

GEOG 2464: Intro to Geographic Information Systems

Course Syllabus
Spring 2018

Office: LDB 314.

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This is an online course. All lecture and lab material will be available online on the web on Blackboard. I will use Blackboard to post lectures, assignments, exams and grades. The online component of this course will provide flexibility to students to work on the course material at their own pace. The best advice for students is to keep up with the readings and assignments. Any late submission will work against your grade.

Office hours: Since this is an online course we will not have specific office hours. I check my emails very regularly, so the best way to contact me would be email. I will be available to meet students at the following timings:

Monday: 9:00 – 11:00 (**TWC**)

Tuesday and Thursday: 11:00 – 2:00. **LDB 314**

Maria Oleary, the graduate student assistant will be available on Tuesdays and Thursdays 11:00 am – 12:20 pm in LDB 328 to answer your questions and help you with your labs and assignments. Her office hours will be on Tuesday and Thursday 12:30 pm to 2:30 pm in LDB 328.

Recommended Text: Getting started with Geographic Information Systems. Keith C. Clarke, Fifth Edition, Prentice Hall.

Course Overview

The purpose of this course is to provide you with an introduction to the concepts and techniques of Geographic Information Systems (GIS) or Geographic Information Science. Generically, a GIS can be defined as any computer-based, software-hardware platform capable of capturing, storing, displaying, manipulating, and analyzing any set of geo-referenced data. GIS represents the technological synthesis of traditional cartographic principle, advances in computer-assisted and analytical cartography, spatial statistics, relational database design, and digital image processing an analysis.

It is assumed that you have a familiarity with desktop computers (pc), the operating system of Windows NT/2000, web browsing, as well as software such as MS Excel and MS Word.

The course has **two components**: learning the theories of GIS and learning to apply these theories in GIS software (ArcGIS). I therefore teach GIS in two ways: through lectures and through assignments. While mastering GIS software is an important part of being a GIS user, it is impossible to correctly perform any GIS operation or analysis in software without the proper understanding of GIS theories. I will therefore strongly concentrate upon teaching GIS theories, including data structures, database systems, GIS operations,

spatial analysis, mapping with GIS and other selected current issues. I expect you to become familiar with the GIS vocabulary. Such concepts are often abstract in nature, and perceived to be difficult. You are thus strongly encouraged to read (and re-read!!) assigned readings and my lecture notes. Exam questions will heavily test your knowledge and understanding of GIS theories and vocabulary, and lack of reading will adversely affect your performance.

Course Policies

Keeping up with class readings is absolutely essential, and falling behind can be disastrous for your learning experience.

Late lab assignments will be accepted, but ten percent of the total points will be deducted for every late day in addition to any points due to errors. Assignments more than a week late will receive a 50 percent reduction, and I strongly discourage you to hand in late assignments.

Any form of **academic misconduct** will not be entertained. Please refer to <http://www.shsu.edu/syllabus/> for detailed guidelines regarding academic dishonesty, student absences on religious holidays, students with disabilities and visitors in the classroom.

I will not tolerate plagiarism, cheating in any form or any other form of academic misconduct. Please refer to university guidelines regarding academic misconduct. Students who engage in such behavior will receive no credit for the assignment in question, and based on the severity of the behavior I will report the incident to the proper University authorities. For any questions or concerns regarding course work and your performance, I encourage you strongly to talk to me. I am available for discussions if you have any questions or concerns.

Evaluation

Final grade will be determined based on each of the following:

Laboratory Exercises (200 points, approximately), mid-term exam (100 points), final exam (100 points).

Labs are organized into different modules with specific due dates. Each lab module consists of 1 to 3 lessons. I strongly encourage students to submit all labs by the due date. Please review course policies above regarding late lab submissions.

The two exams will consist of true/false and multiple-choice questions. ***Mid term exam will be based on lectures 1 – 4 and final exam will be based on lectures 5 – 8.*** Both the exams will be posted on Blackboard and students will have **2 hours** to complete the exam. You can take the exam anytime on the date assigned for the exams (*see below*), however once you start the exam you will have 2 hours to complete it.

Make-up exams are only given if there is a valid documented excuse. Please make sure to contact the instructor (by email) if you will need to make-up an exam.

Final grades will be determined as follows:

Final grade	Percentage
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	< 60%

List of lectures (subject to change)

1. Introduction to Geographic Information Science.
2. Map Projections and Coordinate Systems
3. GIS Data Models
4. GIS Data Input
5. Data Management Models, Database structures, DBMS.
6. Making Maps with GIS
7. How to pick a GIS
8. The future of GIS

Important dates:

Friday, February 9: Lab module 1 due
Friday, March 2: Lab module 2 due
Friday, March 30: Lab module 3 due
Friday, April 13: Lab module 4 due
Friday April 27: Lab module 5 due

Thursday, March 8: **Mid Term exam**

Thursday, May 3: **Final Exam.**