CP 4510 – Introduction to Geographic Information Systems
College of Architecture/City Planning Program

Instructor – Tony Giarrusso
Fall 2010 - M-W 1:30 – 2:55
Room 359 New Architecture Building
Office Hours: Wednesday 3:00-4:00 pm, Center for GIS, Rm 207,
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Introduction

Many disciplines require information about the location of people, places, activities, and various resources, both natural and man made. City and regional planning, environmental disciplines, real estate, transportation, geography, logistics, political and international analysis all make use of this 'spatial' or location based information. Effective management and analysis of this information requires a robust computer-based system.

A Geographic Information Systems (GIS) is a system of hardware and software used for storage, retrieval, management and, most importantly, analysis of spatial data. GIS systems are used in numerous disciplines and can be helpful for a variety of applications.

Course Description

The goals of this course are:

1. To provide students with a firm understanding of the basic principles of GIS and spatial analysis
2. To give students a solid working knowledge of one GIS software package, ArcGIS 9.3

   GIS software packages change continually. Therefore, it is extremely important for students to understand the basics principles of spatial analysis and how geography is represented and manipulated in a computer-based environment. The readings and lectures are designed to serve this purpose. The lab sessions will provide students with hands-on experience using ArcGIS 9.3, arguably the most widely available GIS desktop software in the world. The skills learned in this class can be applied by students while still in school (maps for papers, spatial analysis, etc) or in a professional setting. By the end of the course, students are expected to understand the basic components of a geographic information system and to be proficient using ArcGIS 9.3.

Required Readings and Materials

Meredith Price. 2008 **Mastering ArcGIS.** NY: McGraw Hill

Also recommended:

Mark Monmonier. 1996 *How to Lie with Maps*. Chicago: University press John C.

Michael N. Demers. *2000 Fundamentals of Geographic Information Systems*. New York: John Wiley and sons, Inc.

Grading:

Students are expected to attend all classes and labs, participate in class discussions, complete the required readings, homework assignments, and take the final exam. Unless otherwise specified, all exercises are to be completed individually, not collaboratively. Students may discuss general concepts related to their homework, but the assignments must be completed individually. Violators will be referred to the Dean of Student Affairs! Not a pretty picture.

A = 90-100%
B = 80-90%
C = 70-80%
D = 60-70%
F = <60%

Monthly Homework Assignments (60%) – You will be assigned four homework assignments over the course of the semester. These homework assignments will utilize skills you've acquired through the lab exercises and tutorials. You have approximately one month to complete each homework assignment. Late monthly homework submissions will result in a penalty of a half a letter grade per class late.

Mid-Term Exam (15%) – practical exam performed in class

Take Home Final Exam (25%) - short answer, definitions, practical questions, etc

Class Participation (see note) - Attendance, participation in class discussions, and motivation may affect your grade and could potentially influence any borderline grade. Every class builds on the last, so if a class is missed it will be very difficult to catch up. Roll will be called at the beginning of each class.

Extra Credit – Student will have the opportunity to review a peer-reviewed journal article (preferably within their discipline) that highlights GIS. The student will be asked to submit a 3-5 page written report and a short presentation during the last week of

classes. The instructor has to approve the article by Mid-Term Break. Maximum credit available is 5 points to final grade.

Students will also be able to redo their 1st Monthly Homework for extra credit. See me for details.

Requirements:

Please submit electronic copies of all assignments to me by e-mail.
Maps should be in either pdf or jpeg format unless specified otherwise.
Please include the assignment name as the e-mail subject line (i.e., HW 1, HW 2, etc)
You can e-mail the assignment to me at tonyg@gatech.edu
Please purchase a portable USB drive (2gb and up recommended).