

Advanced Web Apps for Communicators

JOU 4364 | Spring 2020 | Class number 16413 | 2056 Weimer Hall
Tuesdays 11:45 a.m.–2:45 p.m. (periods 5, 6, 7)

Instructor: Mindy McAdams, Professor, Department of Journalism
Email: mmcadams@jou.ufl.edu
Office: 3049 Weimer Hall
Office hours: Wednesdays 1–3 p.m. | And by appointment
Office phone: (352) 392-8456 (NOTE: Email is better. Much better.)
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: JOU 3363 Introduction to Web Apps for Communicators

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 may be imposed. Penalties range from a warning (first offense) to grade point deductions. It is hoped you will get the most value possible out of your in-class time.

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 (see pages 12–14 especially)

> <https://sccr.dso.ufl.edu/wp-content/uploads/sites/4/2018/08/The-Orange-Book-Web.pdf>

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 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.

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 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/>

GitHub

Each student must have his or her own GitHub account.

> <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 in the first week of classes. If anything is not clear to you, ask me for clarification on or before Jan. 10, 2020. 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 all 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. **Study groups are a great idea!**

Presentations

Once 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 *at your domain* 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. There are 10 possible points, which are 10 percent of your final course grade. Everyone starts with 10 points. It’s up to you whether you lose any points. **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 (no points taken); no formal excuse is needed. Roll will be taken in class and entered into Canvas.
- 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 will not be acceptable for most weeks in this course. If you're given free time to work on assignments, you may leave as you like, but this will not be the norm. For 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, or chatting socially with friends during lab: You will be warned about this. After two warnings, a third incident will be –1 point.

Grades and Grading Policies

Quizzes	20 percent
Assignments	50 percent
Presentation (1 per student)	5 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 2020)

Classes begin	Jan. 6	MLK Jr. Day	Jan. 20
Drop/Add	Jan. 6–10	Spring Break	March 2–6
Classes end	April 22		
Final Exams	April 25–May 1		

Course Evaluations

- Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: <https://gatorevals.aa.ufl.edu/students/>
- Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals or via: <https://ufl.bluera.com/ufl/>
- Summaries of course evaluation results are available to students: <https://gatorevals.aa.ufl.edu/public-results/>

Course Schedule and Required Readings

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. 6–10

Introduction to the course. Tools, technologies and outcomes.

Week 2 | Jan. 13–17

Introduction to SQL and databases.

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

Week 3 | Jan. 20–24

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

Week 4 | Jan. 27–31

Your own SQL database project.

Week 5 | Feb. 3–7

Introduction to Python. Also: The command line; Jupyter Notebooks.

Week 6 | Feb. 10–14

Introduction to web scraping with Python and the BeautifulSoup library.

Using PIP and virtualenv.

Week 7 | Feb. 17–21

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

Week 8 | Feb. 24–28

Introduction to APIs.

Your own web scraping project. Student presentations.

Week 9 | March 2–6

Spring Break — class does not meet.

Week 10 | March 9–13

Creating web apps with Python; introduction to Flask, a web framework. Student presentations.

Week 11 | March 16–20

Flask: Basic application structure and templates. Student presentations.

Week 12 | March 23–27

Flask for web forms and databases. Student presentations.

Week 13 | March 30–April 3

Your own Flask project. Student presentations.

- Final project proposal due Friday, April 3 (in Canvas)
- Peer reviews of proposals due Sunday, April 5 (in Canvas)

Week 14 | April 6–10

Student's individual Web project — workshop hours during class period.

Week 15 | April 13–17

Student's individual Web project — workshop hours during class period.

Week 16 | April 20–22

Student's individual Web project — workshop hours during class period.

(Wednesday: Last day of classes.)

All projects are due on Monday, April 27, at 11:59 p.m. This is the Monday of finals week. You will post your project on your own website. Submit the URL in Canvas.

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