



Geography (GEOG) 493C/693A: Web GIS (3 Credit Hours)



Fall 2018

Instructor: Aaron E. Maxwell, PhD, GISP

Class Time: TTh 11:30 AM-12:45 PM

Class Location: Brooks Hall 415

Office: Brooks Hall 141

Hours: MW 12:30-2:20 PM

Phone: (304) 293-2026

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Professor Maxwell's Website:

<http://maxwellae.wixsite.com/maxwell-geospatial>

Course Rationale:

The World Wide Web has become a valuable means to display, collect, and share geographic data and maps. This course will explore the use of web technologies for developing web map applications. Students will learn to produce audience appropriate maps in the web environment using a variety of technologies and methods.

Prerequisite

Student must complete Geography 350: GIScience with a grade of D or higher before taking this course.

Course Outcomes:

By the end of this course, students will be able to:

1. produce an audience appropriate web map using ArcGIS Online.
2. share data as dynamic and static map packages.
3. solicit crowd sourced data using feature services.
4. produce and publish a map application using Web AppBuilder for ArcGIS.
5. create geoprocessing services for use on the web.
6. write HTML, CSS, and JavaScript at a beginner level.
7. use the ArcGIS API for JavaScript at a beginner level.

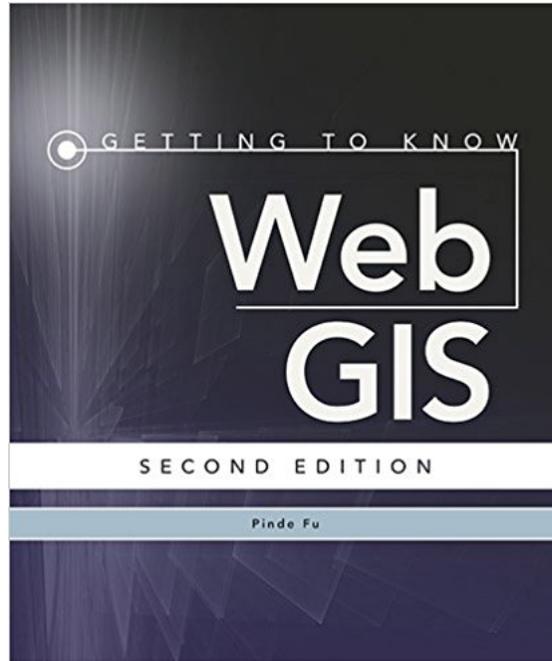
Method of Instruction/Philosophy

The course outcomes for this class will be met using a combination of lectures, class discussions, instructor-led demonstrations, and hands-on exercises/projects. I firmly believe that students learn via engagement and by doing. As a result, this will not be a purely lecture-based course. **It is important that you engage yourself during this class.** I will do my best to help you learn; however, it is imperative that you take ownership of your own education.

Textbook:

Required Text

Getting to Know Web GIS by Pinde Fu (ISBN-10: 1589484630; ISBN-13: 978-1589484634). **You must get the second edition.**



Other Resources

We will also make use of the ArcGIS API for JavaScript Developers page:

<https://developers.arcgis.com/javascript/>.

Grading:

Grading for this class will consist of 12 web map projects, online tutorial completion, peer map critiques, a final project, and attendance.

A total of 12 online mapping projections will be assigned throughout the semester. Some class time will be set aside to work on these projections; however, you will need to devote time to these projects outside of class.

Assignments must be turned in via an eCampus submission. I will accept assignments up to two days after the due date. However, an automatic 20% reduction will be applied. Assignments will not be accepted after this period and you will receive a zero on the assignment.

All students will be required to complete a series of three web tutorials from Codecademy relating to HTML, CSS, and JavaScript in preparation for the ArcGIS API for JavaScript work at the end of the course. Specifically, you need to complete all of the free sections of Learn HTML, Learn CSS, and Introduction to JavaScript.

Throughout the semester, you will be asked to critique web maps created by other students. This will be worth 50 points of your grade. More details on these requirements will be provided.

You will be required to complete an independent web app development projection. A grading rubric will be provided. You will present your web app during the scheduled final time. Undergraduates and graduates will have different requirements for this project.

Attendance will be worth 40 points. This will be calculated as a percentage as the number of classes attended divided by the number of classes scaled out of 40 points. You will not be penalized for university designated excused absences.

$$\frac{\text{Number of Classes Attended}}{\text{Total Number of Classes}} \times 40$$

Grade Point Distribution:

Projects	30 points each, 360 points total
Codecademy Learn HTML	10 Points
Codecademy Learn CSS	15 Points
Codecademy Introduction to JavaScript	25 Points
Peer Critiques	50 Points
Attendance	40 points
Project	100 points
Total	600 Points

Grade Scale:

90%-100%	A	> 540/600 Points
80%-90%	B	> 480/600 Points
70%-80%	C	> 420/600 Points
60%-70%	D	> 360/600 Points
0%-60%	F	< 360/600 Points

Late Assignments:

Assignments must be turned in via an eCampus submission. I will accept assignments up to two days after the due date. However, an automatic 20% reduction will be applied. Assignments will not be accepted after this period and you will receive a zero on the assignment.

The final project must be turned in by the scheduled final time.

Attendance Policy:

At West Virginia University, class attendance contributes significantly to academic success. Students who attend classes regularly tend to earn higher grades and have higher passing rates in courses. Excessive absences may jeopardize students' grades or even their ability to continue in their courses. There is a strong correlation between regular class attendance and academic success. Faculty are strongly encouraged to require attendance in all 100-level classes.

<http://catalog.wvu.edu/undergraduate/enrollmentandregistration/#enrollmenttext>

Attendance will be worth 40 points of your grade.

Final Time:

Final times cannot be rescheduled. You are expected to take the final at the time specified.

Feedback Response Time

I generally reply to email and discussion posts within 48 hours, except during holidays. Often I will reply much more quickly, but you should not count on a same-day reply. Please plan accordingly so that you don't miss deadlines! I generally return assignments within one week of when a discussion or assignment closes. If you would like to get help on an assignment ahead of the deadline, please email me! I'm happy to give preliminary feedback or answer questions.

Academic Integrity:

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at <http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#academicintegritytext>. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

Cheating will result in a zero on the assignment.

If I see your phone out during an assessment (e.g. tests or quizzes), I will assume you are cheating and you will receive a zero on the assessment.

Adverse Weather Commitment:

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. We can work something out.

Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible (by 8:00 AM the morning of class or earlier), using MIX and eCampus to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments.

Inclusivity Statement:

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services

(293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>.

Incomplete Grades

Students who want to be considered for an Incomplete must apply to their instructor prior to the end of the term. If the instructor agrees, the instructor and the student must negotiate the conditions under which the grade of I will be changed to a letter grade and sign a contract. The date to submit the incomplete work should not be set beyond the last day of class of the following semester. If the student does not complete the terms of contract then the instructor should submit a grade of F. All incomplete contracts must be filed with the department and Dean's Office. See the policy at:

<http://catalog.wvu.edu/undergraduate/enrollmentandregistration/#gradestext>

Sexual Misconduct Statement:

West Virginia University (WVU) does not tolerate sexual misconduct, including harassment, stalking, sexual assault, sexual exploitation, or relationship violence [BOG Policy 44]. It is important for you to know that there are resources available if you or someone you know needs assistance. You may speak to a member of university administration, faculty, or staff, but keep in mind that they have an obligation to report the incident to the Title IX Coordinator. If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the Carruth Center, 304-293-9355 or 304-293-4431 (24-hour hotline), and locally within the community at the Rape and Domestic Violence Information Center (RDVIC), 304- 292-5100 or 304-292-4431 (24-hour hotline).

For students at WVU-Tech, contact the Women's Resource Center at 304-255-1585 (toll free at 1-888-825-7836) or REACH at 304-340-3676. For students at Potomac State, contact the PSC Psychological Services Office at 304-788-6976, and locally in Keyser, the Family Crisis Center, 304-788-6061 or 1-800-698-1240 (24-hour hotline).

For more information please consult WVU policies at <http://titleix.wvu.edu>.

Student Evaluation of Instruction

Effective teaching is a primary mission of West Virginia University. Student evaluation of instruction provides the university and the instructor with feedback about your experiences in the course for review and course improvement. Your participation in the evaluation of course instruction is both strongly encouraged and highly valued. Results are strictly confidential, anonymous, and not available to the instructor until after final grades are released by Admissions and Records. Information about how you can complete this evaluation will be provided later.

Sale of Course Material Statement:

All course materials, including lectures, class notes, quizzes, exams, handouts, presentations, and other materials provided to students for this course are protected intellectual property. As such, the unauthorized purchase or sale of these materials may result in disciplinary sanctions under the Campus Student Code.

Week	Topic	Reading	Activities
August 15-17	Introductions, Syllabus, Discussion of user accounts and server access		
August 20-24	Building a web app with ArcGIS Online	<i>Getting to Know Web GIS</i> Ch. 1	Projection 1: Story Map Tour
August 27-31	Geocoding in ArcGIS Online/Improving your ArcGIS Online Map	<i>Getting to Know Web GIS</i> Ch. 2	Project 2: Basic Web Map
Sept. 3-7	Edit ESRI basemap vector tiles		Project 3: Edit Basemap
Sept. 10-14	Hosted feature services and Volunteered Geographic Data	<i>Getting to Know Web GIS</i> Ch. 3	Project 4: Volunteered Geographic Data
Sept. 17-21	Configuring ArcGIS Online Web Apps	<i>Getting to Know Web GIS</i> Ch. 4	Project 5: Story Map Journal
Sept. 24-28	Working with Web AppBuilder for ArcGIS	<i>Getting to Know Web GIS</i> Ch. 5	Project 6: Web App using Web AppBuilder
Oct. 1-5	Publishing map services	<i>Getting to Know Web GIS</i> Ch. 6	Project 7: Create a Web App using a Map Service
Oct. 8-12	Spatial analytics and geoprocessing	<i>Getting to Know Web GIS</i> Ch. 7	Project 8: Geoprocessing Service App
Oct. 15-19	Mobile GIS and mobile apps	<i>Getting to Know Web GIS</i> Ch. 8	Project 9: Collector for ArcGIS/Create a Native App
Oct. 22-26	3D scenes	<i>Getting to Know Web GIS</i> Ch. 9	Project 10: 3D Web Scenes
Oct. 29-Nov. 2	ArcGIS API for JavaScript	<i>Getting to Know Web GIS</i> Ch. 10	Project 11: Comment ArcGIS API for JavaScript Sample *Codecademy modules must be completed by this week
Nov. 5-9	ArcGIS API for JavaScript	<i>Getting to Know Web GIS</i> Ch. 10	Project 12: Edit an ArcGIS API for JavaScript Sample
Nov. 12-16	ArcGIS API for JavaScript	<i>Getting to Know Web GIS</i> Ch. 10	Project 12: Edit an ArcGIS API for JavaScript Sample
Nov. 19-23	Fall Break		
Nov. 26-30	Work on Project		
Dec. 3-7	Work on Project		
Dec. 10-14	Final Project Presentation at Final Time (Thursday December 13th from 8-10 AM)		

Note: This schedule is subject to change based on the needs and pacing of the class.

Important Academic Dates

Friday, August 10—New Student Orientation

Monday, August 13—General Registration

Wednesday, August 15—On Campus First Day of Classes

Tuesday, August 21—Last day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit

Monday, September 3—Labor Day Recess: University Closed

Thursday, October 4 by noon—Mid-Semester Reports Due

Friday, October 12—Fall Break

Friday, October 13—Textbook Selection Deadline (for Spring 2019)

Tuesday, October 23—Last Day to Drop a Class

Tuesday, November 6—General Election (no classes)

Saturday, November 17 thru Sunday, November 25—Fall Recess

Wednesday, December 5—Last Day to Withdraw from the University

Thursday, December 6—Last Day of Classes

Friday, December 7—Prep Day for Finals

Monday, December 10 thru Friday December 14—Final Exam Week

Saturday, December 15—Commencement

Saturday, December 15—Winter Recess Begins