Course Name: GIS Applications for Planning and Policy Analysis
Course Number: PMAP 8561 (Graduate)
No. of credits: 3

Instructor: Ann-Margaret Esnard (aesnard@gsu.edu)
Professor, Department of Public Management and Policy

Lectures/Labs:
Location: 226 Classroom South
Day/time: Wednesday, 7:15-9:45 p.m.
Office hours: Wednesdays, 4:00-6:30 p.m. & by appointment

Course Description
Geographic Information System (GIS) technology is widely used for planning and policy analysis in government agencies, and in the private and non-profit sectors. This introductory course provides students with a good conceptual foundation in data types & sources, coordinate systems, map design, spatial analysis and GIS applications. Students also learn the basic functions of ArcGIS software to integrate data from a variety of sources, conduct basic spatial analysis and produce quality map products. Students are required to complete an individual project.

This course addresses the following knowledge and skills:
   Methods and Tools
   Research Skills
   Written, Oral and Graphic Communication Skills
   Numerical Reasoning and Computation Skills
   Forms of Decision Making

Text, Flash Drive and FRC Server:
     (ESRI Press, ISBN: 9781589483088) - The book (if new and intact) has a student trial version of the software as well as the datasets referred to in the book.
   • Flash drive with at least 5 GB storage space
     • Please organize your student folder on the FRC server once the Instructor provides instructions for logging in

Lab assignments:
Lab assignments are designed by the instructor to reinforce how you can use GIS data and apply ArcGIS functionality for policy and planning-related scenarios. When possible, students will begin lab assignments in class and will have an average of two weeks to complete the assignment (see syllabus for due dates).

Hard copies of all lab assignments are due at the beginning of the class session on the due date.

Note: Please purchase a binder to keep all handouts, lab assignments and instructions.
Desire2Learn:
Desire2Learn will be used to distribute course content, lecture material, powerpoint presentations and more. ALL students are expected to use this resource on a regular basis for course materials and announcements.

Time Commitment
This is a three credit hour class. You can expect to make the time commitment of 4-6 hours outside class time, on average.

Evaluation/Grading
Student performance will be evaluated on the basis of successful completion of lab assignments, a lab quiz, a project (for graduate students), attendance and participation. The grades will be calculated as follows:

- Six (6) Assignments (including completion of GTKArcGIS exercises) (54%)
- Individual project (20%)
- Mid-term lab quiz to cover assignments up until 10/22 (20%)
- Class attendance & participation (6%)

Grades will be assigned as follows:

- A = 95-100
- A- = 90-94
- B+ = 86-89
- B = 83-85
- B- = 80-82
- C+ = 77-79
- C = 73-76
- C- = 70-72
- D = 60-69
- F = 0-59

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.

Policies/Rules:

... On plagiarism: Plagiarism is unacceptable and you are subject to failing the course. Always make sure to cite your sources. Lab assignment write-ups, and lab quiz should be completed independently.

Late lab assignments: Late assignments will only be accepted up to one week late unless there is a serious medical or family emergency. Any late assignment will receive a maximum grade of 70%.
Otherwise, you will receive a zero (0) for the outstanding lab assignment(s).

**Make-up Exams and Incompletes:** Make-up exams and Incomplete or “I” grades are permitted in only RARE circumstances. Familiarize yourself with the University’s course withdrawal procedures and particularly, the *GSU Hardship Withdrawal Policy*.

**Attendance:** If you miss two or more classes (without a serious excuse) you will receive 0% for class attendance. The Professor has the right to require documentation and proof for serious excuses.

**Tardiness:** If you are late to two or more classes (without a serious excuse), you will receive 0% for class participation. The Professor has the right to require documentation and proof for serious excuses.

**Withdrawal from the class:** Students wishing to withdraw from the course must officially withdraw prior to the date established by the University in order to avoid being given a grade of F. Familiarize yourself with the University’s course withdrawal procedures and particularly, the *GSU Hardship Withdrawal Policy*.

**Code of Academic Honesty:** GSU guidelines on academic honesty will be enforced in this course, and you should be familiar with the *GSU Student Code of Conduct and Policies*. It is your responsibility to ask questions if you are unclear about what is appropriate. Academic dishonesty violations will result in a minimum penalty of a ‘0’ on the assignment or test.

**Disability policy statement:** Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.
AT A GLANCE: **PMAP 8561: GIS Applications**

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<tr>
<th>Date</th>
<th>Lecture Topics</th>
<th>Lab Topics/ Assignments</th>
<th>Homework Due</th>
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</table>
| 8/27   | • Syllabus/ Course overview  
• What is GIS & its evolution  
• GIS Applications/ past GIS projects  
• Questionnaire                                      | Working with datasets from your textbook  
**Assignment #1 ArcGIS Basics:**  
ArcMap Making maps for presentations               | FRC server login & folder organization                                                  |
| 9/3    | • Map design and visualization                                      | Work on Assignment                                                                         |                                                  |
| 9/10   | • Scale, Coordinate Systems, Projections & Metadata                  | **Map Projection**  
**Projecting data**  
**Understanding Map Projections**  
**Assignment #2 Map Projection**                        | Assignment #1 due                                                                   |
| 9/17   | • Mapping Data Overview  
• Data Clearinghouses  
• Data Management  
• Geodatabases  
• Relative Paths                                      | **Demo: Finding, downloading and processing data from the Internet**  
Discuss GIS project proposals in more detail            |                                                  |
| 9/24   | • Combining databases & attribute tables                                    | **Assignment #3: Joining and relating tables**                           | Assignment #2 due                                    |
| 10/1   | No class – Esnard at conference                                         | **Preliminary project ideas due via D2L dropbox**                                      |                                                  |
| 10/8   | • Classification Schemes  
• Census data & Demographic Mapping                                      | **Assignment #4: Classifying features, Choropleth mapping & queries**                   | Assignment #3 due at the beginning of class        |
| 10/15  | • Centroids, clipping, buffering, overlaying, areal weighting            | Assignment #5: Property use and value analysis                                           | Assignment #4 due                                   |
| 10/22  | • Basic spatial relationships  
• Working with parcel and tax assessment data  
• Summary Tables                                      | Assignment #6 Address Matching  
Geocoding  
Rematching addresses                                 | Grad students – final project ideas due                                                   |
| 10/29  | • Address Matching/Geocoding                                           | Assignment #5 due                                                                            |                                                  |
| 11/5   | Project work session                                                | Assignment #5 due                                                                            |                                                  |
| 11/12  | QUIZ (based on lab exercises and assignments up until 10/22)             | Assignment #6 due                                                                            |                                                  |
| 11/19  | Project work session/ quiz review as needed                             | Assignment #6 due                                                                            |                                                  |
| 11/26  | **THANKSGIVING BREAK**                                                 | Assignment #6 due                                                                            |                                                  |
| 12/3   | Project presentations                                                   | Assignment #6 due                                                                            |                                                  |
| 12/10  | Project presentations                                                   | Assignment #6 due                                                                            |                                                  |
|        | **ALL PROJECT REPORTS DUE**                                            | Assignment #6 due                                                                            |                                                  |
READINGS

8/27  Course Syllabus & Overview; Intro to GIS and Its Evolution; GIS Applications

Lecture Readings:
- GTKArcGIS Chapters 1, 2
- Powerpoint presentation if applicable

Assignment #1: on Desire2Learn course page by class time

9/3  Map design and visualization

Lecture Readings:
- Powerpoint presentation and other lecture material (if any)

9/10  Scale, Coordinate Systems, Projections & Metadata

Lecture Readings:
- Powerpoint presentation and other lecture material (if any)

Lab Readings: GTKArcGIS – Chapter 6, HELP
Assignment #2: on Desire2Learn course page by class time

9/17  Mapping Data Overview, Data Clearinghouses & Data Management

Lecture Readings
- Relative paths, ArcCatalog, and Geodatabases
- GTKArcGIS Chapters 5, 11a (same as lab readings)
- Powerpoint presentation and other lecture material (if any)

Lab Readings: GTKArcGIS – Chapters 5, 11a;

9/24  Combining databases & attribute tables

Lecture Readings
- GTKArcGIS Chapter 16 (same as lab readings)
- Powerpoint presentation and other lecture material (if any)

Lab Readings: GTKArcGIS – Chapter 16
Assignment #3: on Desire2Learn course page by class time

10/1 – No class  BUT Preliminary Project Idea due

10/8  Classification Schemes & Demographic Mapping

Lecture Readings (PDFs will be posted on Desire2Learn):
- Powerpoint presentation and other lecture material (if any)
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<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>10/15</td>
<td>Generating Centroids, Clipping, Buffering, Overlaying and Areal Weighting</td>
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<td>Lab Readings: GTKArcGIS – Chapter 8</td>
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<td>Assignment #4: on Desire2Learn course page by class time</td>
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<tr>
<td>10/22</td>
<td>Basic Spatial Relationships, Working with parcel and tax assessment data &amp; Summary Tables</td>
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<td>Lab Readings: GTKArcGIS – Chapter 15, 17</td>
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<td>Lectures &amp; Lab Review</td>
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<td><strong>Thanksgiving Break- no class</strong></td>
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<tr>
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<td>10-slide student presentations</td>
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