Field Study in Environmental Geography (GEOG 303)

University of Arizona

School of Geography and Development

Spring 2014

Tuesdays 8:30 – 11:00, Harvill 402

**Instructor: Chris Guiterman**, PhD Student

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Office Hours: Wednesday, 10:00-11:00, or by appointment

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### Course Description & Structure

This three-credit-hour course is designed to introduce you to the fundamentals of fieldwork-based geographical research methods and scientific report writing. We will spend most of our time exploring concepts, techniques and tools pertinent to physical and environmental geography. Ultimately, you will end up writing a report for a field-based research paper with your own primary data that YOU collect.

*There are no prerequisites for this course. However, you are most likely to find this course valuable and earn a high grade if you are already familiar with key concepts of the physical sciences and determined to learn more about environmental geography.*

### Course Goals

By the end of this course, you should be able to:

* better understand natural and cultural landscapes and interactions among biophysical systems
* utilize a range of geographical field techniques and tools;
* apply various techniques for the evaluation, analysis, and synthesis of geographical data;
* generate a professional oral and written scientific report.

### Course Materials

**Readings**

There is no required textbook for this class because no existing textbook adequately covers all of the material that we will be discussing. However, there are several required readings for certain assignments, and you will be tasked with finding, assessing, and understanding more than 5 primary research papers from the literature pertinent to the topic of your Research Report.

**Materials**

There is no specific set of materials you need to bring to every class period. However, there is a range of materials you will need at one point or another during the semester. (I will let you know when you’ll need which materials):

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| * *Rite in the Rain* All-Weather Notebook for taking notes in the field (Tucson Audubon, UA Bookstore) | * Pencil and eraser | * Metric ruler and protractor |
| * Pocket calculator | * Field clothes | * Water bottle |
| * Sunscreen | * Camera (digital or high resolution cell phone) | * Cell phone |

**Website**

The website for this course can be found at www.d2l.arizona.edu. To access course materials, simply log in to your D2L account (UA NetID and password) and click the link for this course. The website is a key element of this course and you are required to review its contents regularly. If you encounter problems related to the website, please contact me immediately.

### Field Trips

You will be **required** to conduct field work off campus on at least two occasions during this semester. Details are below on the course schedule. On **April 1st**, we will meet at 9:00 am during our first field trip. The location will be on the Santa Cruz River (exact location TBD, but probably near downtown). We will be back by 1:00 pm. If you have a class during that time that you cannot miss, let me know ASAP so we can work out arrangements. If you work, please let your employer know that you may not come to work until 1:30 pm that day. This trip counts as a lab (20 points).

For your final **Research Report**, you will collect your own data from a specified location in the greater Tucson area. Mt Lemmon is a likely place to work, but another area may be more fitting to your project. Ideally, all of the class would attend a single trip, but this will depend on the Research Reports themselves. If we take a class trip, it will be held on **Saturday, April 12th**. Failing to collect the data for your Research Report on or prior to this date will significantly affect your ability to complete the project, and will result in an automatic failing score for the course.

### Grading

Your final course grade is determined by the amount of points you earn out of a total possible 650 points. The points are allocated as follows:

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| --- | --- | --- | --- |
| **Lab assignments (10 @ 20 points each)** | | **200** | **650 Points**  **(100 %)** |
| **Midterm Exam** | | **100** |
| **Final Lab Practicum** | | **100** |
| **Proposal for Research Report** | **Annotated Bibliography** | **10** |
| **Presentation** | **20** |
| **Written Proposal** | **30** |
| **Research Report** | **Presentation** | **50** |
| **Final Written Report** | **100** |
| **Short Assignments (5 @ 4 points each)** | | **20** |
| **Participation (including peer assessment and attendance)** | | **20** |

Letter grades are based on the percentage (90-100=A; 80-89= B; 70-79= C; 60-69=D; below 60=E)

**Exam & Practicum**

There will be one exam that will test your understanding of the concepts, tools, and techniques discussed throughout the term. The exam will account for 100 points (15%) of your final course grade and consist of multiple choice, short answer and essay questions, and practical tasks (e.g. demonstrating how to use field equipment). All course materials are considered potential exam material. A **make-up exam** will only be given to those students who can provide a Dean’s excuse for the day of the exam. Any excuse notes must contain a signature, a date, and your name. Exams represent your understanding of the course material and not that of your peers; that is, taking exams is an **individual** effort, not a team effort (See “Code of Academic Integrity” statement below). Further details regarding the exam will be provided to you in class and on the course website.

At the end of the semester, a **Lab practicum** will be administered. This exercise will demonstrate that you know how to use field equipment and take accurate measurements. This will count for 100 points of your final grade.

**Labs and Assignments**

Over the course of the term, you will have to complete ten “hands-on”, individual and group labs that are designed to improve your understanding of concepts, techniques, and tools discussed during the lectures. Each lab will account for 20 points of your final course grade. Each lab will be unique and require a specific set of guidelines and instructions; these will be provided to you via the course website and you are required to prepare them for class as instructed. Some of the labs may be completed entirely during our regularly scheduled class meeting times; others will require additional work outside of class. Most weeks, the lab will be due one class period after it is assigned, at the beginning of class (unless otherwise noted). **Late submissions will not be accepted\***, meaning you will receive 0 points for any late lab submissions. Labs are due by the start of class the next week, which is **8:30 AM!** Be on time with the lab in hand. Most labs will be carried out through **teamwork** (See “Team Work” statement below). Emailed labs will not be accepted unless you arrange something with me prior to the due-dates. You must bring the printed lab for each day to class. I will not be handing them out. They will be on D2L by the day before class each week.

***This may seem obvious, but I need to make the point that you will NOT receive credit for a lab that does not have your name or that is too messy to grade. This has been an issue in the past so please turn in neat, clearly labeled labs. Some labs have a group section and an individual section. Make sure it is clear who did which parts or you will receive a 0!***

In addition there will be 5 short assignments. These will be available on D2L 1 week before the scheduled due date. They are worth 4 points each for a total of 20 points and are individually done. If you turn in the same assignment as another class member you will get a 0 and will be making a trip to my office to talk about the consequences of copying someone else’s work.

**Research Report**

You will have to complete one Research Report as a capstone exercise to this course. Your report will be turned in as a group project and presented to the class as a group (Everyone MUST participate in the final presentation). Details regarding the Research Report will be provided to you in class and on the course website. You will also have to write a proposal for your research project, and present it to the class. Note that only those reports based on excellent field notes, sketches, and photographs can earn the highest grades. Furthermore, only those reports that are submitted on time will be evaluated. (For due dates, refer to the Tentative Course Outline below). **Late submissions will not be accepted\*** and will receive 0 points. The final presentations will be 15 minutes with an extra 5 minutes of questions from the audience (including me!). You are expected to present your research in a professional manner as an oral, Powerpoint-style presentation.

**Participation**

Your participation in this class will be determined by your instructor and based on peer reviews. Your participation grade will be based on the following criteria: attendance; preparedness for class; participation in class discussions; participation in laboratory and field activities; and general behavior (e.g., assistance to other students; ability to compromise and respect other people’s ideas; ability to motivate others; responsible behavior in the field; etc.). The success of an interactive course such as this one heavily depends on the participants. You are NOT guaranteed these 20 points! You must earn them by actively participating in class.

**Teamwork**

In a course such as this, working collectively on assignments with others is generally very beneficial. While you as a team member will initially receive the same grades as all other members of your team, adjustments of your grades (upward or downward) will be made based on peer evaluations. That is, on several occasions during the semester (See Tentative Course Outline below), each team member will evaluate all other team members in terms of their contributions to the success of the team (e.g. preparedness, reliability, participation in discussions, ability to compromise and respect other peoples’ ideas). The results from these peer evaluations will be used to weight the ‘team’ grades acquired since the beginning of the semester or previous peer evaluation. It is thus in your own best interest to always be prepared and contribute as much as possible to teamwork and other class activities.

Teamwork also entails making sure that your group members are up to par with the concepts and tasks you have to complete in each lab and for the Research Report. If you are lucky and already have the skills necessary to perform well on these tasks, it is YOUR RESPONSIBILITY to help your teammates understand and gain the skills too. Ignoring the needs of your teammates will count against you. Likewise, if you allow yourself to be carried along by one of your teammates, it is your responsibility to get him/her to catch you up so that you too understand how to do everything.

### Policies, Codes, Etc.

**Code of Academic Integrity:** “Integrity and ethical behavior are expected of every student in all academic work. This Academic Integrity principle stands for honesty in all class work, and ethical conduct in all labs and clinical assignments. This principle is furthered by the student Code of Conduct and disciplinary procedures established by ABOR Policies 5-308 through 5-404, all provisions of which apply to all University of Arizona students. This Code of Academic Integrity (hereinafter "this Code") is intended to fulfill the requirement imposed by ABOR Policy 5-403.A.4 and otherwise to supplement the Student Code of Conduct as permitted by ABOR Policy 5-308.C.1.” For the complete Code of Academic Integrity, please refer to

<http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity>

**Policy on Threatening Behavior:** “The University seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare. The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. Threatening behavior can harm and disrupt the University, its community and its families.” Please refer to http://policy.arizona.edu/threatening-behavior-students for the complete policy. Firearms are not allowed on University property and will not be tolerated on off-campus field trips.

**Students with Disabilities:** If you have a documented physical, psychological, or learning disability and anticipate needing accommodates in this course, please meet with us immediately so that we can discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, you must be registered with Disability Resources (621-3268; <http://drc.arizona.edu/>) and notify us of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

**Absence Policy:** All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean's designee) will be honored. All other absences will be handled as described elsewhere in this syllabus.

**What you can expect from me:** I will be available in class, during office hours, scheduled appointments, and via email (within reason) to respond to any questions or concerns you may have**.** Don’t be shy, and contact me or the TA as soon as ambiguities, problems, or concerns arise! I reserve the right to change scheduled lectures, exams, and assignments. Any changes made will not adversely affect your workload or grade.

**What I expect from you:** Enrollment in this course and acceptance of this syllabus is your contract constituting acceptance of ALL University of Arizona policies and codes (<http://deanofstudents.arizona.edu/policies-codes>) Students who violate these policies and codes will be dealt with severely, at both the course and the University level. Enrollment in this course and acceptance of this syllabus is also your contract constituting acceptance of ALL specific policies outlined in this syllabus. You will be on time for all class-related activities, submit all tasks as instructed, and always show “good” behavior toward both your peers and instructor.

**\*An additional note on my “late submission policy”: I am NEVER willing to accept late work, UNLESS the work is accompanied by an official note listing your name and a dated signature from a doctor, a police officer, a professor/instructor, or a similar official. Confusion between group members and individuals is not a valid excuse.**

**Course Outline and Schedule**

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| ***Date*** | **Topics** | **Assignment** |
| ***1/21*** | **Course Overview** | * **Lab Assignment #1:** Habitat Modeling |
| ***1/28*** | **Introduction to Mapping Techniques and the Research Reports** | * **Lab Assignment #2:** Topographic Maps |
| ***2/4*** | **Scientific Communication in Geography** | * **Lab Assignment #3:** Pace and Compass, Distance and Angles * **Peer Evaluation #1** * **Short Assignment 1 Due** |
| ***2/11*** | **Mapping Techniques II** | * **Lab Assignment #4:** GPS Techniques |
| ***2/18*** | **Introduction to Sampling and Biogeography** | * **Lab Assignment #5:** Transect and Quadrat; Allometry * **Peer Evaluation #2** * **Short Assignment 2 Due** |
| ***2/25*** | **Environmental Impact Studies** | * **Lab Assignment #6:** Environmental Impacts Assessment * **Short Assignment 3 Due** |
| ***3/4*** | **Qualitative methods** | * **Lab Assignment #7:** Historical reconstruction and participatory mapping * **Peer Evaluation #3** * **Annotated Bibliography Due** |
| ***3/11*** | **Mid-Term Exam**  **Group work on Research Report Proposals** |  |
| ***3/18*** | **No Class – March Break** |  |
| ***3/25*** | **Presentations of Research Report Proposals**  **Intro to Watersheds Lab** | * **Research Proposal Due** |
| ***4/1*** | **Watersheds Field Trip (9:00am - 12:30pm)** | * **Lab Assignment #8:** Watersheds- meeting place to be determined. * **Short Assignment 4 Due** |
| ***4/8*** | **Intro to Data Sets and Analyses** | * **Lab Assignment #9:** Mesquite Data Analysis |
| ***Saturday 4/12*** | **Field Data Collection for Research Reports** | * **Deadline for Data Collection** |
| ***4/15*** | **Summarizing, Analyzing, and Interpreting your Data for the Research Reports** | * **Field data MUST be digitized and ready for analyses** * **Peer Evaluation #4** |
| ***4/22*** | **Dendroecology and Remote Sensing** | * **Lab Assignment #10:** Dendrochronology and crossdating * **Short Assignment 5 Due** |
| ***4/29*** | **Presentations of Research Reports** |  |
| ***5/6*** | **Lab Practicum** | * **Research Report Due** * **Peer Evaluation #5** |
| \*\*\*\*\*\*\*\* | I reserve the right to make changes to this schedule. | |