# MPCS 52553 - Web Development

**Course Description**

This course provides students with an introduction to web application development. The primary focus of the course is on front-end development: modern HTML5/CSS3/ES6 coding and frameworks. The course also spends some time surveying server-side technologies, but it's not a primary focus.

This is primarily a flipped course, with 1-2 hours of video to digest each week, plus a 60-90 minute interactive class session. Zoom breakouts will be used during the class sessions to enable students to collaborate on various challenges.

We will also rely on Slack (or Ed) for class communication between lectures, and office hours will all be remotely held on Zoom.

**Course Contents**

- Fundamentals of HTML5, CSS3, and JavaScript/ES6 for front-end programming
- Visual design, accessibility requirements, and assistive technologies
- Mobile website development
- Front-end frameworks such as Bootstrap and React
- Connecting to JSON web services and cloud-based data storage
- Debugging tools and techniques
- Essentials of HTTP 1.1 and 2.0
- Server-Side Frameworks (briefly): Node, Flask and Ruby on Rails
- Coursework

Students will be expected to complete weekly homework assignments and a final project. Projects must be chosen from a provided list of "project templates." Students can also propose a personal project subject to approval and equivalence with the standard project requirements.

**Recommended Textbooks**

($12) "Heck Yes CSS": https://wizardzines.com/zines/css/, Julia Evans, 2020
(Free online) MDN Online Reference: https://developer.mozilla.org/en-US/

**Grading Policy**

Grades are not curved in this class. I use a standard set of grade boundaries:

| | |
|---|---|
| 95-100: | A |
| 90-94: | A- |
| 85-89: | B+ |
| 80-84: | B |
| 75-79: | B- |
| 70-74: | C+ |
| < 70: | Dealt with on a case-by-case basis. |

**Tentative Weekly Schedule**

WEEK 1: HTML5: semantic markup, elements, attributes, and the DOM
CSS3: Fonts, colors, borders, ids, classes, and the box model

WEEK 2: CSS3: CSS3: Modern Layouts with border-box, flexbox
HTML5 Accessibility: font and color contrast requirements

WEEK 3: CSS3 media queries, mobile-first design, frameworks
ES6: Functions, callbacks, event handling

WEEK 4: ES6: DOM manipulation, timers, asynchronous functions
HTML5: Forms, audio, and video
HTTP: Request-response basics

WEEK 5: HTML5: Accessibility audits
ES6: Cloud-based APIs, CORS restrictions, page state

WEEK 6: ES6: advanced syntax
React, part 1

WEEK 7: React, part 2

WEEK 8: React, part 3

WEEK 9: Wrap-up session