Geography 469/569 : Geographic Information Systems Workshop
Overview - Spring 2014
http://courses.washington.edu/geog469

Instructors:
Tim Nyerges, Professor, Smith 402, 543-5296, nyerges at u.washington.edu
http://faculty.washington.edu/nyerges
Office Hours: by appointment

Yanning Wei, Teaching Assistant, ywei25 at uw.edu
Office hours and location to be announced in Lab

Megan Brown, Teaching Assistant, meb5 at uw.edu
Office hours and location to be announced in Lab

Meetings:
Lecture TTH Smith 407 11:30AM-1:20PM
Lab Section AA Tuesday Smith 401 1:30 - 2:50 PM
Lab Section AB Thursday Smith 401 1:30 - 2:50 PM

Course Description
Geography 469 /569 is designed to be an in-depth experience in the use of a GIS in a workgroup setting. The course draws material from various places to support an integrated intellectual/social/technical educational experience. The course acts as a senior capstone course or first year graduate studio.

Lecture topics address project management principles to be applied throughout the quarter. Students will make use of GIS concepts and software education as provided in previous GIS courses, as well as learn new ones during project completion. Lab assignments are structured so that workgroups of 2 or 3 students (depending on enrollment and number of available projects) develop a single project throughout the quarter. Projects are proposed by community partners. Students select a project and a group name that reflects the nature of the project topic they are pursuing as a group – make it professional sounding.

Eight major stages, each making use of a critical thinking strategy for geographic investigation, are used throughout the course.
Stage 1) Problem Statement - group members explore and clarify a topic of interest in terms of information needs of the client. A set of project objectives leading to outcomes must be specified.
Stage 2) Project Requirements - Requirements take the form of descriptions of data, software, hardware and personnel that will be used to address the objectives.
Stage 3) Data Acquisition - Acquisition of digital data from WAGDA and/or online from another organization, and/or the manual conversion of data is time consuming. A description of what data was acquired, how it was done, from whom, and a description of what additional data is yet to be obtained will be part of the activity in this stage.
Stage 4) Data Analysis and Findings - involves GIS-based analysis. Findings are the information you discovered as a result of performing the data analysis. Findings are contingent on the method and techniques used to investigate the topic, and situated to the overall approach.
Stage 5) Benefit-Cost Analysis - Perform a benefit-cost assessment of the trade-offs for implementing the requirements in light of the user information needs addressed and analysis performed.
Stage 6) Preliminary Presentations - project activity presented in section and in Geography Symposium
Stage 7) Final Report - the final stage involves composing a final report from the six previous stages.
Stage 8) Final Presentation – presentation to clients during finals week exam timeframe.
The eight stages guide groups through the quarter, providing students with a realistic experience undertaking a GIS project. All lab assignments must be performed. A final report is required that documents stages 1-6. Although it is permissible to use the six stages, one section for each stage, in the final report, a creative transition from section to section must be used so that narrative flows from one section to the next. Simply combining the six assignments as a document is not acceptable.

**Prerequisites:** Students should have taken an intermediate level GIS course (e.g., Geography 461, 462, 482 or equivalent) or have had equivalent GIS employment and/or project experience, and have permission from the instructor. Although this course is not an introduction to software, new software can be used to address project information needs as deemed appropriate. Students are recommended to use ArcGIS 10.2, and extensions as appropriate, as these are readily available in Geography Labs.

**Grading - 400 points possible.**
- **1st and 2nd exams** each worth 15% of final grade; 60 points each, total 120 points
- **Project Notebook** worth 10% of final grade – 40 points.
Each student is required to maintain a project notebook. It should be handed in at the 3rd (10 points), 6th (15 points) and 9th (15 points) weeks of the quarter. Details for the contents of the notebook are provided on a separate handout.
- **Eight project stages and a final report** worth 60% of grade - total 240 points.
  Stage 1: Problem Statement Report 40 points
  Stage 2: System Requirements Report 30 points
  Stage 3: Data Acquisition Report 30 points
  Stage 4: Data Analysis Report 30 points
  Stage 5: Benefit-Cost Report 30 points
  Stage 6: Presentation 30 points
  Stage 7: Final Report 50 points
  Stage 8: Final Presentation in finals week must be performed to pass the course

**Assignment Schedule**

<table>
<thead>
<tr>
<th>Wk # &amp; Date</th>
<th>Work Stage</th>
<th>Assignment Due</th>
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<tbody>
<tr>
<td>1 April 1</td>
<td>1) Problem Statement</td>
<td>draft April 8, final April 15</td>
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<tr>
<td>2 April 8</td>
<td>2) System Requirements</td>
<td>April 22</td>
</tr>
<tr>
<td>3 April 15</td>
<td>3) Data acquisition</td>
<td>April 29</td>
</tr>
<tr>
<td>4 April 22</td>
<td>4) Data Analysis</td>
<td>May 13</td>
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<tr>
<td>5 April 29</td>
<td>5) Benefit-Cost</td>
<td>May 20</td>
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<tr>
<td>7 May 6</td>
<td>6) Preliminary Presentation</td>
<td>June 3</td>
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<tr>
<td>8 May 13</td>
<td>7) Final Report</td>
<td>June 5 due in lecture at exam</td>
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<tr>
<td>8 May 13</td>
<td>8) Final Presentation</td>
<td>June 11 4:30PM - 7:00pm Allen Lib. Aud.</td>
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<tr>
<td>9 May 20</td>
<td>Reflective Essay (required, not graded) – due near end of quarter</td>
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**Required Reading Material:**

Various materials provided online.