INTRODUCTION

This course introduces the student to the rudiments of geographic computer technology, spatial analysis, and cartographic communication. Basically it involves problem solving by asking geographic questions and then manipulating a spatial database with computer cartographic capabilities to present the analyzed material. The course is a non-technical treatment of an inherently technical subject. My goals are three-fold: 1) to introduce maps as an effective medium of communication, 2) to make the tool accessible to a wide spectrum of users to enhance their productivity within their discipline, and 2) begin to understand how a spatial approach to problem solving and enhance decision-making.

COURSE FORMAT:

This course introduces the student to some of the general principles and applications of the cartographic arts, and geographic information systems (GIS) in particular. The course is divided into three parts: 1) lecture, 2) lab, giving the student hands on experience with a very respected software package for desktop cartography/GIS, ESRI’s ArcGis 9.x (some web software applications will be used to a limited extent), and 3) application. Through explanation, exercises, surfing the net and case studies, and a project, the student will gain an understanding and working knowledge of this powerful analytical and presentation tool.

COURSE PREREQUISITES:

This is a 300 level course. Introduction to Geography is recommended but not a prerequisite (come talk to me if you are uneasy about taking it).

COURSE REQUIREMENTS AND EVALUATION:

1. Attendance is necessary. Each day's productivity is reviewed.
2. The test covers lecture material and is 100 points.
3. The 15-20 exercises are 10 points apiece.
4. The project is 100 points.

COURSE READINGS:

The required text is Getting to know ArcGis Desktop: For ArcGis 10, Tim Ormsby et al, ESRI Press.
CLASS SCHEDULE--GEOGRAPHIC INFORMATION SCIENCE

Week 1  Introduction, Definitions and History
Week 2  Cartography, presentation issues
Week 3  Data management and acquisition; Spatial thinking
Week 4  Test, Introduction to the GUIs: 3, 4,
Week 5  Introduction cont., scale, measures, projections: 13
Week 6  Presentation, symbolization, and labels: 19, 5, 7
Week 7  Classification: 6
Week 8  Selection and Querying: 8, 9
Week 9  Midterm Break
Week 10  Spatial relationships: 10, 11, 12
Week 11  Geodatabases: 14
Week 12  Creating/modifying geographies: 15, 16
Week 13  Geocoding and x,y files: 17, 18
Week 14  GPS introduction, Case Studies
Week 15  Project Development and Presentations

Finals Week: Project presentations, continued
(11:30 Tuesday, May 3)