

GEO281 Syllabus Web-based GIS

Course Details:

Session: Fall 2019
Classroom: Fillmore 322
Lecture Times: Mon/Wed/Fri 1:00 pm – 1:50 pm

Instructor: Xin Tao (xintao@buffalo.edu)
Office: Wilkeson 131
Office hours: Monday 2:00 – 3:00 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: Textbook is available as EBook (on hold via UB Course Reserve service). The hard copy of the textbook 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:

- Homework, in class activities, and Exams:

	% of total grade	Due date
Homework	30% (15% × 2 highest HWK)	9/25 (HWK 1), 10/16 (HWK 2), 11/27 (HWK 3)
In class activities	10%	In class
Exams	60% (30% × 2 Exams)	10/7 (Exam I, 1:00 – 1:50 pm), 12/6 (Exam II, 1:00 – 1:50 pm)

– No exam will be given if any single student in the room has left after they finish (in case you are 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: <https://catalog.buffalo.edu/policies/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: <https://www.buffalo.edu/studentlife/life-on-campus/community/rules.html>. 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 publisher's 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.

Accessibility Resources: If you have any disability which requires reasonable accommodations to enable you to participate in this course, please contact the Office of Accessibility Resources, 25 Capen Hall, 645-2608, and also the instructor of this course. The office will provide you with information and review appropriate arrangements for reasonable accommodations.

Class Attendance Policy: <https://catalog.buffalo.edu/policies/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.

Email: All correspondence will be via UBLearn and via UB e-mail. Students are responsible for checking UBLearn and their UB e-mail. The professor may not always reply to emails after 6pm or on weekends. Normally, an email would be replied within 24 hours. Emails sent over weekend may not be replied until next workday. E-mails should be respectful and professional.

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	8/26 8/28 8/30	Introduction to Web GIS The Internet and Web The Internet and Web	Ch. 2 Fu Ch. 2 Fu Ch. 2	
2	9/2 9/4 9/6	No class (labor day) Overview of online GIS Overview of online GIS	Ch. 4 Ch. 4	HWK 1 out
3	9/9 9/11 9/13	Map scale Map scale Map abstraction	Ch. 7 Ch. 7 Ch. 7	
4	9/16 9/18 9/20	Map abstraction Coordinate system Map projection	Ch. 7 Ch. 5 Ch. 5	
5	9/23 9/25 9/27	Map projection Location and GPS Geographic data formats (KML)	Ch. 5 Ch. 9 Ch. 9	HWK 1 due
6	9/29 10/2 10/4	Spatial data collection Maps from web Review	Ch. 2 Ch. 5	HWK 2 out
7	10/7 10/9 10/11	Exam I Understanding spatial data types (Vector) Understanding spatial data types (Vector)	Ch. 11 & Ch. 14 Ch. 11 & Ch. 14	
8	10/14 10/16 10/18	Understanding spatial data types (Raster) Understanding spatial data types (Raster) Spatial analysis	Ch. 6 & Ch. 15 Ch. 6 & Ch. 15 Ch. 15	HWK 2 due
9	10/21 10/23 10/25	Spatial analysis Spatial analysis Online street map	Ch. 15 Ch. 15 Ch. 6	
10	10/28 10/30 11/1	JavaScript and Document Object Model JavaScript and Document Object Model JavaScript and Document Object Model	Ch. 12 Ch. 12 Ch. 12	
11	11/4 11/6 11/8	Online point map Client/server model and peer-to-peer model Client/server model and peer-to-peer model	Ch. 12 Fu Ch. 3 Fu Ch. 3	HWK 3 out
12	11/11 11/13 11/15	Client/server model and peer-to-peer model Geospatial mashup and Google map Geospatial mashup and Google map	Fu Ch. 3 Fu Ch. 4 Fu Ch. 4	
13	11/18 11/20 11/22	Geospatial mashup and Google map Google map mashups Google map mashups	Fu Ch. 4 Ch. 10 Ch. 10	HWK 3 due
14	11/25 11/27 11/29	No Class (Thanksgiving) No Class (Thanksgiving) No Class (Thanksgiving)		
15	12/2 12/4 12/6	Google map mashups Review Exam II	Ch. 14	