

GEOG 6850: GIS Applications

Department of Geosciences, Auburn University

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Office location: Haley 2046F

Office hours: MW 11:00am-1:00pm, or by appointment

Spring 2019

Class time: MW 9:00 – 10:50am

Class locations: Haley 2174 & 2468

3 Credit hours

What is this course about?

This course builds upon the fundamental concepts learned in “introduction to GIS” classes. While learning advanced GIS concepts through readings and case studies, you will apply your spatial knowledge to solve real-world problems using existing or user-defined GIS tools in various software packages. This course will challenge you to find efficient methods for applying GIS in a variety of spatial domains.

Why is this course important?

In introductory GIS classes you learn basic GIS concepts and how the software works, usually in a point and click manner. This course goes beyond that, allowing you to develop your own spatial questions for understanding “What is happening where and why?”, and determining the methodology required for obtaining answers to your questions. You will be given freedom to develop your own theme-based research questions and work through geospatial projects as the project manager. This experience is essential for those wishing to continue on with GIS in their careers, or for those who foresee themselves as project managers or GIS analysts in the future.

What will you learn?

1. ...to use various GIS platforms, while learning advanced concepts of GIS
2. ...to use project management skills to conceptualize, plan, perform analyses, and present the results of GIS projects
3. ...to produce readable, effective maps and reports to communicate results to broad audiences while cataloging your work in a blog
4. ...to be able to think critically about spatial problems from a variety of research areas, answering the question “WHAT is happening WHERE, and WHY?”
5. ...to investigate and apply new techniques and methods to solve your own theme-based research questions
6. ...to work in a group setting to solve complex problems and to appreciate interdisciplinarity

Textbook & readings

- **Textbook:** There is no formal textbook for this course, however Dr. Rogers has many you can borrow for inspiration.
- **Readings:** Will be listed in the dynamic course schedule and available on Canvas

Summary of Assessments (further details on next page)

Description	Points	%	Due Dates
Case Studies (3 x 125 pts)	375	37.5	TBA
Presentation	75	7.5	
Blog	100	10	April 26, 2019
Independent Project	200		
<i>Proposal</i>	<i>(50)</i>	5	February 6, 2019
<i>Final Manuscript</i>	<i>(150)</i>	15	April 26, 2019
Quizzes	100	10	TBA
Class participation	100	10	Ongoing
Professionalism	50	5	Ongoing
Total	1000	100	

A 10 point grading scale will be used for the final grades: 90-100 A, 80-89.9 B, 70-79.9 C, 60-69.9 D, <60 F. Grades are automatically rounded to the nearest .1%.

Case Studies (3): 375 points (37.5%)

- What are they? Case studies will be based on different themes in geoscience; they will allow you to apply GIS and geospatial principles and theories. For each case study, you will be presented with information from the instructor and then develop a research question, either independently or in a group, based on that theme. You will then carry-out your GIS-based mini-research projects and present your results on the final day of the respective thematic block.
- What's their purpose? These case studies will teach the student how to conduct a GIS project from start to finish. They can be catered to the interests of the student.

Presentation: 75 points (7.5%)

- What is it? Each graduate student will be responsible for one presentation in the semester. You will present results on one of our in-class case studies.
- What's the purpose? Give students experience presenting challenging scientific material, teaching other students, and leading a discussion.

Blog: 100 points (10%)

- What is it? A blog is not only a great way to keep track of what you have done throughout the semester, it is also very useful when highlighting your work to potential employers in the future. Your blog should be interesting, fun, and scientifically sound. It should contain (at least) summaries of each of your case studies with maps, images, methods, and tips and tricks. You can use whatever platform you like for this. To be discussed further in class.
- What's the purpose of this assessment? 1) a place to showcase your work and findings, and 2) it could act as an "eportfolio" and talking point in future job interviews.

Independent project: 200 points (20%)

- What is it? This project can be on a topic of your choice. It is strongly suggested that you work on this throughout the entire semester. The proposal is due early on to allow you to get your ideas together right away. Remember to answer the question "WHAT is happening WHERE and WHY" on a topic that interests you!
- What's the purpose of this assignment? Apply your GIS knowledge to your field of study, hopefully advancing what you already know in your field.

Quizzes: 100 points (10%)

- What are they? Quizzes will occur periodically and could be made up of multiple choice, true or false, or short or long answer questions. They will be announced in class.
- What's their purpose? Quizzes are necessary for seeing who is learning the course material, able to apply what we learned in class to different scenarios, and a way to show your problem solving skills.

Class participation: 100 points (5%)

- What is it? These points will come from a variety of activities including discussion boards, peer reviews, and class exercises. There will also be a troubleshooting platform for students to post technical questions for other classmates to respond to on Canvas – if your peers are not able to answer, the TA or instructor will. Your participation in this will be graded. **NOTE:** this will be the only way the instructor or TA will answer technical questions!
- What's the purpose of this assessment? To encourage student involvement in all aspects of the class.

Professionalism: 50 points (5%)

- What is it? Very important. A professional is someone engaged in a profession, characterized by or conforming to the technical or ethical standards of a profession. Traits of a professional include a high academic standard, continual renewal of knowledge, personal responsibility for work, service to society, display of self-confidence, dedication beyond personal considerations, and regulated by licensure. A portion of your grade (5%) will be associated with the professionalism you demonstrate in and out of the classroom during the semester. Professionalism will be comprised of prompt class attendance, class participation, being a team player, professional use of technology, and personal ethics and honesty. Full grading rubric available on Canvas.
- What's the purpose of this assessment? To encourage professionalism in the classroom and your life.

...the fine print (Class Policies)

Attendance: *Class attendance is mandatory due to the nature of this course. Class attendance will be carefully monitored and recorded. After the second unexcused absence, 1% will be taken from your participation grade for each absence. Ten (10) or more unexcused absences will result in an FA for the course.* All announcements concerning assignments, possible changes in examination dates, etc., will be given in class. **If an absence is unavoidable, it is the student's responsibility to contact classmates to obtain notes and class announcements.**

Make-up Policy: No make-up exams are given without a University-approved excuse. If for a legitimate reason you cannot take an exam on a given date, it is your responsibility to contact me as soon as possible, preferably before you miss the exam. If you miss an exam and you have a University-approved excuse (see Student Policy eHandbook, www.auburn.edu/studentpolicies) with appropriate written documentation (e.g., from a doctor, lawyer, or coach, on official stationary) that is turned in within one week of the missed exam, then you will be allowed to take a make-up exam. All make-up exams will be given within 2 weeks of the original exam in my office and will consist of essay and fill-in-the-blank questions. A zero will be assigned two weeks from the date and time of the exam that you missed. No make ups are given for missed pop quizzes or in-class activities; **NO EXAMS WILL BE GIVEN EARLY WITHOUT A UNIVERSITY-APPROVED EXCUSE.**

Behavior: Civility and integrity is expected at all times. The use of cell phones (including texting), tablets, or laptops for purposes other than class related work is not allowed during class or lab. Flagrant violation of this policy will result in you being dismissed from class.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Student Policy eHandbook will apply to this class. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

In this class, violations of academic honesty include, but are not limited to

1. copying another person's work on any graded assignment or test,
2. allowing someone to copy your work,
3. collaborating on a graded assignment without the instructor's approval,
4. using unauthorized "cheat sheets" or technical devices such as calculators or cell phones for graded tests or assignments. Having an electronic device accessible during class on an exam day will be considered cheating, and you will earn a zero on the exam,
5. using quotes, summarizing ideas or borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source, and
6. other infractions listed under the Auburn University Student Academic Honesty Code at <https://sites.auburn.edu/admin/universitypolicies/Policies/AcademicHonestyCode.pdf>

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).
