

INTRODUCTION TO SPATIAL ANALYSIS

Syllabus

PROFESSOR: Mrs. Susan Pulsipher

Office Hours: Monday 2-3 p.m., Wednesday 10-11 a.m.,

Thursday 3:15-4:30 p.m. or by appointment

Office Location: Davis Memorial Library, Room 216

Phone: 630-7122

E-mail: sue@methodist.edu

COURSE DESCRIPTION:

A systematic approach to spatial analysis and geographic information science (GIS) skills in an applied learning environment. Introduce students to the application of GIS in marketing, local government, political science, demographics, criminology, epidemiology, physical sciences, natural resource management and many other domains. Prerequisite: CSC 100 or computer competency exam.

OBJECTIVES: Upon completion of the course, students will be able to:

- < Explain the basics of spatial analysis and its application in a variety of businesses and domains
- < Recognize, manipulate, and analyze data that has a spatial component
- < Use a geographic information system to solve problems
- < Create spatial visualizations of information that follow recommended cartographic practices with special emphasis on the intended audience
- < Locate sources of data or create data for manipulation in a spatial environment
- < Evaluate the quality of a data set or source and understand the effect of data quality on an analysis
- < Appreciate the complexities of data manipulation, analysis, and mapping at different scales of space and time
- < Identify and discuss technical limitations and ethical problems related to the use of GIS

TEXTBOOK: *Getting to Know ArcGIS Desktop*. ESRI Press, 2001.

ISBN 1-879102-89-7.

Comes with CDRom containing 180 day trial of ArcView 8.1 software and a CD of exercise data.

The text is available from the Methodist College bookstore or directly from the ESRI Press bookstore (1-800-447-9778 or <http://gis.esri.com/esripress>). If you purchase the book from another source check that you will receive a usable copy of the software.

The software requires the Microsoft Windows 2000, XP, or NT (Service Pack 6a) operating system.

REQUIRED COMPUTER SKILLS: Passed CSC 100 or computer competency exam. (Prerequisite for course) The majority of your time in this course will be spent using a computer. Students learn how to use the ArcGIS program. In addition students are expected to be familiar with (or prepared to learn on their own) how to use the following programs: Microsoft Excel, a zip program, and a text editor such as Notepad. Students are strongly encouraged to have access to a personal computer upon which they can load the software that comes with the textbook. Many assignments require use of the software.

GIS SOFTWARE: The ArcView 8.3 software is loaded on the computers in the LIC room in the library and three computers (Dells) in the south wing of the library. There is a charge for color printing.

SUPPLEMENTAL COURSE WEB SITE: The course web site (at <http://www.mconline.org>) contains course materials, assignments, references, a drop box, and a discussion board. Some assignments must be submitted electronically through the drop box.

CLASS MEETINGS: The class meets on Tuesday and Thursday from 2:00 - 3:15 p.m. in the LIC. The one hour lab time on Tuesday is compulsory, 3:30 - 4:30 p.m.

GRADING:

Exercises	30%
Exams	20%
Readings and class participation	10%
Web site review	10%
Project	15%
Quizzes	15%

ASSIGNMENTS:

1. Exercises (30% of final grade)

Exercises are graded for a) resolution of the problem, b) quality of requested maps, charts, reports, documentation, or layouts, and c) correct answers to questions.

2. Exams (20% of final grade)

The exams will be similar to lab exercises except that you will be on your own to decide how to solve the problem(s) and produce the requested results. Notes and textbook are allowed.

3. Readings and class participation (10% of final grade)

You will be responsible for reading material BEFORE the class in which the content will be discussed or reviewed. For each reading come prepared with 2-3 questions/ speaking points that you want to address in class. All required readings will be either from the textbook, on reserve in the library, available on the course web site, available on the web, or handed out in class.

4. Web site review (10% of final grade)

Each student will provide a 2-3 page written review of an assigned community information web site. Detailed instructions will be provided.

5. Project (15% of final grade)

Each student will select a problem to solve or illustrate using a set of data provided by the instructor. Two or three data sets will be available to select from. The final products will be a working project (all data and layouts), data & project descriptions, and a procedure log. Detailed instructions will be provided.

6. Quizzes (15% of final grade)

Quizzes will be administered in class and will consist of multiple choice, fill in the blank, and short essay questions. Many of the questions will assess your comprehension of assigned readings and of effective use of a GIS program.

Assignments turned in late will result in a reduction in that portion of your grade. A two day extension without penalty can be granted upon prior request.

E-MAIL ADDRESS: All students are required to have an email address. If you do not already have an e-mail address, you may obtain one from the CAC Lab in the Trustee's Building. Turn around time is approximately 24 hours.

ATTENDANCE: Students are required to attend every class. Unexcused absences will result in a reduction in the participation portion of your grade. A student who misses more than five unexcused classes will be dropped from the course. Arriving late to class repeatedly disrupts the class, and may reduce the participation portion of your grade.

If you are going to miss a class, you must contact me prior to the class. You can call me at 630-7122 (leave a voice mail message) or email me at sue@methodist.edu. A failure to notify me will result in an unexcused absence. Note: Certain emergencies such as military deployment, accidents, or certain family emergencies are exceptions to this rule.

College policy. Credit will not be awarded for any 100 or 200 level course in which a student is absent for any reason (sickness, family emergencies, college athletic events, etc.) for more than 25% of the class periods for the semester. When absences, for any reason, exceed 25%, the Office of Institutional Research and Effectiveness will notify the student and the faculty member. The Registrar will be instructed to drop the student from the class with a grade of a WF.

PARTICIPATION: Students are expected to come to class prepared to participate in class discussions. When called upon, students are expected to respond in an intelligent manner.

NOTE TAKING: Students are highly encouraged to take notes during class meetings.

HONOR CODE: In the pursuit of academic studies at Methodist College, every student has the responsibility of obeying the Honor Code, which prohibits cheating (including plagiarism), theft, and academic misrepresentation. The Honor Code is printed in the academic catalogue (The student handbook copy contains errors.) Each student is responsible for becoming familiar with the Honor Code. All work submitted to professors must be in compliance with the rules of the Honor Code.

Cheating and/or plagiarism will result in the student receiving a zero for the requirement in question. Additional disciplinary action may be taken. **ALL** Honor Code infractions are reported to the Honor Board for the purpose of identifying repeat offenders.

PERSONAL DEMEANOR: I hold certain expectations. 1) I expect all students to act in a manner that exemplifies the high ideals and standards of Methodist College (i.e. no cursing or obscene language). 2) I expect every student to respect other student viewpoints during class discussions (i.e. no verbal bashing). 3) I expect every student to use computers only when requested to and for the expected purpose (i.e. no email or surfing or working on other assignments). 4) I expect every student to display honesty in relationships with fellow students and with this professor (honesty is the best policy).

DISABILITY SERVICES

Students requiring accommodations due to disabilities must bring the appropriate documentation to the Center for Personal Development no later than the first week of classes during which the accommodations are required. Together the student and the Center will decide upon the modifications to be implemented. The student must provide an authorization letter to the instructor.

If you are a student with a disability, and would like to be considered for specific accommodations, please contact the Director of Disability Services at 630-7402 as soon as possible. Accommodations cannot be made retroactively.