

Geography 364 – GIS: Concepts and Applications (Fall 2009)

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Lecture: Tu/Th 9:40-11:10; Car 108

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Or by appointment

Office Hours: M 1-2pm; T/Th 10-11am
Or by appointment

COURSE DESCRIPTION AND OBJECTIVES

Designed as a sequel to the introductory course in GIS, this course covers the theory and background of GIS and seeks to increase student use of more advanced spatial analysis techniques. There are two broad objectives for this course. First is to extend student knowledge and technical abilities in GIS. We will do this through readings, lectures and demos that address the concepts and principles of GIS analysis and through structured lab exercises that stress technical skill development. The second and parallel objective is to work cooperatively with members of the Biology Department and the Three Rivers Center to develop a core GIS database for the Katharine Ordway Natural History Study Area. We will spend the first few weeks of the semester preparing data and analysis strategies and learning a few additional technical tools. Following this initial period we will focus very specifically on completing the project.

REQUIRED TEXTS

- There are no required texts for this course.

Additional Readings will be provided via Moodle as needed.

COURSE REQUIREMENTS & GRADING

Attendance will be taken during each class period and is counted towards your overall participation grade. Since this is a collaborative project, it is important for everyone to be in class during scheduled times to facilitate this collaboration. Please **BE ON TIME** to avoid disrupting the class.

Your active participation in this class is key to making it interesting and relevant to your own experiences. My experience is that students who fail to attend regularly also fail to successfully wed the conceptual and theoretical components of GIS with the applied technical requirements.

You are also expected to attend the weekly lab meeting for which you registered. Most of the material covered in lab is not easily made up if you are absent. If you are absent from lab for any reason (excused or unexcused), it is **your** responsibility to obtain the information you missed.

Lab Assignments – We will work through several labs to enhance your skills and to prepare you for the project.

Other Assignments – As an interactive, project-based course there will be several additional assignments over the course of the semester that relate specifically to our project. You will have sufficient notice and description of these assignments.

Applied Group Project – This semester we will be working with members of the Biology Department and the Three Rivers Center to prepare a GIS database for the Katharine Ordway Natural History Study Area. We will discuss the details in much more depth as we progress through the semester.

Incompletes – Incompletes will be given according to Macalester policy. That means it will be given only to students “who have encountered difficulties beyond their control that have hindered their academic progress.”

Journals – For this course you are required to keep a journal of your thoughts and reflections over the semester. The purpose of the journal is for you to spend time reflecting on your experiences in the class in general and our collaborative project specifically. I will announce when each journal entry is due and if there is a specific question that I would like you to address. I do not grade the content of the journal. It is my hope that you will honestly consider the progress of the applied group project and your individual learning, and the class as well, and use the journal as a tool for exploring the challenges and rewards of group projects and collaborative partnerships.

Make-up and Late Assignments

- **Assignments** – Late assignments will be accepted for partial credit only.
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CLASSROOM POLICIES

Courtesy – The first and most important classroom policy is to BE COURTEOUS! This includes:

- If you arrive late or need to leave early, do so with a minimum of disruption.
- Please turn-off all I-pods, cell phones, etc. during class.
- Be polite when others are speaking, there is enough time to discuss all perspectives.

Computers – Everyone will be assigned a particular computer where you will save all your projects. You will also be expected to make use of the lab outside of regular class time to work on your assignments and projects. To make sure you have access to your computer outside class time, you will be given the name and email address of the other student(s) assigned to your same computer in other classes. It will be your responsibility to coordinate your schedules.

Course Information – A fair amount of course information will be disseminated via Moodle and email. Please be sure to check your Macalester email account and the Moodle page regularly.

Lab Hours – Lab time will be used to demonstrate cartographic and GIS applications using ESRI's ArcView 9.3.1 software. You will be expected to complete most lab assignments on your own time outside of class. TAs will be in the lab during certain hours to help you. I have posted the open lab schedule on the GIS webpage <http://www.macalester.edu/geography/gis/> and on the door of the lab. Please do not leave your lab work until the last minute – the lab may not be available and systems do crash from time to time. Also, please note that the lab is a “teaching lab” and not a general computer lab – i.e. it is not the place to check email, write papers, etc. GIS assignments take priority during open lab times. **As a member of the Advanced GIS class, you will be given additional lab privileges, including extended hours and access to the lab. Please do not abuse these privileges.**

Lab Rules – There are specific policies about lab conduct. You will be asked to sign a lab contract that states that you will abide by the following lab rules:

1. do not to bring FOOD or BEVERAGES into the lab; beverages in containers must be kept closed while in the lab
2. work on your designated computer and save all files to your personal workspace
3. preserve original data files (i.e. you will copy any GIS data into your personal workspace)
4. print only maps on the color printer
5. obtain permission from Birgit before downloading files and/or programs to the computer and before using any special contract data
6. turn off your cell phone *at all times* while working in the lab

Office Hours – Office hours provide a great opportunity to discuss questions, issues, or concerns about the class or to just talk about GIS. Feel free to stop by during office hours or schedule a different time to meet, if your schedule conflicts with the posted office hours.

Participation - This is an interactive class. Some days will be mostly lecture while others will be in-class exercises and discussions. Be prepared to participate.

Academic Integrity – Cheating and plagiarism are unacceptable and dishonest. In this class I expect you to complete and turn in your own work and to follow established academic practices regarding proper use and citation of materials and ideas that are not your own. Engaging in cheating or plagiarism will result in a failing grade in this class. If you have questions about what constitutes plagiarism or cheating, please see me.

625 point grading scale

- 70 = Participation
- 30 = Journals (5pts per entry (~6 entries))
- 400 = Applied Project
- 125 = Labs Assignments (5; 25 pts each)
- 25 = Reflection paper

A	93-100%	B	83-86%	C	73-76%	F	Below 60%
A-	90-92%	B-	80-82%	C-	70-72%		
B+	87-89%	C+	77-79%	D	60-69%		

General Schedule: Dates are approximate – we will adjust as needed.

Week	Date-Day	Topic	Notes
1	10 Sept	General Overview, GIS Review, Data Overview	
2	15 Sept	Lab 1	
	17 Sept	Readings and Project Discussion	Partners from Macalester / Ordway
3	22 Sept	Project Management/Database Organization/Brainstorming	
	23 Sept WED	Meeting with Jerald Dosch, Biology Time TBA	
	24 Sept	Data Collection 1	
4	29 Sept	Data Processing	
	1 Oct	Data Collection 2	
5	6 Oct	Lab 2	
	8 Oct	Data Collection 3	
6	13 Oct	Data Collection 4	
	15 Oct	Data Processing	
7	20 Oct	Lab 3	
	22 Oct	Work Period	
8	27 Oct	Lab 4	
	29 Oct	Fall Break	
9	3 Nov	Data Processing & Analyses	
	5 Nov	Lab 5	
10	10 Nov	Data Processing & Analyses	
	12 Nov	Data Processing & Analyses	
11	17 Nov	Data Processing & Analyses	
	19 Nov	Data Processing & Analyses	
12	24 Nov	Map Discussion	Draft Maps Due
	26 Nov	Thanksgiving Break	
13	1 Dec	Practice Presentation	
	3 Dec	Enviro Thursday Presentation	
14	8 Dec	Work period	First Draft Due
	10 Dec	Work period	
15	15 Dec	Final Draft & Discussion	
	17 Dec	Course Evaluation & Data Backup	