

Advanced Web Apps

JOU 4930 | Spring 2017 | Section 1211 | 334 Weimer Hall
Tuesdays 11:45 a.m.–2:45 p.m. (periods 5, 6, 7)

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Office hours: Wednesdays 1–3 p.m. | And by appointment
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WEBSITE: <https://webappsplus.wordpress.com/>

Course Description

This course adds server-side (back-end) Web skills to the client-side (front-end) Web skills students have developed in the preceding course, with the goal of developing Web apps that include a server-side component to support presentations of stories and large data sets for media organizations. Web scraping is also covered to enable journalists to gather open data from the Web for analysis and/or informing audiences.

Prerequisite: Introduction to Web Apps for Media

Course Objectives

In this course, students learn how to:

1. Use SQL (Structured Query Language) to create databases and to read/write data for use in applications for media audiences.
2. Scrape websites to collect public data (such as government data for an informed electorate) that can be stored, analyzed and reused, as is typically done in media organizations.
3. Write custom programs in Python for communications applications.
4. Create server-side Web apps suitable for media industries using Flask, a Python framework, which is widely used by journalism organizations including the Los Angeles Times.
5. Solve problems in setting up and using command-line tools to support innovative storytelling.

Attendance and Attitude

Students are expected to show respect for one another and for the instructor. Attendance and arriving on time for class are necessary. **Lateness and unexcused absences will result in a lower final grade** (see details below for point breakdown). If you have been absent, you are responsible for finding out about any missed material by consulting another student and/or going to the instructor's office hours. These matters will not be handled via email.

Mobile devices must be turned OFF and placed out of sight during class. Do not check text messages, social media, email, etc., during class, as your instructor considers this quite rude and therefore grounds for disciplinary action. Give your full and undivided attention to anyone who is speaking in class, including your fellow students.

Students are expected to use their own laptop computer during class. However, if you are seen checking social media or any other sites unrelated to the immediate topics being discussed in class, penalties will be imposed. Penalties range from a warning (first offense) to grade point deductions, starting at 50 percent of one assignment for the second offense and up to half a letter grade for the course for chronic issues. Please give your full attention to the class while you are in the classroom.

See **Attendance and participation** under “Course Requirements” below for grading specifics.

UF Attendance Policies

- > <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Course Deadlines and Makeup Work

Late assignments are not accepted unless an emergency can be documented. This means that an assignment submitted late is graded as a zero. Assignments are not accepted via email unless requested by the instructor. If an illness or a personal emergency prevents you from completing an assignment on time, advance notice and written documentation are required. If advance notice is not possible because of a genuine emergency, written documentation will be required. No work for “extra credit” is accepted.

NOTE: Assignment deadlines in Canvas are usually set for 11:59 p.m. If you submit after the deadline, your assignment is late.

Academic Dishonesty

Academic dishonesty of any kind is not tolerated in this course. It will be reported to the student’s department chair AND to the university’s Dean of Students. It will result in a failing grade for this course (for details, see <http://regulations.ufl.edu/wp-content/uploads/2012/09/4042.pdf>). A formal report of the offense will be filed with the university’s Dean of Students.

Academic dishonesty includes, but is not limited to:

- Using any work done by another person and submitting it for a class assignment.
- Submitting work you did for another class.
- Copying and pasting code written by another person in place of solving the assigned problem on your own. (Note: In some cases an assignment will instruct you to use code written by others. Those cases are exempt.)
- Sharing your code with another student. (Note: If you are asked to collaborate with another student for an assignment, this does not apply to you and your partner.)

UF Student Honor Code

> <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

Required Books and More

Students are required to read several assigned chapters and complete exercises in these two books:

Web Scraping with Python: Collecting Data from the Modern Web, by Ryan **Mitchell** (O'Reilly, 2015)

Head First Python, 2nd edition, by Paul **Barry** (O'Reilly, 2017)

All students are expected to possess their own copy of each book, whether printed or electronic. Quiz questions are taken from the books and other assigned materials. Students might need to use the book during class. Ebooks (PDF, etc.) available at O'Reilly: <http://www.oreilly.com/> Printed books might be cheaper from Amazon.

Web hosting

Students must have full-service Web hosting. The recommended provider is Reclaim Hosting. Your professor receives no kickbacks or other deals from Reclaim. Shared hosting costs \$25/year and includes registration for one domain. Domains must be renewed yearly or they will expire. Other hosting companies are acceptable if they provide SSH access and provide MySQL (or MariaDB) via phpMyAdmin.

> <https://reclaimhosting.com/>

Laptop

All students in this course must own a laptop they can bring to class with them. A tablet will NOT be sufficient for this course. Any operating system is okay, but Mac OSX is *strongly preferred*. For assistance with your operating system or hardware, please use the UF Computing Help Desk if you cannot solve a problem. *Bring your power cord to class with you.*

Headphones or earbuds

During class, you might find you need to watch or re-watch videos. For this reason, please be sure to always bring headphones or earbuds with you.

Students with Disabilities

Students requesting accommodations must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student, who must then provide this documentation to the instructor when requesting accommodations.

UF Disability Resource Center

> <https://www.dso.ufl.edu/drc/>

Course Requirements

Read this entire document in the first week of classes. If anything is not clear to you, ask me for clarification on or before Jan. 10, 2017. This syllabus is a contract between you and me.

Please make sure to check the course website at least once a week. If you rely only on a printed or downloaded copy, you may miss a change in the schedule.

> WEBSITE: <https://webappsplus.wordpress.com/>

Quizzes

There will be weekly quizzes on the assigned reading. Quizzes are in Canvas and are open-book. On the Course Schedule page on the course website (see above), the readings covered on that week's quiz are listed under *the same week as the quiz*. **Deadlines:** In Canvas.

Assignments

Assignments are listed and LINKED on the Course Schedule page on the course website (see above). **Exact deadlines:** In Canvas. For many of the assignments, students will begin the work during class. Students will need to work on all assignments outside class to complete them. Students are encouraged to help one another on assignments but NOT to give solutions to others.

Presentations

Twice during the semester, each student will be responsible for presenting an interesting Web app or website that uses back-end technologies. The student is responsible for finding and “deconstructing” the app/site and telling the class what is interesting, admirable, especially cool, etc. The purpose of the presentation is to inspire the class and show how current Web technologies and techniques are used. Students are encouraged not only to view source but also to find “how we made this” articles or interviews about the app/site. Students might contact the makers of the app/site and interview them. Think of this as a show-and-tell that educates the whole class and offers creative inspiration.

Final project

In the final three weeks of the course, each student will produce and complete a Web project suitable for your professional portfolio. The project must include *at least two* of the following: Python, Web scraping, a SQL database, a Flask app. It may also include Web forms, JavaScript, Bootstrap and any additional technologies you desire. The project must be live and functional at your domain by the deadline.

Attendance and participation

Points will be subtracted if you miss more than one (1) class meeting, are chronically late, or repeatedly show inattention. **Participation in discussions is expected.** At times, you will be working on assigned projects during class. Absences due to illness, serious family emergencies, special curricular requirements, etc., will be handled in accordance with UF policies, to which you will find a link on page 2 of this syllabus.

Grades and Grading Policies

Quizzes	20 percent
Assignments	50 percent
Presentations (2)	10 percent
Final project	10 percent
Attendance and participation	10 percent
TOTAL	100 percent

92–100 points	A	72–77 points	C
90–91 points	A–	70–71 points	C–
88–89 points	B+	68–69 points	D+
82–87 points	B	62–67 points	D
80–81 points	B–	60–61 points	D–
78–79 points	C+	59 points or fewer	E

UF Policies about Student Grades

> <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

UF Dates (Spring 2017)

Classes begin	Jan. 4	MLK Jr. Day	Jan. 16
Drop/Add	Jan. 4–10	Spring Break	March 5–11
Classes end	April 19		
Final Exams	April 22–28		

Course Evaluations

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online: <https://evaluations.ufl.edu>

Evaluations are typically open during the final weeks of the semester. Students will be given specific dates when they are open. Summary results of these assessments are available to students:

<https://evaluations.ufl.edu/results/>

Course Schedule and Required Readings

Please note that many important details are on the website (<https://webappsplus.wordpress.com/>) and do not appear herein. Assigned readings, links to videos, resources, etc., are on the **Course Schedule** page of the website. Quizzes are based on the assigned readings in that same week.

Week 1 | Jan. 10

Introduction to the course. Tools, technologies and outcomes.

Week 2 | Jan. 17

Introduction to SQL and databases.

Introduction to XAMPP, an Apache Web server that runs on your computer.

Week 3 | Jan. 24

SQL and databases, part 2. More advanced SQL queries; security issues; prepared statements.

Week 4 | Jan. 31

Your own SQL database project.

Week 5 | Feb. 7

Introduction to Python.

Week 6 | Feb. 14

Introduction to Web scraping with Python and the BeautifulSoup library.

Using PIP and virtualenv.

Week 7 | Feb. 21

Web scraping, part 2. More Python. Introduction to regex.

Week 8 | Feb. 28

Introduction to APIs.

Your own Web scraping project.

Week 9 | March 7

Spring Break — class does not meet.

Week 10 | March 14

Creating Web apps with Python; introduction to Flask, a Web framework.

Week 11 | March 21

Flask: Basic application structure and templates.

Week 12 | March 28

Flask for Web forms and databases.

Week 13 | April 4

Your own Flask project.

Week 14 | April 11

Student's individual Web project.

Week 15 | April 18

Student's individual Web project.

All projects are due on Monday, April 24, at 11:59 p.m. This is the Monday of finals week.

Classes end: April 19 (Wednesday)

Finals: Monday, April 24–Friday, April 28

Weekly topics are subject to change. Please check the Course Schedule page on the course website for the latest updates.