UAPP 655-010 GIS Applications in Public & Nonprofit Sectors
Syllabus, Spring 2008

Location and Time
Room 218 Pearson Hall
Tuesday 9 AM – 12 PM

Instructors

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<th>Andrew Homsey</th>
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Course Objectives: To provide the student with a foundation in the theory and techniques of Geographic Information Systems (GIS). The student will gain experience in the application of GIS-based analysis in the fields of Planning and Public Policy.

Prerequisites: An interest in public policy issues and the basic skills necessary for utilizing a Microsoft Windows-based PC

Textbook: Getting to Know ArcGIS Desktop: The Basics of ArcView, ArcEditor, and ArcInfo Updated for ArcGIS 9

Assignments and Grading: Grades will be issued according to the successful completion of a policy memo and presentation, a midterm exam, a mapping exam, attendance and participation, and a final policy paper/presentation:

- Policy Memo 30%
- Midterm Exam 10%
- Mapping Exercise 10%
- Final Policy Paper 40%
- Attendance and Participation 10%

Class Mailing List: Go to www.udel.edu/pobox, log in, and follow the instructions to mail the class. All announcements, etc., will be sent through this list.

Class Policies
- Please make every attempt to arrive to class on-time. Late arrivals are disruptive and may affect your grade negatively, as will excessive unexcused absences. Exercises or other assignments not completed in the course of class time are the responsibility of the student to complete.
- Notify the instructors via email if you are unable to attend a class session. Unless absolutely unavoidable, this should be completed prior to the class session missed.
Exams or graded assignments missed due to absence are subject to the same grade penalty as late assignments.

- While it is acceptable for you to seek help and guidance from instructors or classmates when completing assignments, written papers and memos should reflect your own efforts. We will abide by the “Student Guide to University Policies: Code of Conduct” (www.udel.edu/stuguide/07-08/code.html) in dealing with matters of Academic Honesty.

- Late assignments will be penalized one step letter-grade for each day an assignment is submitted past the due date (e.g., A becomes A-, A- becomes B+, etc.), up to a full-letter grade penalty per week.

Course Outline

**February 12: Introduction to GIS and Public Policy**

**Lecture/Discussion:**
- Introduction to GIS
- Memo and Final Project Discussion

**Exercise:** *GIS Basics: An Introduction to ArcGIS*

**Assignments:**
- ESRI Virtual Campus Intro to GIS Course
- Chapters 1-4

**February 19: Mapping, Data, and the Application of Common GIS Techniques**

**Lecture/Discussion:**
- Projections and data types
- Basic GIS tools and functions

**Exercise:** *GIS Techniques—The Building Blocks*

**Assignments:**
- Finish exercise 2, if necessary.
- earthobservatory.nasa.gov/Library/RemoteSensing/remote.html
- www.colorado.edu/geography/gcraft/notes/datum/datum_f.html
  (modules on Datums, Coordinate Systems, and Map Projections)

**February 26: Application of Common GIS techniques**

**Lecture/Discussion:**
- Hand out and discuss the Policy Memo assignment
- Guest Lecture: Tina Callahan: *The future of GIS*
- Census Data

**Exercise:** *Working with the U.S. Census*

**Assignments:**
- Chapters 5-7
- Work on Policy Memo (due March 11)
- Final project topic due next week
March 4: Mapping/Cartography
Lecture/Discussion:
Hand in final project topic
Guest Lecture: Nicole Minni: Mapping Demo
Exercise: Mapping and Cartography
Assignments:
Chapters 10-12
Policy Memo due next week

March 11: Policy Memo Presentations and Midterm Review
Lecture/Discussion:
Memo presentations and discussion
Midterm Review- concept study sheet handed out
Assignments:
Prepare for Midterm exam

March 18: Midterm and Continue Policy Memo Presentations
Midterm Exam
Lecture/Discussion:
Continue Policy Memo presentations
Discuss Final Projects (how is everyone doing?)
Assignments:
Chapters 15-16
Interconnectivity reading
Final projects: List of data sources

March 25: Transportation Issues
Lecture/Discussion:
Return and discuss midterm exam and Policy Memo
Hand in list of data sources for final project
Guest Lecture: B.J. DeCoursey: Interconnectivity and Mobility Friendly Design
Exercise: Interconnectivity and Networks in GIS
Assignments:
Chapters 18-19
Reading: State Strategies Executive Summary
(www.state.de.us/planning/strategies/exec_summ.shtml)

April 1: Spring Break — No Class
April 8: Regional Planning
Lecture/Discussion:
  Guest Lecture: Ed O’Donnell *What is LULU/NIMBY?*
Exercise: *Spatial Analysis*
Assignments:
  Short write-up of spatial analysis exercise
  Final project detailed outline due April 15

April 15: Watersheds
Lecture/Discussion:
  Hand exercise write-up
  Hand in final project detailed outline
  A Watershed Approach to Environmental and Public Policy
Exercise: *Watershed Delineation and Analysis*
Assignments:
  Readings in cartography
  Work on final projects

April 22: Mapping Exercise
  Map preparation
Lecture/Discussion:
  Map critique/peer review
Assignments:
  Finalize map based on critique, to hand in next week.

April 29: Land Use and Change Detection
Lecture/Discussion:
  It’s the land use, dummy!
Exercise: *Land Use/Land Cover Change Mapping*

May 6: Raster Analysis
  Exercise: Location Analysis and Modeling

May 13: Final Presentations

May 20: Final Presentations
  Final Papers Due by 5PM on May 27