GEO120 Syllabus
Maps: Earth from Above

Course Details:
Session: Fall 2018
Classroom: Fillmore 170
Lecture Times: Mon/Wed/Fri 10:00 am – 10:50 am

Instructor: Xin Tao (xintao@buffalo.edu)
Office: Wilkeson 131
Office hours: Monday 11:00 am – 12:00 pm & by appointment

Course Objectives:
This class introduces students to mapping and locational technology. It prepares students for further studies in geography, cartography, and geospatial technologies. Topics include map making and coordinate systems, issues regarding map scale and projections, using maps, remote sensing, geographic information systems, maps as media, emerging digital mapping technologies, and using internet mapping services.

Course Learning Outcome	Program Outcomes / Competencies	Instructional methods	Assessment methods
Describe the principles of mapping geographic phenomena.	Provide breadth of knowledge of basic principles and concepts	Readings, lectures, assignments	Exams, assignments
Demonstrate the ability to integrate data from multiple sources into a single map; Explore how data are produced and consumed in everyday life.	Develop approaches for integration of information	Project #1, #2, #3, assignments, readings	Exams, assignments, projects
Evaluate the impacts of maps, media, data, and location-aware technologies.	Encourage critical thinking and hypothesis building	Readings, lectures, assignments	Exams, assignment
Understand the basics of HTML and the relationship between the Internet and mapped information	Provide contemporary information	Project #1, assignment	Exams, assignment, Project #1.

Course Outline:
Introduction to maps ..... 1 week
The Internet and HTML..... 1 week
Key concepts from geography ..... 2 weeks
Exam I ..... 0.5 week
Global Positioning System (GPS) ..... 2 weeks
Remote Sensing ..... 2 weeks
Online street map ..... 1 week
Exam II ..... 0.5 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 III..... 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:

- Projects: Three projects (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:

- Projects, in class activities, and exams:

	% of total grade	Due date
Projects	30% (15% × highest 2 Projects)	9/19 (Project 1), 10/31 (Project 2), 12/5 (Project 3)
In class activities	10%	In class
Exams	60% (30% × highest 2 Exams)	9/24 (Exam I, 10:00 – 10:50 am), 11/5 (Exam II, 10:00 – 10:50 am), 12/7 (Exam III, 10:00 – 10:50 am)

– 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.

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: 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.

Email: All correspondence will be via UBLearns and via UB e-mail. Students are responsible for checking UBLearns 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 work day. 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	8/27	First day of class	Syllabus	
	8/29	Mental maps	Ch. 3	
	8/31	Historical maps	Ch. 5	
2	9/3	No class (labor day)		
	9/5	Internet	Ch. 1	Project 1 out
	9/7	HTML	Ch. 4	
3	9/10	Map layers	Ch. 2	
	9/12	Raster data type	Ch. 2	
	9/14	Vector data type	Ch. 2	
4	9/17	Map scale and map abstraction	Ch. 7	
	9/19	Map projection	Ch. 5	Project 1 due
	9/21	Map projection	Ch. 5	
5	9/24	**Exam I**		
	9/26	No Class (out of town)		
	9/28	No Class (out of town)		
6	10/1	No Class (out of town)		
	10/3	No Class (out of town)		
	10/5	No Class (out of town)		
7	10/8	No Class (out of town)		
	10/10	Coordinate system	Ch. 11	
	10/12	Coordinate system	Ch. 11	
8	10/15	Location and GPS	Ch. 9	
	10/17	Geographic data formats (KML)	Ch. 9	Project 2 out
	10/19	Remote Sensing	Ch. 6	
9	10/22	Remote Sensing	Ch. 15	
	10/24	Remote Sensing	Ch. 15	
	10/26	Mobile mapping	Ch. 19	
10	10/29	Online street map	Ch. 6	
	10/31	Databases	Ch. 17	Project 2 due
	11/2	Databases	Ch. 17	
11	11/5	**Exam II**		
	11/7	JavaScript and Document Object Model	Ch. 12	
	11/9	JavaScript and Document Object Model	Ch. 12	
12	11/12	Online point map	Ch. 12	
	11/14	Client/server model and peer-to-peer model	Fu Ch. 3	Project 3 out
	11/16	Client/server model and peer-to-peer model	Fu Ch. 3	
13	11/19	No Class (Thanksgiving)		
	11/21	No Class (Thanksgiving)		
	11/23	No Class (Thanksgiving)		
14	11/26	Geospatial mashup and Google map	Ch. 10	
	11/28	Geospatial mashup and Google map	Ch .10	
	11/30	Google map mashups	Ch. 10	
15	12/3	Google map mashups	Ch. 10	
	12/5	Google map mashups	Ch. 14	Project 3 due
	12/7	**Exam III**		