Advanced Web Apps for Communicators

JOU 4364 | Spring 2024 | Class number 13976 (2F03)
Tuesday periods 8–9 (3–4:55 p.m.)
Thursday periods 8–9 (3–4:55 p.m.)
Both class meetings are in person, in Weimer room 2056.

Instructor:	Mindy McAdams, Professor, Department of Journalism
Email:	mmcadams@ufl.edu
Office:	3049 Weimer Hall
Office hours:	Tuesday 1–3 p.m.	and by appointment
Office phone:	352-392-8456 (NOTE: Email is better. Much better.)
Website:	UF Canvas LMS

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: JOU 3363 Introduction to Web Apps for Communicators with grade of C or better

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 by arriving before the class starting time. Attendance is taken and participation is expected. 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 and/or making an appointment to meet with the instructor.

Please do not check text messages, social media, email, etc., during class, as your instructor considers this quite rude and therefore grounds for disciplinary action. Moreover, you will miss things if you're checking messages or otherwise disengaged. Give your undivided attention to anyone who is speaking in class, *including your fellow students*. Another student might ask a question that will help you, if you are listening.

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

UF Attendance Policies
> https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

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.

UF Student Honor Code
> https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

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 or course.
- Copying and pasting code written by another person **or a code generator** in place of solving the assigned problem(s) on your own. (Note: In some cases an assignment will instruct you to use code written by others. Those cases are exempt.)
- Sharing code *written by you* with another student. You may talk about *their* incomplete code, but do not show them *your* completed code or allow them to copy your code. (Note: If you are asked to collaborate with another student for an assignment, this does not apply to you and your partner.)

All students must adhere strictly to professional standards of copyright law and respect for the rights of authors. We do not copy and use photos, graphics or artwork without *explicit permission, in writing,* from the owner of the copyright. We do not use music or other recorded audio without explicit permission, in writing, from the owner of the copyright. There is no "educational use" exception that applies to works published on the public internet.

Required Book and More

Students are required to read several assigned chapters in this book:

Automate the Boring Stuff with Python, 2nd edition, by Al **Sweigart** (No Starch Press, 2019)

> https://automatetheboringstuff.com/

Quiz questions are taken from the book and other assigned materials. Students might need to use the book during class. Books might be cheaper at Amazon than elsewhere. Note that the publisher, No Starch Press, provides a free ebook along with purchase of the physical book, only at its website: https://nostarch.com/automatestuff2

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 $30/year; registration for a domain (optional) costs a little more. A subdomain incurs no extra fee. A one-year signup is recommended for your convenience. *Other hosting companies* are acceptable if they provide SSH access and provide MySQL (or MariaDB) via **phpMyAdmin**.

https://www.reclaimhosting.com/shared-hosting/

GitHub

Each student must have his or her own GitHub account. An existing account is fine.

> https://github.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: (352) 392-4357 (or helpdesk@ufl.edu). *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://disability.ufl.edu/

Course Requirements

Read this entire document (the syllabus) in the first week of classes. If anything is not clear to you, ask me for clarification before the last day of Drop/Add (Jan. 12, 2023). This syllabus is a contract between you and me.

Please make sure to check the relevant **Canvas module** early in the week. Plan your work accordingly so you have enough time to absorb the material. All your deadlines are in Canvas.

Quizzes

Quizzes are in Canvas and are always open-book. Quizzes cover the assigned readings or videos for the coming week. These are always listed in the module's "Assigned work" document in Canvas. Deadlines are in Canvas. Any quiz not submitted by the deadline is graded 0.

Assignments

There will be a mix of assignments in this course, somewhat different from Intro to Web Apps. Sometimes the assignment is largely done during class (when a new technology is introduced).

In some cases, the work for one assignment will span two weeks (when you are applying what you learned). Sometimes the assignment is a set of exercises you must complete.

Assignments are provided in Canvas along with exact deadlines. Usually it will be necessary for students to work on assignments *outside class* to complete them. Students are encouraged to help one another on assignments but NOT to give solutions to others. Please look ahead and be prepared to spend substantially more time on some assignments than 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 Python and *at least two* of the following: web scraping, a SQL database, a Flask app. It may *also* include web forms, JavaScript, PHP, Bootstrap, and any additional technologies you desire. The project must be live and functional *online* by the deadline.

Your final project should be suitable for inclusion in your professional portfolio. For that reason, you are strongly encouraged to **think ahead** about a suitable topic. You should choose a topic that interests you — but it should *also* be of interest to *others*. Note that this project must use the technologies from this course in a substantial way.

Attendance and participation

Points will be subtracted as detailed below. The total number of points is determined by the number of class meetings, which varies by semester. The total accounts for 10 percent of your final course grade. Participation is expected; you will be working on assigned projects during class some of the time. 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.

- For each class meeting you do not attend at all: –1 point
  One (1) missed class meeting is excused automatically (no points taken); no formal

excuse is needed. All other missed class meetings require formal documentation to forgo the point deduction.

- For chronic lateness—
  - If you have been marked late 5 times or more: −1 point
  - If you have been marked late 10 times or more: −2 points
- Leaving class early is only acceptable if you're given free time to work on assignments. Leaving before the class is formally ended: If this happens more than once, the second and all subsequent incidents will be −0.5 point each. Special circumstances such as a job interview will be handled as excused (no penalty) unless the student is missing 30 minutes or more each time.
- For repeatedly showing inattention, e.g. checking your phone during lecture, doing non-class-related things on your laptop, or chatting socially with friends during lab: You will be warned (privately) about this. After two warnings, a third incident will be −1 point.

Grades and Grading Policies

Quizzes	15 percent
Assignments	50 percent
Presentations (2 per student)	10 percent
Final project	15 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/UGRD/academic-regulations/grades-grading-policies/

UF Dates (Spring 2024)

Classes begin	Jan. 8	MLK Jr. Day	Jan. 15 (UF holiday)
Drop/Add	Jan. 8–12	Spring Break	March 11–15
Classes end	April 24		
Final Exams	April 27–May 3		

Course Evaluations

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. Students will be notified when the evaluation period opens and can complete evaluations in their Canvas course menu under GatorEvals, or at: https://ufl.bluera.com/ufl/

Summary results of these assessments are available to students: https://gatorevals.aa.ufl.edu/public-results/

Course Schedule and Required Work

Please note that many important details are in Canvas and do not appear herein. Assigned readings, links to videos, resources, etc., are **in Canvas**. Quizzes due on Monday are based on the assigned readings in that same week.

Week 1 | Jan. 8–12
Introduction to the course. Tools, technologies and outcomes.

Week 2 | Jan. 15–19
Introduction to SQL and databases.
Introduction to XAMPP, an Apache web server that runs on your computer.

Week 3 | Jan. 22–26
SQL and databases, part 2. More advanced SQL queries; security issues; prepared statements.

Week 4 | Jan. 29–Feb. 2
Your own SQL database project.

Week 5 | Feb. 5–9
Introduction to Python. Also: The command line; Jupyter Notebooks.

Week 6 | Feb. 12–16
Introduction to web scraping with Python and the BeautifulSoup library.
Using PIP and virtual environments with Python.
Student presentations 1-A.

Week 7 | Feb. 19–23
Web scraping, part 2. More Python. Introduction to regex.
Student presentations 1-B.

Week 8 | Feb. 26–March 1
Introduction to APIs. Your own web scraping project.
Student presentations 1-C.

Week 9 | March 4–8
Creating web apps with Python; introduction to Flask, a web framework.
NICAR conference March 2–5.

Week 10 | March 11–15
Spring Break!

Week 11 | March 18–22
Flask: Basic application structure and templates.

Week 12 | March 25–29
Flask for web forms and databases.
Student presentations 2-A.

Week 13 | April 1–5
Your own Flask project.
- Final project proposal due Friday, March 29 (in Canvas)
- Peer reviews of proposals due Sunday, March 31 (in Canvas)

Student presentations 2-B.

Week 14 | April 8–12
Student's individual web project — check-in/workshop hours. Attendance counts.
Student presentations 2-C.

Week 15 | April 15–19
Student's individual web project — check-in/workshop hours. Attendance counts.

Week 16 | April 22–24
Student's individual web project — check-in/workshop hours. Attendance counts.
Workshop hours on TUESDAY ONLY.
(Wednesday: Last day of classes.)

All projects are due on Monday, April 29, at 11:59 p.m. This is the Monday of finals week. You will post your project online. Submit the URL in Canvas. Class does not meet.

Weekly topics are subject to change. Please check in Canvas for the latest updates.

A Note about Office Hours

The link below provides a grid that shows my schedule. All white cells in the grid are open for appointments. Please give me 24 hours to respond to your request, and please send your request in email. Tuesday 1–3 p.m. is *drop-in time* in person — no appointment is needed!

https://docs.google.com/spreadsheets/d/1coH020Bvzs0-GXV2dQP1B7zUUE2ma0DBRC0iXr24FRY/edit?usp=sharing

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How to Communicate with Me, Your Instructor

For *private* communications, regarding your grades, accommodations for disability, etc., please use email, meet with me in person, or schedule a meeting in Zoom.

- Email directly in our Canvas course is great.
- Email me outside Canvas at mmcadams@ufl.edu — also fine.

Make sure to read all **Announcements** posted in **Canvas.** I will use the Announcements to remind you about deadlines or any changes in class meetings, assignments, etc.

Diversity, Equity & Inclusion

The Department of Journalism in the College of Journalism and Communications embraces a commitment toward an intellectual community enriched and enhanced by diversity along a number of dimensions, including race, ethnicity and national origins, gender and gender identity, sexuality, class and religion. We expect each of our journalism courses to help foster an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society.

- If you have a name and/or set of pronouns that differ from those that appear in your official records, and you want me to know this, please tell me.
- If something was said (or written) in class — by anyone, including me — that made you feel uncomfortable, please talk to me about it.

- If you feel that your performance in the class is being affected by your experiences outside of class, please don't hesitate to tell me. I want to be a resource for you, and <mark>I'm open to discussing anything that's standing in the way of your success.</mark>
- If you would rather speak with someone outside of the course — Joanna Hernandez, the CJC director of inclusion and diversity, is an excellent resource. You can email her at: jhernandez@jou.ufl.edu

Every student and every person deserves *respect* and *fair treatment*. I expect all students to show respect toward others and treat them fairly, and I always try to do so. If I fall short, you should let me know.

Your Privacy and Class Recordings

Any student-made recording of any class meeting must comply with Florida state law:

https://www.flsenate.gov/Session/Bill/2021/233/?Tab=BillText

As in all UF courses, **unauthorized sharing,** publication or uploading to any online platform of recorded materials (or any class materials) is **prohibited.**

Only an in-class lecture may be recorded. **The law states:** "A class lecture **does not include** lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session."

The privacy of all students in the class must be respected by the instructors, teaching assistants and all other students or visitors to the class.

Additional information from UF:

http://aa.ufl.edu/policies/in-class-recording/

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