GEOG 176 A: Intro to GIS
2015 Fall

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This lab section meets once a week

• Sessions:
  Wednesday 2:00 to 4:50 p.m. @ Star Lab (Ellison 2610)
• Office Hour
  Tuesday 3:30 to 5:30 p.m. @ Ellison 4829 (or Ellison 2610)

• Please note:
  ➢ No eating or drinking in the lab
  ➢ Never turn off the computers, just log off
  ➢ The Star Lab is a resource for Geography Department only.
  ➢ Do not allow friends, relatives, or pets to use the facility.
Log-In Information

• student account
  • pw: geog15-16

• Go ahead and log on to GauchoSpace as well
  • labs will be posted on each Tuesday
To access the lab off hours...

• **Star Lab (Ellison 2610)**
  If you want to access the lab, please go to the undergraduate advisor: Consuelo Rivera (1831 Ellison Hall).

• **Free education edition of ArcGIS 10**
  One year license;
  Ask Dylan Parenti (Ellison Hall 1709) for details.
Data management

When working in the lab, refrain from saving files to the computer. They are **wiped weekly** by the manager;

It also avoids others from copying your work!

Use your own flash drive or cloud storage for saving work.
Individual Work!!!

- Each lab must represent individual work even though you will be working in a group setting with access to help from your TAs and fellow students.

- No copy or plagiarism! We take seriously about this!

- Also, even do not try to cross-copy your work from other session!
Submission of your work

• No hard copy. All work should be uploaded to GauchoSpace before the due!

• Due dates: will be indicated on GauchoSpace (each lab is a one week work; 2:00 p.m. on each Wednesday);

• Late submission: will be accepted with a penalty of **10%** for each day they are late (including weekends); submission will not be graded **5 days** after the due!

• If you want to contest points on a lab, submit an email to me, cc’d to Prof. Kuhn, documenting the total points possible, the points you received, and a paragraph explaining why you believe to have earned more points.

• There will be no make-up assignments or exams.
Switching sessions

• If you are switch into/out of Wednesday’s Session, please place your name on the crashing form.

• TAs will try best to match you with another student from another section to trade.

• Attend your session this week, if possible!
### Syllabus (tentative)

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<th>Week</th>
<th>Time</th>
<th>Topic</th>
<th>Lab Due (always 2 p.m.)</th>
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<tr>
<td>Week 1</td>
<td>Sept 30</td>
<td>Location</td>
<td>Oct.7&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>Week 2</td>
<td>Oct 7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Field</td>
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<td>Week 3</td>
<td>Oct 14&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Introduction to ArcGIS</td>
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<td>Week 4</td>
<td>Oct 21&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>Week 5</td>
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<td>Network</td>
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<td>Week 6</td>
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<td>Review for Midterm</td>
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<td>Week 7</td>
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<td>Event</td>
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<td>Week 8</td>
<td>Nov 18&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Granularity</td>
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<td>Week 9</td>
<td>Nov 25&lt;sup&gt;th&lt;/sup&gt;</td>
<td>No lab</td>
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<td>Week 10</td>
<td>Dec 2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Accuracy and Final Review</td>
<td>Dec 9&lt;sup&gt;th&lt;/sup&gt;</td>
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</tbody>
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Lab Assignment occupies 40% and each lab has equal weight!
Take advantage of each week’s lab session!
Any additional questions about the syllabus? Now is a good time to clarify!
About myself
http://www.geog.ucsb.edu/~zhu/

• Second year Ph.D. student in GIScience

• Advised by Kryzysztof Janowicz and Phaedon Kyriakidis

• Interest in spatial analysis, geostatistics and geospatial semantics

• Have Background in information science (Master from Pitt) and statistics.
Lab 1:

Location

DUE:
2 p.m. Wednesday, Oct. 7th 2015
(next week)
Objectives

• To explore concepts (i.e. location) and various technologies related to location services
Overview

• **Locate things →** Landmarks, cell phone, Digital Map (e.g. Wikimapia, OpenStreetMap), Paper Map
• **POI (Point of interest) →** Google Map Maker
• **Geocoding →** Google Map API Tool
• **Reverse Geocoding →** Google Map API Tool
• **Coordinate Transformation →** Document and Coordinate Conversion Tool
• **Geodetic datum →** zero meridian
• **Interoperability →** WTK (Well Know Text)
• **Spatial Relation →** read the required reading
• **Gazetteers →** Geonames & GINS
• **Geotagging →** CV and a Geotagging tool
• **Information integration by location →** frankenplace
• **Play →** Game of Geodesics
Overview

- Some of the questions are **conceptual questions** testing whether you understand the **Location** correctly or not!

**You may think that…**

1. Things have unique locations (consider BRDA 1640)
2. Things have unique coordinates (consider USGS)
3. In a given coordinate system, coordinates of things are unique (consider Santa Barbara)
4. Location is a property of things (consider volcano)
5. Locations are things themselves (consider "places")
6. Locations are points (consider rivers)
7. Distances and directions are straightforward to measure (consider **missile ranges**)
8. Postal addresses (or fax numbers) are the human equivalent of coordinates (consider **mountains**)
9. A complete description of location is always in 3 dimensions (consider reporting an accident, 101)
10. Altitudes are always above sea level (consider what your phone tells you)
11. Altitudes are distances from the center of the earth (consider some computer cartographers’ vs geodesy’s view)
12. Sea level is a unique reference (consider bridge across the river Rhine).
Tips:

• Question 7: Coordinate Transformation

0405 --> Zone 5

California State Plane Coordinates → WGS 84 → UTM Coordinate

Remember to convert the radius to degree.

(the formulas you need is on p 11-9, other information you need is on p 11-42)
ArcGIS Online

• UCSB ArcGIS Online

• Log on using your UCSB NetID and password
Submit your report to GauchoSpace by 2 p.m. Wednesday, Oct. 7th 2015