Geographic Information Systems
MPA 674, Spring 2004
Room UW 227/SBS Lab

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Class Hours:

<table>
<thead>
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<th>Tue (7:00-9:30 PM)</th>
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<td>Final Project Due: May 4.</td>
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Course Objectives:
GIS in the Public Service examines the management and application of Geographic Information Systems (GIS) in the public and nonprofit sectors. Lectures and readings emphasize the organizational, managerial, and ethical issues of interagency / intergovernmental GIS projects. Hands-on lab instruction provides training in desktop GIS software. The course aims to develop computer skills and improve mapping communication skills. Students will become participant-investigators as they involve in lab exercises and a final project.

Learning Objectives
Students should not expect to be a GIS expert after taking this class. Technical expertise is not the purpose of this class. However, students should become able to intelligently interact within the framework of larger GIS projects, such as those now involving many public and nonprofit agencies around the world. They should be able to use a GIS for some basic, yet analytically useful, academic and work-related projects. They should be able to visualize better, more creative and ethical uses of spatial data, even though implementation may be well beyond their own technical skill level. Moreover, they should become better producers of, and more informed consumers of mapping and surveillance technology.

Instruction Method
Each class will be devoted to computer applications using GIS software (ArcGIS™). Instruction will combine lectures in GIS concepts. Students are expected to complete required reading assignments and come to class well prepared for doing in class exercises.
All students must have a blazerid to login to the lab. A folder is created with your alias (your blazer id) in the server.
Reading Assignments

Reading assignments are available in the SBS common server with the help of Dr. Mark Hoffman, Department of Public Administration at Grand Valley State University. Reading assignments will also be available over the web.

Final Project: As part of the course work, students are required to do a final project. The primary objective of the final project is to help students understand the potential of GIS as a creative tool for research. Students can pick any topic of their interest that allows integration of GIS in a fully defined research topic. It is strongly advised that you discuss your project with me before you pick a topic that is widely discussed in one of the areas in the two textbooks with case studies (Open Access GIS and GIS and Public Policy). My job is to help you in this task, especially getting the spatial coverage and also the attributes data depending on the research topic. The whole focus of research project is to create maps and use them as supporting evidence for your research agenda. Therefore, the final product of the project must accompany maps and text (minimum text 12 pages and maximum 20, doubled spaced not including maps) explaining the background, hypothesis, findings and conclusions of your research. Projects should be printed on a hard copy and saved in the hard drive in your folder in the server. The completed project will reside in the server so that you can access it during your presentation (April 26, 2004). The final project is due on the last day of class, May 4, 2004.

Assignments: A total of five (5) lab exercises are assigned for this course. Please put the lab number and your name in each lab assignment. Save class projects under your last name in the server (the common drive under the sub-directory MPA674). There might be unexpected computer glitches. However, those cannot be used as excuses for not doing assignments. Any lab assignment that has been turned in by the due date but did not receive a full grade may be resubmitted. The points allowed on a resubmit are discounted by half. For example, a lab that receives a 7 of 10 on the initial submit and has all problems corrected on the resubmit will receive a final score of 8.5 of 10. You must include a copy of the returned assignment with the instructor's comments along with the revision.

Required Textbook:

1. Getting to Know ArcGIS™ the geographic information system (GIS) for everyone (ESRI, Redlands, CA, 2002). (Hereinafter referred in the syllabus as Arc)

Required Readings:

All readings are online - http://main.uab.edu/show.asp?durki=50446

3. Introduction to Map Design by ESRI. SOURCE: www.esri.com

Midterm exam will be based on class lectures including the above readings

Diskette:
For backup copy of your work you may want to buy Zip diskettes. Make sure they are compatible to the zip drives in the lab.

Grades:
Final Project  40% (Presentation 15% + Report 25%)
Assignments  40%
Midterm  20%

Class participation is essential to get full points for assignments.

Incomplete and Make-up Exams: No incomplete or make-up assignments will be given for this course. A prior arrangement with the instructor is required for any exception to this rule.

Academic Honesty: Plagiarism and cheating will lead to automatic F in this course.

Special Assistance: Students who require special assistance should inform the instructor of their needs by the end of the first class session.

Special Note: Once you start using one computer in the lab you must continue using the same computer. DO NOT CHANGE WORKSTATIONS (unless you have to). This is strictly because you may be saving some of your work in the hard drive and in a temp directory. Create a directory by your last name under MPA 674 directory (you have to make the directories).

Tentative Class Schedule


Session 3 (January 20): Symbolizing themes, measuring distance and managing scales. Readings: (1) Chap from Public. 3&4; (2) “Implementing a GIS” by Nicholas Chrisman.

Session 4 (January 27): Querying data, merging features, editing data fields and hotlinking. Readings: “Geographic Information Systems and the Public Manager by David E. Martin;” (2) from Public Chapter 5 & 6. Assignment 2 Due.

Session 5 (February 3): Finding features using other features, intersecting lines and polygons based on other themes. Readings: “Managing Geographic Information Systems in the Public Sector” by T. R. Carr; Chapters 1&2 from e-Gov.

Session 6 (February 10): How to search for data. Database design and management. Readings: Development Maps” (Or How to Seduce the Town Board) by Mark Monmonier; Chapter 12 & 13 from Arc. Assignment 3 Due.


Session 8 (February 24): Midterm Quiz.

Session 9 (March 2): Creating themes from coordinate files and address geocoding. Assignment 4 Due. Readings: Chapter 14 & 15 from Arc.
Session 10: (March 9): Lecture by Professor Russell Kirby – Disease surveillance, crime, unsafe housing homeless etc.

Session 11 (March 16): Editing features and attributes and Geocoding. Readings: Chapter 16 & 17 from Arc

SPRING BREAK March 21 – 27, NO Class on March 23 and March 30 (Dr. Haque will have to be at a National Conference -- NO CLASS (Please work on your projects during this time)

Session 12 (April 6): Final project outline due (pick a case study and discuss in an outline) Making Maps: Layout and other features. Readings: Chapter 18 & 19 from Arc

Session 13 (April 13): Data management and GIS world – Summary. Readings from e-Gov Chapter 3. Assignment 5 Due

Session 14 (April 20): Final project Review in class.

Session 15 (April 26): Presentation of GIS case papers

**Project GIS Presentation April 26**

**GIS Project Report Due, May 4**