GIS6100: Geographic Information Systems
Syllabus—Spring 2015

Instructor
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Phone: None

About the Course
Course meeting: Online.
Office Hours: T 11:00-13:00

Description
This course is designed to help students learn intermediate to advanced concepts of geographic information science (GIScience) and become proficient users of geographic information systems (GIS). The course covers a variety of topics but focuses on GIS data models, data structures, and spatial analysis. Teaching formats include both lectures and lab exercises.

Objectives
By the end of the course, students should:
1. be able to independently acquire, create, and edit spatial data for use with GIS;
2. understand the fundamentals of GIS data models and structures and be able to use that knowledge to select the best approach for solving particular geographic problems;
3. have sufficient technical skills to apply GIS, in particular ArcGIS software, to the solution of various geographic problems;
4. be able to successfully organize, manage, and present results from a GIS project;
5. and, have sufficient knowledge to take electives in the GIS Certificate Program.

Prerequisites
Two undergraduate-level GIS courses OR GIS 5049 GIS for Non-Majors. If you do not have the prerequisite, you should drop this course and enroll in GIS 5049 (online). Note the first week’s quiz is designed to help you determine if you are ready to take the course.

Materials
Student version of the software will be provided for home use. Students completing assignments in the labs will need to have a portable USB drive to save their work.
Course Structure
The course is organized in six modules. Each module consists of lectures, one or more lab assignments, and a test at the end.

Tests
Tests cover lecture materials (points vary), but as the labs re-enforce lecture, it will be helpful to take the test once you've completed everything else in the module. They are mostly multiple choice, occasionally T/F or a written response. Please note the following rules regarding the tests:

- Each test can be taken once.
- Tests are to be taken **without** the aid of notes, books, or any other study materials.
- You are not to share the questions and answers with anyone else.
- You will see one question at a time, and you have one chance to answer each question.
- So, once you start a test, you must finish it (don't close browser). There are absolutely no retakes—do not ask for one.

Lab Exercises
There will be a number of lab exercises assigned throughout the semester. They will re-enforce lecture materials in each module. Generally, they will make use of ArcGIS software.

Final Project
There is a final project due by the end of the course. The purpose of the project is for students to demonstrate their ability to complete a GIS project independently and produce a final product that communicates their results. Further details will follow, but the project is designed to be very narrow in scope, tailored to the student's interest, and completed in a relatively short period of time. The project is to be submitted as a paper.

Due Dates
In this course, you can work at your own pace. However, there is an absolute due date for completing the six modules. No late lab assignments or tests will be accepted for any reason after this due date. **Even if you have a doctor's excuse the week before the due date, that is not enough.** You are given more than adequate time to complete all modules by the due date, even factoring in any bouts of illnesses, family emergencies, weddings, etc, that you might encounter during the semester. Note, I will not make any exceptions to this policy for any students under any circumstances. Plan ahead! Note there is a suggested course schedule at the end of this syllabus that is designed to guide you in completing the course on time.

Modules 01-06: All components must be completed by **8 am Wednesday 22 April 2015.**

There is also a due date set for the final project. If you submit a late final project, it will be deducted 20% per day. After four days, they are no longer accepted as grades are due.

Final Project: The project is due by **8 am on Wednesday 29 April 2015**
**Grading Summary**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests</td>
<td>41.03%</td>
</tr>
<tr>
<td>Labs</td>
<td>40.33%</td>
</tr>
<tr>
<td>Project</td>
<td>18.65%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>

**Grading Scale**

Grades will be assigned using the following +/- grading scale based on percentage:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage Range</th>
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<tbody>
<tr>
<td>A</td>
<td>100% to 94%</td>
</tr>
<tr>
<td>A-</td>
<td>&lt; 94% to 90%</td>
</tr>
<tr>
<td>B+</td>
<td>&lt; 90% to 87%</td>
</tr>
<tr>
<td>B</td>
<td>&lt; 87% to 84%</td>
</tr>
<tr>
<td>B-</td>
<td>&lt; 84% to 80%</td>
</tr>
<tr>
<td>C+</td>
<td>&lt; 80% to 77%</td>
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<tr>
<td>C</td>
<td>&lt; 77% to 74%</td>
</tr>
<tr>
<td>C-</td>
<td>&lt; 74% to 70%</td>
</tr>
<tr>
<td>D+</td>
<td>&lt; 70% to 67%</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 67% to 64%</td>
</tr>
<tr>
<td>D-</td>
<td>&lt; 64% to 61%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 61% to 0%</td>
</tr>
</tbody>
</table>

*Note:* I do not round up or curve grades in this course. I've taught this course about a dozen times, and the average has always been between an 88% and 91%. Note that a 93.9 is still an A-, and I do not like requests for me to increase grades beyond the points earned. It is not fair to other students that earned the points.

**Rules & Policies**

1. **Students with Disabilities**
   Any students with a disability in this class are encouraged to meet with the instructor privately during the first week of class to discuss accommodations. Each student must bring a current Memorandum of Accommodations from the Office of Student Disability Services, as that is prerequisite for receiving accommodations. Accommodated examinations through the Office of Student Disability Services require two weeks’ notice. Adaptations of methods, materials, or testing may be made as required for equitable participation.
2. Notes and Lectures
   Any notes or lecture materials or for personal use only, and their sale or distribution to people outside the class is not permitted.

3. Religious Preference Absence
   Students who anticipate being absent from class due to the observation of a major religious activity must provide written notice of the dates to the instructor by the second week of the semester.

4. Academic Dishonesty
   Cheating and plagiarism are serious offense at USF. For more information, visit this page: http://www.ugs.usf.edu/catalogs/0001/ADADAP.HTM
   Note, I have a zero tolerance for cheating and plagiarism, and I will assign an FF to any student violating any of these policies.

   This syllabus is subject to change. Please consult the instructor if you have questions about the course procedures or materials.

Suggested course schedule
This schedule is intended to keep you on pace to finish by the due dates. Note, this is a schedule for students that want to progress at a slow, steady pace. However, if you work ahead of the suggested schedule, you'll have more time to focus on the final project at the end of the semester, or any other classes you may have. This schedule is very conservative, and a more aggressive schedule may work better for you. In other words, try not fall behind this schedule; if you do, you may find it hard to catch up!

<table>
<thead>
<tr>
<th>Week of</th>
<th>Tasks</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>5 Jan</td>
</tr>
<tr>
<td>2</td>
<td>12 Jan</td>
</tr>
<tr>
<td>3</td>
<td>19 Jan</td>
</tr>
<tr>
<td>4</td>
<td>26 Jan</td>
</tr>
<tr>
<td>Date</td>
<td>Task</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
</tbody>
</table>
| 5 2 Feb | Finish Module 02.  
Review lecture materials, and take Test 01. |
| 6 9 Feb | Start Module 02: Raster Data Model, Structure, and Analysis.  
Watch first five videos (some are shorter and some should be review).  
Complete Lab 03a. |
| 7 16 Feb | Continue with Module 03.  
Watch remaining videos.  
Complete Lab 03b. |
| 8 23 Feb | Finish Module 03.  
Review lecture materials, and Take Test 02.  
Read over Final Project Guidelines, if you haven't already. Begin to think about projects. |
| 9 2 Mar | Spring Break |
Complete Lab 04.  
Take Test 04 (shorter than most tests). |
| 11 16 Mar | Start Module 05: Alternative Distance Metrics; Network Data Model, Structure, and Analysis  
Watch first video.  
Complete Lab 05a. |
| 12 23 Mar | Continue with Module 05.  
Watch remaining 3 videos.  
Complete Lab 05b. |
| 13 30 Mar | Finish Module 05.  
Complete Lab 05c (very short).  
Take Test 05.  
Your final projects are due in 1 month! |
| 14 6 Apr | Complete Module 06.  
Watch all videos.  
Complete Lab 06 (very short).  
Take Test 06 (fairly short). |
| 15 13 Apr | Work on project. |
| 16 20 Apr | Work on project. |
| 17 27 Apr | Finish project. |