

CS193C: Client-Side Internet Technology

Dr. Patrick Young

Summer 2020

Welcome to CS193C. This class will focus on client-side Internet technology including HTML, Cascading Style Sheets, JavaScript, and AJAX. We will also briefly discuss website design and use of graphics and multimedia on the web and take a brief look at some popular JavaScript related packages such as jQuery, React, Angular and Node.js.

Expectations

This class will be an introduction to client-side Internet technology. While students should have prior programming experience (more on that below), we have no expectation of prior web development experience.

The only prerequisite for the class is CS106A and I will focus the material for an audience who only have a quarter or two of programming under their belt. If you're coming in with Beginning or Beginning-Intermediate levels of JavaScript programming, you'll probably still get a lot out of the class. However, if you're looking for a class to push your Intermediate-Advanced level abilities to the Advanced level, this isn't the right class for you. There is a more advanced class on the books, CS193X, but unfortunately it's not currently being offered.

You should expect to come out of this class with a solid foundation in HTML, CSS, DOM, and JavaScript. This class will put you in very good position if you get an internship using client-side programming. It will also put you in good position to go off and learn more advanced technologies such as Angular, Vue, or React.

While we will briefly touch on Angular, React, Node, and MongoDB, I discussed the curriculum with various members of Stanford's industrial affiliates groups when jQuery become popular and asked if I should switch the class to focus on it. They urged me to focus on the fundamentals of vanilla JavaScript, rather than going off and teaching the current hot new framework. We're going to stick with their advice in the era of React, Angular, and Vue.

The prerequisite for this class is either Stanford CS106A, a quarter of college-level programming from another university, or a year of high-school-level programming. If you've only had the minimum prereq, and you did well in that class, you'll probably be fine. If you've only had the minimum prereq and did only okay in that class, or if you did poorly, this class may be a bit too much of a stretch for you.

Changes for Summer 2020

As you all know, we are not meeting in person this summer. Last summer's course was videotaped and posted online for the Stanford Center for Professional Development (SCPD). SCPD allows professionals from around the world to take Stanford Engineering courses.

We will be reposting the Summer 2019 videos. This will give all of you the same experience that last summer's SCPD students received.

SCPD will be posting two videos each week. My understanding is that they will go up by Monday and that both the videos for the week will go up simultaneously.

I've increased your late allowances from 3 late days to 5 late days. You should use these for any circumstances that come up, including illness, family emergencies, etc.

I've expanded exam times to 24-hour periods. This will make the exams easier, but should also reduce any discrepancies between students living situations.

Course Staff & Office Hours

Lecturer: Dr. Patrick Young
Gates 194
Office Hours: check Canvas
E-Mail: patrick.young @

Please do **not** leave me voice mail—use e-mail or post on Piazza instead.

Teaching Assistants: Julia Belk (jbelk)
Sharon Zhou (sharonz)

All email addresses are at stanford.edu, however, using the Piazza bulletin board system is the fastest way to get class help, as all of us will be monitoring it regularly. If in doubt on whether or not your post is relevant or appropriate for other class members, you may post a private message on Piazza.

Office Hours will start second week of the quarter and will be posted on Canvas (Stanford's Course and Learning Management System). They may change from week to week, so do check Canvas regularly for updates.

I'll send out a separate announcement with office hour logistics after the TAs and I work them out.

Grading

Midterm	30%
Final Quiz	10%
5 Homework Assignments	60% (at 12% each)

Course Assignments

Late Policy

Assignments turned in late will be penalized 10% for each day that has passed since the original due date. No assignment may be turned in more than a week after its original due date and no assignments will be accepted after 11:59pm the evening of Thursday August 13th.

I realize that you do have other classes and other responsibilities. Therefore, you will be given a late allowance of late days that can be used to excuse late assignments. Due to Covid and other problems that students don't normally have I am increasing the allowance to five. You are expected to use these for any problems that come up, such as getting sick, or other emergencies.

This allowance may be used for a single assignment or it may be divided for use on multiple assignments. For example, if you turn in one assignment five days late, you've just used up your entire late allowance. However, if instead you turn in the assignment two days late you still have an additional three late days which you can use for another assignment. To take advantage of a late day, simply submit your assignment late on Canvas, no need to notify us.

Please remember that you are working under the Stanford Honor Code. If you are working on a late assignment you must not discuss the assignment with other students and you may not look at any published solutions until after the assignment is turned in.

Collaboration

All of the assignments should be done alone. The official policy on how much collaboration is allowed on the assignments is specified in a separate handout entitled "Computer Science and the Stanford Honor Code". Please make sure you read it.

Editors

A number of editors exist for editing HTML, CSS, and JavaScript source code. You should be using a Text Editor and may not use a WYSIWYG (What You See is What You Get) editor such as Dreamweaver.

Recommended Basic Text Editors are:

Windows: Notepad++
Macintosh: BBEdit, TextWrangler

In addition, if you're interested in using a more full featured professional text editor, you may want to consider using:

Visual Studio Code
Sublime
Atom

these are all available for Windows, Macintosh, and Linux. My personal preference is Visual Studio Code.

Exams

The midterm will be Thursday, August 6th 1:30pm to Friday August 7th 1:30pm. While you will be given 24-hours the exam should take 3 hours to complete. The midterm will focus on programming and the actual practice of getting a JavaScript-enhanced webpage working. In place of a final we will have a final quiz worth 10% of your final grade. This quiz is scheduled for Friday, August 14th at 3:30pm, you will have 24-hours to complete and submit it – it will be

relatively short and should take under an hour to complete. The final quiz will focus on theory and terminology as well as material covered after the midterm.

Incomplete Policy

If you have a serious medical or family emergency and cannot complete the work in this course, you may contact me to request an incomplete. I reserve incompletes only for emergencies, so I do not grant incomplete grades for poor performance on the assignments or exams, nor do I offer incompletes for busy work schedules.

In order to be eligible for an incomplete, you must have completed all of the assignments (with the possible exception of the most-recently-due assignment) and must have shown satisfactory academic progress in the class.

Software

Unfortunately different World Wide Web browsers treat both HTML and JavaScript differently. In order to get you used to testing on and supporting multiple web browsers, we will have you use Chrome and Firefox. Please get the latest (non-beta) versions of these browsers.

Course Materials

Web references will generally be sufficient to learn Client-Side Programming. I will be providing links to relevant resources on Piazza.

If you're looking for more extensive material, in general, I recommend the O'Reilly Media books. Stanford has a license providing access to online-versions of O'Reilly books. For computers on the campus network, they can be accessed from:

<http://proquest.safaribooksonline.com/>

Please note that our license only provides for an extremely limited number of users who can access these online books from Stanford simultaneously. It is very possible to try to access these books and get a message that there are already too many users simultaneously accessing them and that your access will be blocked until one of the other users stops using the website.

Information on off campus access can be found here:

<https://library.stanford.edu/using/connecting-campus>

The Class Web Site

We will be using Stanford's Canvas system in place of a traditional website:

<https://canvas.stanford.edu/>

Piazza Discussion System

We will be using the Piazza online discussion system. Signup for Piazza at:

<https://piazza.com/stanford/summer2020/cs193c>

Tentative Class Schedule

This is a tentative class schedule. Note that most homework assignments were due Thursday before the actual lecture time (1:30pm) and I've kept that to reduce confusion with what you may hear me say in the videos, however homework 4 was (and still is) due on Tuesday at 1:30pm.

Lecture 1: Introduction & Basic HTML and CSS (Week 1, June 22, Lecture A)

Lecture 2: HTML & CSS (Lecture B)

Lecture 3: More HTML & CSS (Week 2, June 29, Lecture A)

July 4 Holiday

The second lecture for Week 2 fell on July 4th, therefore there is only one lecture for this week.

Lecture 4: HTML, CSS, JavaScript (Week 3, July 6, Lecture A)

Assignment 1 Due July 9th at 1:30pm Pacific Daylight Time (PDT)

Lecture 5: JavaScript & DOM (Lecture B)

Lecture 6: JavaScript Events (Week 4, July 13, Lecture A)

Assignment 2 Due July 16th at 1:30pm PDT

Lecture 7: Exploring JavaScript (Lecture B)

Lecture 8: AJAX and Fetch, JSON and XML (Week 5, July 20, Lecture A)

Assignment 3 Due July 23rd at 1:30pm PDT

Lecture 9: JavaScript and Functional Programming, Asynchronous Programming and the Event Loop (Lecture B)

Lecture 10: JavaScript and Object-Oriented Programming (Week 6, July 27, Lecture A)

Lecture 11: Website Design, High-Performance Websites (Lecture B)

Week 7, August 3

This week we had a midterm instead of the first lecture. The Midterm was only 3 hours, but I've expanded it to a full 24-hour period. I've also pushed it back to Thursday to give some recovery time from finishing Assignment 4 which is the hardest of the quarter. The midterm does not depend on the Lecture 12 material.

Assignment 4 Due August 4th at 1:30pm PDT

Midterm will be Posted on August 6th at 1:30pm PDT you will have 24 hours to complete and submit.

Lecture 12: Node.js and MongoDB (Sole Lecture for Week 7)

Lecture 13: JQuery, Twitter Bootstrap, Angular.js, ReactJS ... (Week 8, August 10, Sole Lecture)

Assignment 5 Due August 12th at 11:59pm PDT

The second lecture slot was used as a study day, so no second lecture this week.

Final will be Posted on August 14th at 3:30pm PDT you will have 24 hours to complete and submit.

The Stanford Honor Code

The standard of academic conduct for Stanford students is as follows:

- A. The Honor Code is an undertaking of the students, individually and collectively:
 - (1) that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
 - (2) that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
- B. The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate Honor Code.
- C. While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.