged in research with geographic component

A collection of geographic methods and techniques – a universe in itself; not a subset of any particular discipline in geography; there are many disciplines within “geography”!!

Visit The American Association of Geographers (AAG) website (www.aag.org/sg/sg_display.cfm) - imagine having a single definition that captures all activities

Visit your own department’s web site (www.geog.psu.edu/) – how diverse is the research being conducted?

Generally excludes indoors – it is all about the outdoors; are we sure about this one?

Tentative definition “... the systematic acquisition of new or raw data within a specified research area”
Lounsbury and Aldrich, 1979

Probably best to distinguish between “methods” and “techniques” although we often use them interchangeably

Methods – overall approach or research design to investigate phenomena

Techniques – the actual activity undertaken to collect the field data

Activities vs. tools?? Carpentry vs. circular saw?

Example: We are interested in controlling the introduction and spread of non-native plants in Pennsylvania. What approach (strategy?) might be effective? What tools might be most useful? Of the items below, Early detection, GIS, mapping, biological control, GPS, eradication, herbicide

Why is there a need for collecting data in the field?

1. Small scale problems (small area) where needed data can only be collected in the field.... not published anywhere or available by other means – aerial photos, remote sensing, USGS quadrangles. Examples?

2. Fast changing phenomena or where monitoring is required.

Examples

3. Information not readily “visible” or measurable from simple observation. The study of social or behavioral patterns requires special techniques ... think of questionnaires

Examples?

Land use planning, suitability studies, opinion polls, and need for environmental impact statements (EIS) drive much of today’s field research.

Data acquisition entails three broad methods:

1. Systematic observation and mapping of visible features – wetlands, their boundaries, & attributes
2. Use of instruments – consider the task; identify suitable instruments
3. Interviewing target human population to understand needs, culture, ideologies/values, preferences

When gathering information or measurements required to understand a phenomenon of interest, it becomes obvious that most “populations” are simply too large to measure [note that population here is being used broadly, for both the living and the non-living]. Thus, could we interview all State College residents if we were interested in their opinion about some topic? Similarly, could we measure the diameter at breast height (DBH) of all the trees on campus? Could we even measure something about ALL the leaves on one tree? In most situations, it is not feasible or practical to “measure” all members of most study populations. Therefore, at best, we can only strive to measure attributes of interest from *an unbiased sample* from the population of interest. An “unbiased” sample, although perhaps only consisting of a fraction of the total population, if truly unbiased, is assumed to be representative of the entire population. If truly representative, then measurements from this smaller group of units (the sample) will allow us to make conclusions (inferences) about ALL units within the population. As a result, ensuring the collection of unbiased, representative samples is the first step to any serious objective investigation.

Literature Cited

Lounsbury, J. F. and F. T. Aldrich (1986) *Introduction to Geographic Field Methods and Techniques*. New York: Macmillan Pub. Co. Chapter 1.

See also <http://uts.cc.utexas.edu/%7Ewd/courses/373F/notes/lec01int.html>

GEOG 313

Please complete the following and return at end of class period

Your Name _____ psu user id (portion of your email) _____

Are you hypersensitive to bee/wasp stings? _____ Y/N/not sure

Please note here if you have any concerns (allergies, medical conditions) about working outdoors

Degree sought _____ Major/minor _____

Senior / Junior / Sophomore / Freshman

Why are you taking this course? It is a degree requirement _____ It was your choice _____

Do you have GIS (ArcMap) experience _____? Please elaborate if you answered "yes"

Please summarize your background/training/past internships/skills relevant to the class