

## **GIS for Public Policy (Psc 480/680) - Independent Study**

*Description:* Geographic Information Systems (GIS) are a technology that allows the manipulation, analysis and display of spatial data and are now a common tool used across the public, private and nonprofit sectors. This class will provide an introduction to one of the most common GIS systems, ArcGIS 9. The course is designed for working professionals who requires a solid working knowledge of GIS systems for project management, data integration and/or working on collaborative projects with professionals GIS technicians. The course will provide hands-on experience with the software and is designed as a self-study course with instructor assistance.

*Instructor:*

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*Required texts:*

- GIS Tutorial: Workbook for Arcview 9 (2005)
- GIS in Public Policy: Using Geographic Information for More Effective Government (2005)
- The GIS Guide for Local Government Officials (2000)

*Optional text:*

- Getting to Know ArcGIS (2005)

*Course Requirements:* All students are required to do each of the indicated exercises. Additionally, a student can choose to either do an applied course project or additional advanced exercises using ArcGIS. If they choose to do an exercise, students will need to design the final course project with close consultation with the instructor. This project should include finding externally available spatial data, determining a feasible research question, and generating a final project report. Students are encouraged to work on projects related to their own thesis work and/or in consultation with local public agencies.

*Evaluation:* Exercises 75%, Final Project 25%.

**Course outline:****Reading / \* Lab exercise:**

1) An introduction to GIS	<u>GIS in Public Policy: Using Geographic Information for More Effective Government.</u>
2) Introduction to ArcView	* GIS Tutorial 1: Introduction
3) Data Display	* GIS Tutorial 2: Map Design
4) Producing GIS Products	* GIS Tutorial 3: GIS Outputs
5) Using Geodatabases	* GIS Tutorial 4: Geodatabases
6) Using Existing Spatial Data	* GIS Tutorial 5: Importing Spatial and Attribute Data
7) Creating New Spatial Data	* GIS Tutorial 6: Digitizing
8) Creating Spatial Relationships	* GIS Tutorial 7: Geocoding
9) Managing Spatial Data	* GIS Tutorial 8: Spatial Data Processing
10) Using Spatial Data for Analysis	* GIS Tutorial 9: Spatial Analysis
11) Using GIS in decision-making: Ethics, Implementation and Integration	<u>The GIS Guide for Local Government Officials</u>