Course Syllabus

Schedule (https://canvas.uw.edu/courses/1516756/pages/course-schedule)

Syllabus (https://canvas.uw.edu/courses/1516756/assignments/syllabus)

Course Book (https://info340.github.io)

Ed Discussion (https://edstem.org/us/courses/16503/discussion)

COURSE DESCRIPTION

This course will teach you the skills and techniques necessary for creating sophisticated and accessible interactive web applications. It focuses on the client-side languages, tools, and libraries that professionals use to build the web sites you use every day. We will learn not only the basic syntax and mechanics of web development, but also the best practices that separate professional developers from amateurs. Upon completing this course, students will be able to build robust web applications, and will have the foundation for independently learning new skills in the ever-changing world of web development. This course is intense and our expectations are high, but we will make sure that everyone, including those totally new to web programming, are able to succeed.

either CSE 143, CSE 154, or CSE 163; and INFO 201

LEARNING OBJECTIVES

After completing this course, students will be able to:

- Produce web pages that are well-formed, standards-compliant, semantically rich, and universally accessible.
- Style the appearance of those pages to create intuitive, usable, and engaging experiences for human readers on different kinds of devices.
- Create interactive and feature-rich web applications leveraging existing programming frameworks, libraries, and APIs.
- Interpret software documentation in order to reuse packages, APIs, and tools for web development.
- Utilize development tools to automatically manage, implement, and validate web applications.
- Critically examine the values underlying tools, APIs, and other web technologies prior to selecting them.
- Explain how the design and implementation of web applications can shape who can and cannot access information online

COURSE STRUCTURE

As with any form of computer programming, the best way to learn web development is by doing it. Moreover, web programming is a constantly and rapidly changing discipline, so professional developers need to constantly *learn new tools and techniques on their own*.

To help you practice this web programming and independent learning, this course is offered in a mostly "flipped instruction" format. This means that all the information needed for the course is available in the **course book (https://info340.github.io/)** and in pre-recorded demo videos, rather than introduced during scheduled meeting times. Instead, meetings will be used for focused *review* activities and collaborative work time for assignments. Instead of getting information in lecture and doing assignments at home, you'll get information at home and (partially) do assignments in lecture.

This structure will help allow you to work at a pace that is comfortable for you individually, rather than requiring lectures to fit a diverse range of backgrounds (while also allowing us to adapt to changing circumstances re: COVID). We hope that it will let you more easily get more the target support you need when learning and practicing the material

However, this structure will require you to take significant responsibility for your own learning: it is up to you to read/watch the course materials, attempt the assignments, and to be willing to ask questions and seek help if there are any problems. You are accountable for your own learning—but we are here to help!

As with any form of computer programming, the best way to learn web development is by doing it. Moreover, web programming is a constantly and rapidly changing discipline, so professional developers need to constantly *learn new tools and techniques on their own*. So while this may be challenging, it is an appropriate structure for the topic.

Safety Precautions for In-Person Meetings

An important part of working to keep our community safe is the **University of Washington COVID-19 Face Covering Policy (https://www.ehs.washington.edu/system/files/resources/COVID-19-face-cover-policy.pdf)**. This policy requires all members of the UW community to wear a face covering when in the classroom or indoors space, regardless of vaccination status. Eating and drinking will not be permitted in class. Further information on COVID-19 practices and resources can be found at **https://www.washington.edu/coronavirus/ (https://www.washington.edu/coronavirus/)**

I take these safety precautions **very** seriously.

Assignments

Find complete assignment details and due dates on the **Assignments**

(https://canvas.uw.edu/courses/1516756/assignments) page.

This course will involve two types of assignments:

Problem Sets

Each topic in this course will be accompanied by a number of **practice problems**. Each problem is a directed programming exercise designed to give you practice with a particular web development concept. Problem sets are automatically graded (and you can attempt them repeatedly until all their functionality tests pass). Problem sets will be graded on a "completion" basis: you will get credit when the problem is finished and passes its tests.

Course Project

You will complete a **group project** that brings together the concepts learned through the exercises. This project will be interactive web applications of your own design—the requirements are open-ended enough to let you develop something that is of interest to and appropriate to you.

The projects will be completed *iteratively*, meaning you'll be working on it in pieces (turning in these pieces as you go). The project has 4 main deliverables:

1. The proposal: a short written description of what web application you'll be building. This will let you get feedback on your idea early to make sure you're headed in the right direction.
2. The first draft: the first thing you'll do is to create a "static mockup" of your project using HTML and CSS. This version of the project won't be interactive or have any functionality, but it will provide the complete structure and **appearance** of all the content.

   You can think of this as the "midterm" draft.

   We will evaluate and score the draft to give you feedback on how your project is going. However, this score *does NOT count towards your final grade*. You will thus be able to fix any problems or issues before turning in the project. This really is a "draft", but a significant one. Note that you will receive "completion" credit for turning in a sufficient draft by the deadline.
3. The second draft: the second draft of your project will be a conversion of your static mock-up into a React application. This will primarily be a refactoring—restructuring the code without necessarily changing what it does. Completing this draft will make sure you're ready to complete the project's functionality. This draft is thus less significant than the first.

   We'll evaluate this draft through an informal "check-in", making sure that you're on track to finish the final deliverable. This check-in will involve sharing your current work; as long as you have made some progress towards the final React version of the application you will get credit for meeting this deliverable.
4. The final product: the completed working app build using the React framework, meeting all of the requirements.

See the specific assignments for more details about each deliverable.

The project will be completed in **groups of 2-4 people**. Projects groups are required both so you can practice collaborative development and to enable this course to be taught at its given size. You can pick your own group, and we will help you find partner(s) during lab sections. Note that larger groups will need to develop larger projects.

CORRESPONDENCE

We will send out official course announcements and information by posting them as **Canvas announcements**. Please make sure you have enabled notifications so you don't miss anything!

You are welcome to email me at any time. When emailing, please **make sure to sign your emails!** This will let me know who is writing and will help us to better answer questions. *Please do not send me messages through Canvas; they tend to be hard to track and respond to!* You can also reach me on Microsoft Teams.

We will be using **Ed Discussion** for questions and help. Ed is a Q&A message board specifically designed for helping you get help fast and efficiency from both teaching staff and your classmates (and was designed for programming courses in particular!). You can find our class page at **https://edstem.org/us/courses/16503/discussion (https://edstem.org/us/courses/16503/discussion)** —you should have access through your UW account, but let me know if you have any problems. I *strongly* encourage you to use Ed to ask questions (rather than sending me an email). It will allow you to better structure questions and facilitates the kinds of back-and-forth that come up when talking about programming. This also lets you get support from all of the teaching staff as well as any of your classmakes all at once!

- Yes, this means that if you know the answer to a question, you should share that!
- Note that while you can easily post code snippets, please don't post solutions to assignments or exercises; don't deprive others of the chance to learn!
- If you need any help joining or using Ed, please let us know.

Make sure to check **this guide (https://canvas.uw.edu/courses/1434910/files/71878689/preview)** for how to most effectively ask coding questions and get helpful answers as fast as possible!

The best way to get questions answered will be on Ed. If you post a message, we will try to get back to you as soon as we can. Please be patient if we are not able to respond to any messages immediately; we may need time to get to and focus on your questions.

Official **office hours** are listed on the **home page (https://canvas.uw.edu/courses/1516756)** , but I'm also more than happy to try and schedule separate appointments at a time that works well for you if needed. Don't be shy; please ask for help if you need it. All office hours will be online over Zoom; I will not be doing in-person office hours during the pandemic.

You are NOT expected or required to learn everything on your own! The best way to learn is to ask questions. Please don't be shy or embarrassed; ask for help if you need it! We are here for you!

GRADING AND DEADLINES

Your grade in this course will depend on your completing the problem sets and project to demonstrate a satisfactory level of mastery. But honestly, grades in a course should be the *least* of your worries. Our goal is to try and reduce course stress and provide some flexibility in deadlines, as noted below.

Problem Sets

Problem sets are graded on a "completion" basis. If your exercises pass all their tests, you get full credit for that set. We'll also give partial credit if only a percentage of tests pass (as long as you turn them in).

Problem sets are due on the date listed on the **Assignments (https://canvas.uw.edu/courses/1516756/assignments)** page. However, we will provide a "grace period" for all problem sets—you can turn them in up to *3 days* late at no penalty. After that, problem sets can be turned in (through the Sunday before Finals week) for a maximum of 90% credit. These deadlines are intended to help keep you on track, while also accounting for difficulties people may have.

Project

Projects will be graded on a general rubric, assessing at a high level whether you've be able to successfully understand and apply the concepts. See the individual project specifications for details.

You are expected to complete each project deliverable by the date listed on the **Assignments (https://canvas.uw.edu/courses/1516756/assignments)** page. Note that there is no grace period for project deliverables (neither drafts nor the final version); this is to make sure we have time to grade them and give you feedback.

We also can and will provide extensions/etc. if illness or other external circumstances mean that you cannot make any of these deadlines. *But you need to let us know ahead of time!* We will be unable to make adjustments at the last minute. If you get sick, please give us a quick heads-up to let us know so we can be ready to help.

Final grades are determined based on the **iSchool Standard Grading Scheme (https://canvas.uw.edu/courses/721562/pages/ischool-standard-grading-scheme)**. Overall, I urge everyone to focus not on the grade itself but on learning what's necessary to earn high scores; the grades will follow from that.

Grading Groupwork

We grade group work (projects, etc.) *as a single assignment*: all group members receive the same score for that project—we do not grade each "part" separately.

If necessary and appropriate, we then make *adjustments* to this score for individuals based on that persons contribution to the project and demonstration of their knowledge. Group members who contribute significantly more than their fair share to the project will be given a slight bonus. Group members who contribute significantly less than their fair share—or not at all—to a project will have their scores reduced. Adjustments vary by circumstance, but as a rough heuristic:

- Contributing significantly more than your fair share: +5%
- Contributing a little less than your fair share: -5-10%
- Contributing a lot less than your fair share: -25-30%
- Not contributing: -100%. No credit for work you didn't do

We holistically evaluate group contribution based on the evidence available to us: *peer evaluation survey results* (what did your group say about your contribution), *Git commit history* (what was committed when, not just how much).

Note that we consider contribution in terms of "fair share" not an absolute amount of code. We understand that some students are able to contribute more or less than others based on a variety of factors (previous experience, time available, etc). We don't want to punish people for these circumstances—we want everyone to contribute to the best of their capability at a level that demonstrates understanding of the course material.

Thus the best way to ensure that you've contributed your fair share is to (a) contribute what you can, and (b) **communicate with your groupmates** so that you are all in agreement about what is fair. Everyone staying in touch is the best way to keep contributions from being or seeming unfair.

RESOURCES & ACCOMMODATIONS

During this time of an international health and social crisis, students are encouraged to be attentive to their needs for health and well-being (physical and mental). Beyond the present risks associated with COVID-19, individuals are also susceptible to flu, colds, or other common illnesses due to stress, overwork, and disruption of routines (diet, exercise, sleep). Caring for family and friends who are ill adds another responsibility competing for your time. Please do your best to attend to your self-care during this time.

If health-related needs are delaying you from completing coursework, please contact your instructor. For Autumn quarter, faculty in the iSchool have been encouraged to be accommodating and give deadline extensions of up to one week without any academic penalty. If you need more time, please propose a schedule to your instructor that indicates how you can return to keeping current with your assignments. Allowing extensions is entirely at the instructor’s discretion.

If your personal illness or family need is severe and will prevent you from completing the class, please let your instructor know and then contact your Academic Advisor to discuss all your options.

A number of challenges from a variety of directions can affect your ability to bring your optimal attention and energy to a course. **Student Resources (https://canvas.uw.edu/courses/1516756/external_tools/68320)** is a set of links to campus resources that UW makes available to students in trying to mitigate and cope with some of these challenges. This includes **disability accommodations**, **physical and mental health**, and **community connections** among others. If you are having any difficulties, please contact your academic advisor for support, or Health & Wellness at **http://livewill.uw.edu (http://livewell.uw.edu/)** . Furthermore, please notify the professor if you are comfortable in doing so. This will enable me to provide any resources that I may possess.

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Faculty Syllabus Guidelines and Resources. Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form available at **https://registrar.washington.edu/students/religious-accommodations-request/ (https://registrar.washington.edu/students/religious-accommodations-request/)**

I encourage **all** students having difficulty, *whatever the reason*, to consult privately with me **at any time**.

ACADEMIC CONDUCT

The **standard iSchool and UW academic policies (https://docs.google.com/document/d/1Ev3S-JeQlBauLFIEJupXuJJ2z6Ei2Ps7ofDWj0IACyE/preview)** that apply to all of our courses, apply here as well.

Diverse backgrounds, embodiments, and experiences are essential to the critical thinking endeavor at the heart of higher education. We expect you to be respectful of the many social and cultural differences among us, which may include, but are not limited to: age, cultural background, disability, ethnicity, family status, gender identity and presentation, citizenship and immigration status, national origin, race, religious and political beliefs, sex, sexual orientation, socioeconomic status, and veteran status. Please talk with me right away if you experience disrespect in this class—from any source (including teaching staff)—and I will actively work to address it.

Collaboration

The iSchool encourages and supports collaboration. The goal of this course is to learn the material—to be able to create new web-based information systems on your own. You are encouraged to utilize any available resources, including your classmates, to **learn** these skills. You are welcome to discuss exercises and problems with others, to work through challenges in pairs, to seek help if you get stuck, and to share guidance and expertise if requested. Help each other to become experts!

But "collaboration" does *not* mean just copying other people's code and trying to pass it off as your own. You can discuss problems and even work through solutions together, but the final product (the code you create and submit) should come from your own brain and your own hands.

The point of assignments is for you to learn to complete them. This includes the entire process of getting the solution—*including* the false starts, bugs, misconceptions, and mistakes—because the learning occurs in the doing. Completely apart from the ethical issues, copying a solution without understanding deprives you of the whole point of the assignment, and frankly is a waste of your time.

A good rule of thumb: **When working on an individual assignment, no other student's code should *ever* be on your computer.** Not ever shown on your screen (including as an image or screenshot), not saved to a file on your harddrive, not found in an email under your account, etc.. You can verbally talk through the code to write, but make sure you understand what and why your implementation works—and if you're not sure, ask!

- DO: Ask people (especially the professor!) for help finding and solving bugs.
- DO NOT: Let someone else type code for you.
- DO: Talk through problems sets in pairs.
- DO NOT: "Split up" problem sets so you only do half the work.
- DO: Give credit when you get help or advice from someone.
- DO NOT: Copy or adapt an assignment from a previous quarter.

Code Reuse

Although professional web developers often reuse code they find on the web, they also take the time to understand what that code is doing, customize it to their specific context, and cite the source so that they can find it again later. They "make it their own". If you want to use *a snippet* of code you find on the web, you **MUST** do the following:

1. Include a reference to where you found the code (a URL in a comment is fine). Including more than a line or two of un-cited code, or otherwise failing to give appropriate credit, is a form of plagiarism and so is considered cheating.
2. Take the time to understand how and why the code works (otherwise you aren't actually learning anything!). Adding detailed comments explaining what the code does *in your own words* is a good way to demonstrate that you actually understand it.
3. Make the code your own; do not just copy and paste it directly into your project. Choose exactly what pieces of a sample are necessary for your work (you usually don't need everything). Adjust variable and function names so they are appropriate for your situation. Ensure that the code matches the style and usage guidelines required for the class.

This course is about learning web development; you won't learn anything from just copying other people's code—even if the final product "works". It's fine to learn from other sources, just be honest about it.

It is **not acceptable** to implement your projects using any pre-defined templates (e.g., in which you just fill in the content), following a tutorial verbatim, or using other similar "pre-built" work. The projects you submit should be entirely implemented by you. You are welcome to get *design* ideas from other sources or look up how to achieve specific effects, but the entire page or app needs to be coded by you, not by someone else. If you include more than 1 line of code from another source, you must include an appropriate citation. **You will not receive credit for code you do not write yourself**.

Academic Honesty

The consequences of academic dishonesty are not worth the risks. The simple rule is: do not claim anyone else's work, code, words, or ideas as your own. If you're in doubt, come talk to me **in advance**.

If we determine that you violated the collaboration policy and plagiarized code, you will get an **automatic zero** on the assignment, and will force us to file an academic misconduct report with the Associate Dean of Academics. Note that both students will be considered to be at fault in the case of unauthorized code sharing.

If you're having problems in the course, come and speak with me; never take the shortcut of copying someone else's work. It isn't worth it.

Course Summary:

Date	Details	Due
Fri Jan 7, 2022	Problem Set 01 (https://canvas.uw.edu/courses/1516756/assignments/6873094)	due by 11:59pm
Wed Jan 12, 2022	Problem Set 02 (https://canvas.uw.edu/courses/1516756/assignments/6873095)	due by 11:59pm
Fri Jan 14, 2022	Project: Topic Proposal (https://canvas.uw.edu/courses/1516756/assignments/6873109)	due by 10pm
Wed Jan 19, 2022	Problem Set 03 (https://canvas.uw.edu/courses/1516756/assignments/6873096)	due by 11:59pm
Wed Jan 26, 2022	Problem Set 04 (https://canvas.uw.edu/courses/1516756/assignments/6873097)	due by 11:59pm
Wed Feb 2, 2022	Problem Set 05 (https://canvas.uw.edu/courses/1516756/assignments/6873098)	due by 11:59pm

Date	Details	Due
Fri Feb 4, 2022	Project: Draft 1 (Static Mock-Up) (https://canvas.uw.edu/courses/1516756/assignments/6873106)	due by 10pm
Fri Feb 11, 2022	Problem Set 06 (https://canvas.uw.edu/courses/1516756/assignments/6873099)	due by 11:59pm
Wed Feb 23, 2022	Problem Set 07 (https://canvas.uw.edu/courses/1516756/assignments/6873100)	due by 11:59pm
Mon Feb 28, 2022	Project: Draft 2 (React) (https://canvas.uw.edu/courses/1516756/assignments/6873107)	due by 10pm
Wed Mar 2, 2022	Problem Set 08 (https://canvas.uw.edu/courses/1516756/assignments/6873101)	due by 11:59pm
Wed Mar 9, 2022	Problem Set 09 (https://canvas.uw.edu/courses/1516756/assignments/6873102)	due by 11:59pm
Mon Mar 14, 2022	Project: Complete Web App (https://canvas.uw.edu/courses/1516756/assignments/6873104)	due by 10pm
	Project contribution (https://canvas.uw.edu/courses/1516756/assignments/6873105)	
	Project draft delivered (https://canvas.uw.edu/courses/1516756/assignments/6873108)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434469&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434473&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434474&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?	

Date	Details	Due
	event_id=2434475&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434478&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434479&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434480&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434481&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434482&include_contexts=course_1516756)	
	Section B Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434483&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434464&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434465&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434466&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434467&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?	

Date	Details	Due
	event_id=2434468&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434470&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434471&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434472&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434476&include_contexts=course_1516756)	
	Section C Lab Meeting (https://canvas.uw.edu/calendar?event_id=2434477&include_contexts=course_1516756)	