Geography 176A: Introduction to Geographic Information Systems
Course Syllabus
Summer 2018

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Office hours: Wednesday 1:40 pm – 3:40 pm
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Office: Ellison 5704

Course Description: A comprehensive overview of Geographic Information Systems and Science. Topics include geographic data collection, modeling, and representation; geographic databases; cartographic issues; spatial queries and analysis; mobile GIS; new directions and critiques. Labs provide hands-on experience with GIS software.

Schedule: Summer session B (8/6/2018 - 9/14/2018) MTWR: 12:30pm - 1:35pm

Prerequisite: Geography 12 or approval by instructor

Course Website: The course GauchoSpace includes lectures, lab data, and grades.

Course texts:
# Schedule
(The schedule may be adjusted based on our actual progress)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Component</th>
<th>Lecture Topic</th>
<th>Read</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08/06</td>
<td>Introduction: What is a GIS?</td>
<td>Definitions and History, Information sources</td>
<td>Chapter 1</td>
<td>Lab 1: Assigned on 08/06 Due: 08/12</td>
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<td></td>
<td>08/07</td>
<td></td>
<td>Introduction to the GIS Software used in Labs</td>
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<td></td>
<td>08/08</td>
<td>GIS Roots in Cartography</td>
<td>Basics and Scales</td>
<td>Chapter 2</td>
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<td></td>
<td>08/09</td>
<td></td>
<td>Map Projections and Coordinates</td>
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<td>2</td>
<td>08/13</td>
<td>Geographic Data Models</td>
<td>GIS Data Structures and Models I</td>
<td>Chapter 3</td>
<td>Lab 2: Assigned on 08/13 Due: 08/19</td>
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<td></td>
<td>08/14</td>
<td></td>
<td>GIS Data Structures and Models II</td>
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<td></td>
<td>08/15</td>
<td></td>
<td>Maps as Numbers</td>
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<td></td>
<td>08/16</td>
<td></td>
<td>Getting the Map into the Computer: Existing Data, Digitizing, Scanning, Field Data</td>
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<td>3</td>
<td>08/20</td>
<td>Geographic Database Management</td>
<td>What is Where: GIS Database Management</td>
<td>Chapter 5</td>
<td>Lab 3: Assigned on 08/20 Due: 08/26</td>
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<td></td>
<td>08/21</td>
<td></td>
<td><strong>Mid-term Examination</strong></td>
<td>Review Chapter 1-5</td>
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<td></td>
<td>08/22</td>
<td></td>
<td>Spatial Analysis I</td>
<td>Chapter 6</td>
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<td></td>
<td>08/23</td>
<td></td>
<td>Spatial Analysis II</td>
<td></td>
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<td>4</td>
<td>08/27</td>
<td>Spatial Analysis</td>
<td>Terrain Analysis I</td>
<td>Chapter 7</td>
<td>Lab 4: Assigned on 08/27 Due: 09/02</td>
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<tr>
<td></td>
<td>08/28</td>
<td></td>
<td>Terrain Analysis II</td>
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<td>08/29</td>
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<td>Geovisualization I</td>
<td>Chapter 8</td>
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<td></td>
<td>08/30</td>
<td></td>
<td>Geovisualization II</td>
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<td>5</td>
<td>09/03</td>
<td>GIS Systems</td>
<td><strong>No lecture - Labor Day</strong></td>
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<td>Lab 5: Assigned on 09/03 Due: 09/09</td>
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<td>09/04</td>
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<td>Functional Capabilities</td>
<td>Chapter 9</td>
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<td>09/05</td>
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<td>Systems</td>
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<td></td>
<td>09/06</td>
<td>GIS Applications</td>
<td>GeoSpatial Revolution</td>
<td>Chapter 10</td>
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Course Grading: Your final course grade is based on your scores on exams, lab assignments, and lecture participation. The distribution of points in the class are as follows.

**Mid-term Examination** (8/23)  
[multiple choice, (short answer)]  
25%

**Final Examination (cumulative)** (9/13)  
[multiple choice, (short answer)]  
30%

**Lab Assignments**: 6 labs  
[lab1-5: each 7%, lab 6: 5%]  
40%

**In-class activities, participations, and attendance**  
[lecture and section]  
5%

Course letter grades are awarded based on total points earned as follows:

- **A+** (99 – 100%); **A** (93 – 98%); **A-** (90 – 92%)
- **B+** (87 – 89%); **B** (83 – 86%); **B-** (80 – 82%)
- **C+** (77 – 79%)
- **C** (70 – 76%), **passing**
- **D** (60 – 69%)
- **F** (< 60%)

**Exams.** The exams test material from course lectures, lab assignments, and assigned readings from covered course material. The final exam is cumulative. Exams combine multiple choice and short answer questions. Bring a pink Parscore sheet.

**Lab Assignments.** Lab assignment support is provided by your TA in section. Be prepared to save your work during each lab section using cloud storage or on a USB. Labs in Ellison Hall and the UCSB Collaborate Lab have GIS software installed. You can also install software on your own machines following these instructions.

**Course Policies**
**Lecture/lab Attendance.** It is the students’ responsibility to attend lectures, take notes and thoroughly assimilate the subject material. Students are strongly encouraged to read the textbook before each lecture and review class notes after each lecture.

**Academic Integrity.** Cheating, plagiarism, and collusion in dishonest activities will not be tolerated. All work you submit to fulfill course requirements must represent your own efforts. Labs are individual assignments. It is your responsibility to know the campus rules about academic misconduct. Please be familiar with Academic Integrity at UCSB.

**Late Work.** Lab assignments turned in late will be penalized 10% per 24 hours after the deadline. Assignments will not be accepted for grading one week past the due date. If extenuating circumstances arise, coordinate with the teaching assistant before the assignment deadline to agree on alternative arrangements. No late submission for Lab 6 and Bonus Lab

**Exam Makeup Policy.** Any foreseeable reason for missing an exam must be reported to the instructor as soon as possible. In the case that you must miss an exam for a legitimate and documented reason, the instructor must be notified at least a week in advance and a make-up exam will be provided.

**Accommodations for Exams.** Students with disabilities may request academic accommodations for exams online through the UCSB Disabled Students Program. Please make requests for exam accommodations through the online system as early in the quarter as possible to ensure proper arrangement.

**Managing Stress.** Personal concerns such as stress, anxiety, relationships, depression, cultural differences, can interfere with the ability of students to succeed and thrive. For resources, contact UCSB Counseling & Psychological Services (CAPS).

**General Academic Support.** Campus Learning Assistance Services (CLAS) offers instructional groups, drop-in tutoring, writing and ESL services, skills workshops and one-on-one consultations. CLAS is located on the third floor of the Student Resource Building.

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