

Sociology 187
Geographic Information Systems - Fall 2008
Location: CIT 265
Time: Tuesday and Thursday 6:30-7:50PM

Instructor: Seth Spielman
Office: 303 Maxcy Hall

Office Hours: TBD
email: [XXXXXX](#)

Course Description

This course will introduce you to the theory and practice of using geographic information and specialized software for handling spatial data. The objectives of this course are:

- To foster critical thinking about maps and spatial information.
- To teach the foundations of Geographic Information Science, the theoretical and technical issues around the production and consumption of spatial information.
- To teach cartography and spatial analysis with ArcGIS.

This course will offer lectures on concepts and theory related to using GIS as well as hands-on experience with GIS software (ESRI's ArcGIS). The primary goal of the course is to produce savvy **users** of geographic information and related computer technology. The weekly lab section (Thursdays) will emphasize software while the lecture (Tuesdays) will focus on concepts.

Reading

Our lab manual will be:

- Mastering ArcGIS with Video Clips CD-ROM by Maribeth H. Price ISBN: 0073312800.
Make sure you buy the current edition

Readings for the lectures will be distributed electronically.

Evaluation

Grades will be based on lab exercises, a final project, and an exam.

Lecture Topics

1	Introduction and maps as "mediated seeing"
2	Data modeling, databases, and SQL
3	Ontology, objects, and fields
4	Representing location, projections
5	Cartography
6	Networks, geocoding, and Google
7	Scale, the MAUP, and spatial fallacies
8	Census Geography and global population databases
9	Map algebra
10	Spatial Analysis I: Global Statistics
11	Spatial Analysis II: Local Statistics
12	Exam