

GEO281 Syllabus Web-based GIS

Course Details:

Session: Spring 2018
Classroom: Fillmore 170
Lecture Times: Tue/Thu 12:30 pm – 1:50 pm

Instructor: Xin Tao (xintao@buffalo.edu)
Office: Wilkeson 131
Office hours: Tuesday 2:00 – 3:00 pm & by appointment

Teaching assistant: Dongon Choi (dongonch@buffalo.edu)
Office: Wilkeson 140
Office hours: Tuesday 3:00 – 4:00 pm & by appointment

Course Objectives: The objective of this course is to introduce web mapping and geospatial technologies used in Geography. We will address key concepts in Geography and Tools/Methods on Web mapping.

Course Outline:

Introduction to web mapping	1 week
The Internet and web	1 week
Key concepts from geography	2 weeks
Global Positioning System (GPS)	2 weeks
Spatial data collection	1 week
Exam I	0.5 week
Data types in GIS	1 week
Spatial analysis	1 week
Online street map	1 week
JavaScript and online point map	1 week
Client/server and peer-to-peer models	1 week
Geospatial mashup and Google map	1 week
Google map mashups	1 week
Exam II	0.5 week

Reading: Text book is available as EBook (on hold via UB Course Reserve service). The hard copy of the text book should be available at UB Book store.

- Peterson, Michael P. Mapping in the Cloud. Guilford Publications, 2014.
- Fu, Pinde, and Jiulin Sun. Web GIS: principles and applications. Esri Press, 2010.

Grading:

- Homework: Three homework (at each 10 % of the total grade) will be announced on the class and the due dates are shown in the course schedule.

Grade Policy:

- Exams:

	% of total grade	Due date
Homeworks	30% (10% × 3 HWK)	2/23 (HWK 1), 3/30 (HWK 2), 5/11 (HWK 3)
Exams	70% (35% × 2 Exams)	3/27 (Exam I, 12:30 pm – 1:40 pm), 5/17 (Exam II, 11:45 am - 2:45 pm)

– No exam will be given if any single student in the room has left after they finish (in case you're too late).

Missed exams:

1. the student contacts the instructor either before, or on the day of, the scheduled exam, unless the note that explains the absence indicates why the instructor could not be contacted;
 2. the student provides a note from an appropriate authority, as outlined at: <http://undergrad-catalog.buffalo.edu/policies/course/attendance.html>;
 3. the student completes the make-up exam within two weeks of the missed exam. In the case of the second exam, they would have to complete it during the scheduled final exam period.
- Late Policy: assignments must be submitted in print or electronic version on the specific due date to the instructor in class. Late work will lose 10 percent per day.

Letter Grade Distribution:

>= 93.00	A	73.00 - 76.99	C
90.00 - 92.99	A-	70.00 - 72.99	C-
87.00 - 89.99	B+	67.00 - 69.99	D+
83.00 - 86.99	B	63.00 - 66.99	D
80.00 - 82.99	B-	60.00 - 62.99	D
77.00 - 79.99	C+	<= 59.99	F

Academic Honesty: As a student at University of Buffalo, you have agreed to abide by the University's academic honesty policy, the Student Code of Conduct. All academic work must meet the standards described in the Student Code of Conduct found at: <http://www.student-affairs.buffalo.edu/judicial/rulereg.php>. Particularly, excessive copying or quoting other work verbatim, even if you provide a citation, is not acceptable. Any verbatim use of other written work will result in a substantially lower grade than if you synthesize ideas in your own words. For essays and bibliographies, the primary sources of material must be refereed journal articles.

Web sites must not be the primary sources of material, but can be included as supplemental sources provided they are properly cited. Note that refereed journal articles published electronically and downloaded from publishers web sites are acceptable. Further guidelines on written work will be provided with the respective assignments. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

Class Attendance Policy: <http://undergrad-catalog.buffalo.edu/policies/course/attendance.html>: Students are expected to attend classes regularly. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor.

Course schedule

The weekly coverage is subject to change as it depends on the progress of the class. However, you must keep up with the reading assignments.

Week	Date	Topics	Readings	Assignments
1	1/30 2/1	Introduction to Web GIS Overview of online GIS	Ch. 2 Ch. 4	HWK 1 out
2	2/6 2/8	The Internet and Web The Internet and Web	Fu Ch. 2 Fu Ch. 2	
3	2/13 2/15	Map scale Map abstraction	Ch. 7 Ch. 7	
4	2/20 2/22	Coordinate system No class (out of town)	Ch. 5	HWK 1 due
5	2/27 3/1	No class (out of town) Map projection	Ch. 5	
6	3/6 3/8	Location and GPS Geographic data formats (KML)	Ch. 9 Ch. 9	HWK 2 out
7	3/13 3/15	Spatial data collection Maps from web	Ch. 2 Ch. 5	
8	3/20 3/22	No Class (spring break) No Class (spring break)		
9	3/27 3/29	Exam I Understanding spatial data types (Vector)	Ch. 11 & Ch. 14	
10	4/3 4/5	Understanding spatial data types (Raster) Spatial analysis	Ch. 6 & Ch. 15 Ch. 15	HWK 2 due
11	4/10 4/12	Spatial analysis Online street map	Ch. 15 Ch. 6	
12	4/17 *4/19	Review of HTML and JavaScript Online point map	Ch. 12 Ch. 12	HWK 3 out
13	4/24 4/26	Client/server model and peer-to-peer model Client/server model and peer-to-peer model	Fu Ch. 3 Fu Ch. 3	
14	5/1 5/3	Geospatial mashup and Google map Geospatial mashup and Google map	Fu Ch. 4 Fu Ch. 4	
15	5/8 5/10	Google map mashups Google map mashups	Ch. 10 Ch. 14	HWK 3 due
16	5/17	Exam II		