GEOG 5362 – GIS Principles and Applications
Spring 2018

Lecture: **Monday 11:00 AM to 1:50 PM. The Woodlands Center, Room 209**
Office: LDB 314.
Email: fsm002@shsu.edu
Phone: 936-294-1073
Office hours: Monday: 9:00 – 11:00 (TWC)
Tuesday and Thursday: 11:00 – 2:00 (LDB 314)

Prereq: GEOG 5361 or permission of instructor.

Required Text: Price, Maribeth. 2010. *Mastering ArcGIS.* Boston: McGraw-Hill, 7th, edition.

Each chapter has the following components:

- Mastering the Concepts - short readings that explain the concepts in general and then specifically with respect to ArcGIS, the software used in the course. This material will be the source and springboard for the lecture and discussion.
- Mastering the Skills
    - Teaching Tutorial - a detailed, step by step set of instructions demonstrating the concepts presented in the chapter. If you are a visual learner, you may use the videos on your course CD in this section.
    - Exercises - this section sets tasks to accomplish but you will have to figure out the steps to take in order to accomplish the task. You are not asked to do anything that was not in the tutorial.
    - Skills Reference - a reference section that helps you remember how to do specific tasks

COURSE OBJECTIVES:

- Understand and evaluate the various data models and structures used in the input, management, analysis and output of geographic data.
- Review of hardware and software components of various geographic information systems.
- Understand the basic functions of geographic data analysis
- Develop hands-on experience with desktop ArcGIS.

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.

EVALUATION:

Lab exercises – 100 points, Mid Term Exam – 100 points, Final Exam – 100 points, Final project – 100 points.

All lab assignments are due in 1 week. Kindly submit lab assignments on time. They form an integral part of your course grade. 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.

There will be two exams, midterm and final exam. If you must be absent from an examination because of illness, injury or an emergency, let me know at least **12 hours** beforehand so we can arrange **a make-up test**. You will receive a grade of **zero** if you miss a test without prior notice and you will not be permitted to retake the test without an official report from the Registrar's office.

Your final project is worth 100 points and I want to know ahead of time what you will be doing. Your project proposal is due by **March 19**. A guideline for your proposal will be posted on Blackboard. However, before you submit your final project proposal, I encourage students to discuss their project ideas with me by **March 5**. I need to approve your project idea before you can submit your proposal. Students will present their final projects on **April 23 and April 30**. A final project report is due on **April 30**. I will upload detailed guidelines regarding your final project proposal and project report on Blackboard as we get closer to the dates.

GRADING SCALE: Final grades will be determined as follows:

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

You are strongly encouraged to use office hours or set up an appointment to discuss your grade during the course of the Semester.

COURSE SCHEDULE (SUBJECT TO CHANGE)

Introduction

What is GIS?

GIS Data

Mapping GIS Data

Coordinate Systems

Attribute Data

Queries

3/6 – ***Deadline to discuss your project ideas***

3/19 – Mid Term Exam
Final Project proposal due

Spatial Joins

Geoprocessing

Raster Analysis

Geocoding

4/23 and 4/30 – Final Project presentation

4/30 – Final Project Due

Wednesday May 9, 12:00 – 2:00 PM – Final Exam

IMPORTANT DATES

March 19 –	Mid Term Exam Final Project Proposal due
March 5 –	Deadline to discuss your final project ideas
April 23 and 30 –	Final Project presentation
April 30	Final Project Due
May 9 –	Final Exam. 12:00 pm – 2:00 pm

COURSE POLICIES

You are expected to preview the day's reading before coming to class. Keeping up with class readings is absolutely essential. **Attendance is expected in every class.** Absentees may find it difficult to follow what is being taught in class. If an emergency or extra-ordinary situation arises that will affect your performance in class, notify me as soon as possible. Email or a phone message is good options if you cannot speak to me personally.
Any student who feels s/he may **need an accommodation** based on the impact of a disability should contact me privately to discuss your specific needs. I will need a copy of the accommodation letter from Student Disability Services in order to arrange your class accommodations. Contact Student Disability Services, if you are not already registered with them. Student Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with your faculty.
Except in cases I have authorized**,** transmission or taping of lectures by any electronic means is NOT allowed.
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 or any other form of academic misconduct (please see the University policies). 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 during my office hours, or by appointment.