

Course Title: GIS in Your Discipline
GEO 270 (2 Credit)

Prerequisites: none

Class Meeting Time & Location: Tues/Thur 2:20-4:00, McMichael 006

Instructor: Ryan Kirk, Dept of History and Geography, Dept of Environmental Studies
rkirk2@elon.edu (e-mails will be responded to within 24 hours)
Office: 112A Lindner Hall
Work: 336-278-6477

Office hours: MW 9:00 – 10:00 p.m. (in 112A Lindner)
TTh 10:00 – 11:00 p.m. (in 112A Lindner) *(or by appointment)*

Course Web site: We will use **Moodle** extensively for communication, submission of assignments, and grading.

Required Text: No required text. All readings will be as pdfs.

Course Overview: This course is designed to help you gain a better understanding of the potential uses of GIS within your discipline while developing new or expanding existing GIS skills.

Course Objectives:

- 1) Exposure to the ArcGIS software suite that is appropriate for your skill level
- 2) Exposure to the breadth of ways GIS is used in your discipline
- 3) Resourcefulness in geospatial problem solving
- 4) Improve writing, critical analysis, communication, and research skills

Catalog Description: Geographic Information Systems are computer-based tools that open up new avenues of inquiry in a wide swath of disciplines spanning from the sciences to the humanities. In this course, you will gain a general knowledge of GIS and examine specific applications of GIS in your discipline through hands-on activities and research. You will also work with the instructor to develop a GIS project within your disciplinary interest(s). This course is appropriate if you want to develop spatial datasets for other projects you are working on, to build upon any previous GIS experiences our courses you have had, or simply to explore the potential of this highly-marketable tool set. *No prerequisites. Offered 1st half of Spring Semesters.*

General Course Structure: This course will be designed around a series of research tasks and GIS projects. The GIS projects will be selected at the appropriate level for each student. There will be regular mini-lectures to cover various topics, but the course will follow a flexible structure with students working individually or small groups, and with regular individual sessions with the instructor.

Grades: Grades will be determined by the following:

Participation	10%
Research Assignments (3 @ 5% each)	15%
Lab exercises (3 @ 5% each)	15%
Literature Review	30%
Final Project Report & Maps	30%

Attendance & Participation Policy: As this is a project driven course, attendance will not be required except for 1) the presentations date, 2) the final exam, and 3) scheduled individual meetings. However, given the nature of this course, you must be in regular contact with the instructor as part of the participation grade.

The participation grade rewards demonstration of the following characteristics:

- a) Preparedness: The student comes prepared for class sessions, having completed readings and addressed assigned questions or research topics.
- b) Initiative: The student takes a lead in group-related work and seeks out ways for advancing our success of the course.
- c) Contributive: The student regularly contributes to discussions and group projects, both in and out of class sessions.
- d) Professionalism: The student arrives on time, is respectful in discussions, and assists other students where possible.
- e) Proactiveness: The student demonstrates self-initiative in advancing their project and learning in this course.

Research Assignments (3): The research assignments are designed for you to research and synthesize topics related to GIS and your discipline. All will require a written summary of your findings, and, depending on the circumstances, might also consist of a demonstration of software functionality.

Lab Exercises (3): Labs are designed to give you hands-on experience with the most popular GIS software (ArcGIS 10.1) that is appropriate for your skill level. The first lab will be an introduction to the software, so this might be a refresher for you if you have previous experience. Subsequent labs will be selected in by the professor based on your skill level and disciplinary interests.

Literature Review: The literature review will consist of research and synthesis on how GIS is used in your discipline. They should be 2000-2500 words in length (5-8 pages) with at least 10 citations. At least 7 of the citations must be from books or peer-reviewed journal articles. The objectives of the lit review is for you to 1) explore disciplinary applications in detail; 2) synthesize recent research on those applications, and 3) develop arguments for how what the “state of the art” is for how GIS is used in the discipline. Detailed guidelines and a rubric are available on Moodle. Part of the Research Assignments will be to conduct initial research on the topic.

Final Project: Students are given the choice of a final project, with the general requirement that it have an analysis component (i.e., not just data development). The project should consist of about 20-40 hours work and should be designed in close consultation with the instructor. Projects will likely vary greatly based on the interests of the students. Grading will be based more on strength of effort and initiative rather than degree-of-difficulty. The final product will consist of a written report and at least 2 professional quality maps.

Grading Policies:

Overall grading is criterion-referenced, in which grades are designed to measure how well students perform relative to predetermined standards. Grades follow the traditional scale and the traditional thresholds are guaranteed: (e.g., > 93% = A, 90-93% = A-, etc). No individual assignments will be curved, but the final grades may be curved upwards (never downwards) at the discretion of the instructor based on how class performance and grade distributions match expectations. I will work hard to communicate grade status throughout the semester as well as give indications of any potential final curve.

Bonus Points may be added on any of the assignments at the discretion of the instructor, based on any of the following criteria that indicate an “above-and-beyond” effort or quality-level: 1) professional presentation, 2) clarity of argument/presentation, or 3) thoroughness of argument/presentation. Thus, a grade greater than 100% is possible.

Grades on each assignment can be contested to the instructor up to 2 weeks after the assignment is returned for errors or perceived injustice. Send an e-mail or bring a written statement to office hours containing sound reasons why a grade should be changed.

Incomplete grades are assigned at the discretion of the professor when, due to extraordinary circumstances, e.g., hospitalization, a student is prevented from completing the work of the course on time. Requires a written agreement between the professor and student *before* the final exam.

Submitting Assignments: Due dates for assignments are listed on the course schedule (below). **Lab and written assignments are due the start of class on the due date.** Assignments are to be submitted in electronic format barring explicit directions to the contrary or previously arrangement. Assignments will be submitted electronically via Moodle. A separate sheet for instructions and requirements will be provided.

Exam: The exam will be based on content covered in the mini-lectures and the research assignments. We will develop a list of testable material as we go. The test format will consist of short answer questions.

Late Assignments: Extensions on assignments may be granted if requested in advance with appropriate justification. **Without an approved extension, assignments may be submitted up to 3-days late for 80% partial credit, or up to 7-days late for 60% partial credit.** Assignments will not be accepted later than 7 days after the due date without an approved extension. The exam cannot be made up with prior notification or documented emergency.

Academic Integrity Policy: Students are expected to abide by the Elon Academic Honor Code (available at <http://www.elon.edu/e-web/students/handbook/honorcpp.xhtml>). Alleged violations will be dealt with according to University policy.

Special Assistance: Please inform the professor of any special needs for accessibility and learning, and appropriate measures will be taken to aid success in the course. If you are a student with a documented disability who will require accommodations in this course, please register with Disabilities Services in the Duke Building, Room 108 (278-6500) for assistance in developing a plan to address your academic needs.

How to succeed in this course

This is an applied and open-ended class, so the top criteria for succeeding will be to commit to hard work and taking initiative under conditions of uncertainty and a willingness to be resourceful in finding solutions both in and out of class. Please be in regular contact with me for suggestions and feedback if you have any uncertainty. Note: this schedule is vague by design, and we will build the specific details in as we evolve our group dynamic. The deadlines will most likely be rigid, but we will remain flexible as needed.

Schedule

Week	Dates	Activity	Due Items / Notes
Week 1	Feb 5-7	Introduction What is GIS?	
Week 2	Feb 12-14	Applications of GIS in your discipline	Lab #1 due Assignment #1 due
Week 3	Feb 19-21	Individual meetings	Lab #2 due Assignment #2 due
Week 4	Feb 26-28	Presentations	Lit Review due
Week 5	Mar 5-7		Lab #3 due
Week 6	Mar 12-14	Project work	Project status report due
Week 7	Mar 19-21	Project Work Course wrap up	Final Project due sun Mar 17 Exam on Tue Mar 19