G E 470 / GEOL 500
Introduction to Geographic Information Systems

Instructor: Dr. Louis Zachos, 118G Carrier Hall, 915-8827, lgzachos@olemiss.edu

Textbook: Tim Ormsby, Eileen J. Napoleon, Robert Burke, Carolyn Groessl, Laura Bowden, 2010, *Getting to Know ArcGIS Desktop*, ESRI Press, Redlands, ISBN 9781589482609

Catalog Description: Geographic Information Systems (GIS) are computer systems of holding and using information for describing places on the Earth. These systems are used for industry and government to manage and analyze environmental, engineering, and natural resource information.

Course Description: Introduction to the concepts of geodesy, data management, and spatial analysis that fall under the umbrella of GIS. The course is project-based. Each student will individually complete a selected or assigned GIS project to include a written final report. Beyond introductory material, the direction of the latter portion of the course will be guided, in part, by the types of projects chosen by the students; focusing on the tools needed to solve the particular problems faced. Laboratory will be used to teach the skills required for efficient use of ArcGIS software.

Course Objectives: Students successfully completing this course will be able to …
1. Describe the principles of geodesy, data management, quality assurance, and spatial relationships of geographic information.
2. Understand the value, limitations, and ethics of using GIS as a tool.
3. Develop the specific skills to use the ESRI product line of GIS software.
4. Compare and critique the technical aspects of GIS projects.
5. Construct a GIS project using disparate sources of data.
6. Use GIS as a tool to attain a specific objective in a creative manner.

Grading:
The Plus/Minus Grading Scale will be adopted for this course (refer to the web site http://www.olemiss.edu/info/grading.html for an explanation of this grading scale).

> Mid-term exams (2 @ 15%) [3 exams will be given, lowest grade dropped]
> Final examination (15% undergraduates, 10% graduate students)
> Laboratory (35%)
> Project report (20% undergraduates, 25% graduate students)

Assessment variations for undergraduate and graduate students: Graduate students are expected to demonstrate significant understanding and critical analysis of the material in applications beyond those presented in class. Undergraduate student projects are expected to show competence by creative use of mostly derived data, whereas graduate student projects are expected to involve a significant contribution of original information and novel approaches to spatial analysis. Graduate student final projects are also given added weight in grading policy.