Web Apps and Coding (Special Topics)

MMC 6936 | Spring 2019 | Section 4D63 | Class number 22366 | 2050 Weimer Hall
Tuesdays 9:35–10:25 a.m. (period 3) and Thursdays 10:40 a.m.–12:35 p.m. (periods 4 and 5)

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WEBSITE: https://webappspm.wordpress.com/

Course Description

This is a new elective course for students in the professional master's program. It enables students to find out whether they like and/or have an aptitude for creating web apps and coding/programming. It provides students with sufficient understanding of how web apps are created and how coding problems are solved so that they can work effectively on teams that include coders or programmers in media organizations. In addition to HTML, CSS and JavaScript, students learn the basics of Python 3.x and self-hosted WordPress.

Prerequisite: Students must be enrolled in an on-campus master's degree program in the College of Journalism and Communications at the University of Florida.

Course Objectives

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

1. Name, list and use common HTML and CSS syntax and structures to create stand-alone web and mobile apps that are standards-compliant.
2. Use GitHub to set up and collaborate on web and mobile projects.
3. Apply algorithmic thinking to analyze a problem and construct a solution.
4. Name, list and use common JavaScript syntax and structures.
5. Create interactive quiz applications using JavaScript and HTML forms.
6. Use and adapt a web framework (Bootstrap) to create fully responsive apps that work across a variety of devices.
7. Set up and manage a domain and website.
8. Use Python 3.x to write basic programs and scrape websites.
9. Install and modify WordPress sites on a self-hosted website.
10. Add to and build on these skills by searching effectively and using online tutorials.

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. *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. If you are seen checking social media or 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 Senior Associate Dean of Graduate Studies and Research 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 Books and More

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

> *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics* (5th edition), by Jennifer Niederst Robbins (O'Reilly, 2018)
>
> It is essential that you have the FIFTH EDITION. The fourth edition was published in 2012, and much has changed since then. You should own this book.
>
> *Automate the Boring Stuff with Python,* by Al **Sweigart** (No Starch Press, 2015) https://automatetheboringstuff.com/
>
> You might be content with the online version of this book (free), but I suggest you buy an e-book or printed copy.

Most quiz questions will come directly from the books.

Web hosting

Students must acquire full-service web hosting and a personal domain name. 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.

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

Laptop

All students in this course must own a laptop they can bring to class with them. Managing files and folders is part of the workflow you will be learning, and using your own computer is key. 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, or with UF wifi, 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 re-watch some of the course videos. For this reason, please be sure to always bring headphones or earbuds to lab. Do not play audio in the lab without them.

The Flipped Classroom and Your Success

This course operates partly on the "flipped classroom" model, in which we spend much of our face-to-face time doing work (you work, and I answer your questions).

What about the lectures? Are you being cheated out of your lectures?

No, you're not missing anything. The course videos cover what I would have done in person in the old model of "Teacher talks, students listen." In the videos, I have covered most of what I would have done in face-to-face lectures — which, in this course, largely concerns teaching you how to think about and work with code.

I feel strongly that learning code practices from videos is much better than trying to learn them "live," because each of us has a different attention span for this kind of material. Sometimes you grasp a concept by seeing it once, but in other cases you'll watch a video multiple times before you really get it. Many students are able to watch many of the videos at 2x speed. I speak rather slowly in the videos.

You can't really binge these videos. Take breaks.

The videos are directly tied to the assigned readings, but they do not cover everything that is in the readings. Some students will get more out of the book, and others will get more out of the videos, but the expectation is that every student will use BOTH the book AND the videos to learn the material necessary to do well on the quizzes and assignments.

There are also video walkthroughs for the early assignments.

Many students find they learn better if they watch some of the videos *more than once*.

It is your responsibility to watch the videos *before our second class meeting each week,* so that you are prepared to begin work on that week's assignment *during* that Thursday class meeting, while the instructor is available to answer your questions.

Note: This flipped model applies for weeks 1–10 of the course, during which you're learning HTML, CSS and JavaScript. After that we will have more direct in-class instruction instead of videos.

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 and Grading Policies

Read this entire document (the syllabus) in the first week of classes. If anything is not clear to you, ask me for clarification on or before the last day of Drop/Add (Jan. 11, 2019). 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

There will be a quiz every week. Quizzes are in Canvas and are always open-book. Quizzes cover the assigned readings for the coming week. These are always listed in precise detail in the module's "Assigned readings" document in Canvas. Deadlines are in Canvas. Any quiz not submitted by the deadline is graded 0.

Assignments

There will be one assignment every week. Assignments are provided in Canvas along with exact deadlines. Each assignment is likely to require *a substantial time commitment* from the student. For most students, earlier assignments will be easier (and require less time) than assignments later in the course. Any assignment not submitted by the deadline is graded 0.

Final project

In the final weeks of the course, you will create an interactive web app. A personal online portfolio is NOT permitted as a project. The project must include programming (using JavaScript or Python) in a meaningful way (not just for the sake of having it there). The app must be of interest to a clearly defined audience. It must work well on mobile (small screens). It must allow users to make choices (not just clicking links). The topic is your choice.

Professionalism

When choosing subject matter for your later assignments and the final project, keep in mind that these projects could be included in your professional portfolio. For that reason, I strongly encourage you to avoid unprofessional topics such as "my summer vacation" and "my favorite restaurants in Orlando." You should choose topics that interest you — but they should *also* be of interest to others.

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. 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: –0.5 point
  One (1) missed class is excused (no points taken); no formal excuse is needed.
  Attendance will be recorded in Canvas, but note that Canvas does not calculate your absences in the way that determines your grade.
- 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
- For leaving the Thursday class early without having completed the assignment: You will be warned about this if your assignment grades are poor, or if you are missing assignments.
- For *repeatedly* showing inattention, e.g. checking your phone during lectures or presentations, or chatting socially with friends during lab: You will be warned about this. After two warnings, a third incident will be –1 point.

Grades

Quizzes	20 percent
Assignments	50 percent
Final project	20 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 2019)

Classes begin	Jan. 7	MLK Jr. Day	Jan. 21
Drop/Add	Jan. 7–11	Spring Break	March 2–9
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. 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 Workload

One credit hour is defined by the U.S. Department of Education as "one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester." It is entirely reasonable for a **three-credit** university course to require students to spend six to nine hours *outside* of class *each week* working on assignments, reading, etc. Elective courses — particularly professional electives,

such as this one — are not expected to require less time and might in fact require *more* time, as these electives are extending your knowledge beyond the basics taught in required courses.

For this course, you may consider the Tuesday lecture and the videos as "classroom or direct faculty instruction" (3 hours per week) and the Thursday class meeting, plus readings, quizzes and assignments, as out-of-class student work (6 to 9 hours per week).

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 every Monday are based on the assigned readings in that same week.

Week 1: Jan. 7–11

Introduction to the course. Web design and development. Tools, technologies and outcomes.
Text/code editors. Syllabus quiz.

Week 2: Jan. 14–18

Roles of HTML, CSS, JavaScript. web browsers, client/server, request/response.
Introduction to HTML: Structure, markup, images.
Introduction to **GitHub**.
Quiz 1 and Assignment 1.

Week 3: Jan. 21–25

HTML part 2: Text markup, lists, links, images as links. Relative and absolute paths/URLs. Block vs. inline elements.
Quiz 2 and Assignment 2.
MLK holiday on Monday.

Week 4: Jan. 28–Feb. 1

Introduction to CSS: Overview, selectors, colors, backgrounds, pseudo-classes.
Set up your hosted website at Reclaim Hosting.
Quiz 3 and Assignment 3.

Week 5: Feb. 4–8

CSS part 2: Margins, padding, borders, units of measurement, box model, box-sizing.
CSS flexbox (for layout).
Quiz 4 and Assignment 4.

Week 6: Feb. 11–15

CSS part 3: Introduction to CSS grid. Web fonts, including Google fonts. Em, rem and percentages. Handling typography. Introduction to responsive design.
Quiz 5 and Assignment 5.

Week 7: Feb. 18–22

Introduction to JavaScript. Using the JavaScript console. Variables, numbers and strings, Booleans and logic operators, data types, basic math, if-statements, arrays.
Introduction to **Repl.it** for working with JavaScript problems.
Quiz 6 and Assignment 6.

Week 8: Feb. 25–March 1

JavaScript part 2: Loops, functions (arguments and returns), scope of variables. Algorithmic thinking, problem breakdowns, pseudo code. Using JavaScript to write and rewrite HTML dynamically.
Introduction to **jsFiddle**.
Quiz 7 and Assignment 7.

Week 9: March 4–8

Spring Break. No classes.

Week 10: March 11–15

HTML forms; design and layout for forms and quizzes; JavaScript and forms. You will make an HTML form for a fun quiz this week, and JavaScript will handle the quiz answers.
Introduction to **Bootstrap**, a Web framework. Simplifies the whole process of making responsive pages, especially when forms are used.
Quiz 8 and Assignment 8.

Week 11: March 18–22

Custom **WordPress** on your hosted website. This week we'll explore the "cPanel" provided by most web hosting companies, install WordPress on your hosted website, and explore the architecture of a WordPress site, including CSS and PHP.
Assignment 9 (no quiz).

Week 12: March 25–29

Introduction to **Python**.
Introduction to the command line (CLI).
Install Jupyter Notebooks. Use a virtual environment.
This sounds like a lot, but much of it will be done during class.
Assignment 10 (no quiz).

Week 13: April 1–5

* * * **Project proposals** due Monday morning, April 1.
Python, part 2: Introduction to web scraping with Beautiful Soup, a Python library. Overview of Python libraries.
Assignments 11 and 12 (no quiz).

Week 14: April 8–12

Topics to be decided. This depends on the students: More Python? More WordPress? JavaScript libraries? Something else?
No assignment or quiz.

Week 15: April 15–19

* * * **Student project presentations**.
Projects aren't finished yet, but students will present to their peers.
Class topics to be decided. This depends on the students: More Python? More WordPress? JavaScript libraries? Something else?
No assignment or quiz.

Week 16: April 22–24

Class meets on Tuesday.
Classes end April 24, Wednesday, so we have no Thursday class meeting. However, I will be available for individual meetings on Friday, and probably also Thursday afternoon. Usually we have multiple long faculty meetings on this Thursday, and they are likely to end around 1 p.m.
No assignment or quiz.

Final projects are due Monday, April 29 (the Monday of finals week). They must be posted to your hosted website.