Class Location and Time
Pearson Hall, Room 203 on Fridays, 11:15 a.m. – 1:10 p.m.
Class dates: October 4, 11, 18, 25, and November 1, 8, 15.

Instructor

<table>
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<tr>
<th>Andrew Homsey</th>
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<tr>
<td>Office: Water Resources Agency- DGS Annex (behind Penny Hall)</td>
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<td>Phone: 302-831-4932</td>
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<td>Office Hours: By Appointment</td>
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Class Mailing List: http://www.udel.edu/pobox
Web Page: http://sakai.udel.edu
GIS@UD: http://maps.rdms.udel.edu/gis/index.php
Pearson lab schedule: http://www.udel.edu/Geography/roomsched203.html

Objectives of Course
To provide the student with the knowledge of basic ArcGIS ArcView tools through hands-on experience in implementation and design of a simple GIS and Public Policy project.

Prerequisites
Basic skills for using a Microsoft Windows-based PC. Interest in application of geospatial technology to research methods.

Assignments and Grading
Your grade will be based on your completion of in-class lab assignments, homework assignments and a final paper and presentation.

Class participation, exercise completion – 30%
Homework assignments – 20%
Final paper and presentation – 50%
Course Outline

**October 4:** Introduction Geospatial Technologies

*Instructor and Student Introductions*

**Handouts:**
- Syllabus
- Shapefile Technical Description
- ESRI Virtual Campus Course
  - *Learning ArcGIS Desktop*

**Lecture:** Geographic Information Systems (GIS) in Public Policy

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

**Assignment:**
- Complete module one of Learning ArcGIS Desktop course by Oct 18th.
- Find a website that presents an interesting map or online mapping application. Prepare a very short summary, including why you chose it.

**October 11:** GIS building blocks: data and basic GIS processing

**Lecture:** Where do the data come from, and how do I use them?

**Handouts:**
- Information on Final Paper and Presentation
- Five Steps in Doing a GIS Analysis
- Lecture material, on-line data sources list

**Lab:** Use a real-life situation to explore the basic GIS processing steps

**Assignment:**
- Read choropleth map, census data, and map projection references on class website.
- Research and select topic. Submit your research question and describe data you will need, and where you will get these data. *Begin collecting data.*

**October 18:** Working with census data, cartography

**Lecture:** Map projections, cartography, census information, TIGER data

**Handouts:**
- Projections, datums

**Lab:**
- Obtaining and using census data
- Census exercise

**Assignment:**
- Cartographic mapping project (due no later than Nov. 8th), Details of Final GIS project (one paragraph)

**October 25:** Intro to remote sensing and image processing

**Handouts:**
- GPS, multispectral imagery, image processing techniques,
- Intro to Remote Sensing and Image Processing

**Lab:**

**Assignment:**
- OPTIONAL: Short report on one satellite sensing system: who, what, how, why
  - (Landsat, SPOT, ASTER, AVIRIS, IKONOS)

**November 1:** Open Source, web-based mapping, spatially enabled technologies

**Handouts:**
- Web-based and open source GIS, the new geospatial intelligence

**Lecture:**
- Open Source GIS, ArcGIS Online, GPS, Google, ArcGIS, Web services.

**Lab:**
- Google Sketch-up Demo. ArcGIS Online exercise.

**Assignment:**
- Readings in remote sensing from assignment folder list

**November 8:** Open class: Make up missed or incomplete labs, discussion, work on presentations/papers

**November 15:** Final Presentations

Final Papers Due by Friday, November 29th.