CSC 47300 – Web Design

Department of Computer Science, City College of New York
Fall, 2022

Instructor: Kwame Agyemang Baffour
Lecture: Thursday 6:30-9:00 p.m (online)

Office Hours: Thursday 5:00 – 6:00 pm (online)
Grading: Letter Grade

Course Description

The design and implementation of websites from a Human-Computer Interaction viewpoint, with emphasis on user testing. Navigation design. Accessibility by persons with limitations in vision or motor ability is stressed and must be addressed in the final project.

Course Aims and Outcomes

Aims

As a result of participating in this course, students will gain knowledge on HTML, CSS, JavaScript, React, Node and be able to build responsive and functional websites and applications.

Specific Learning Outcomes

By the end of this course, students will be well-versed in the fundamentals of web application development. Emphasis is placed on developing a foundation in plain HTML, CSS, and JavaScript, including knowledge of their historical revisions and browser adoption of their latest versions. Building on this foundation, client-side JavaScript frameworks are introduced; students will learn the concepts, syntax, and benefits of frameworks such as React. By the completion of the course, students will be able to develop a client-side web application utilizing third-party data APIs and discuss the benefits of various architectures and design patterns.

Note

This course will require extensive programming in JavaScript as well as other technologies. This is a CS course, not a graphic design course with a significant component of server-side programming. You are expected to use many technologies such as HTML, CSS, Javascript, React, JSON, SQL, and many APIs. There is nowhere near enough time to give in-depth instruction for every tool you may need. The course will be more of a tour with pointers to deeper dive into the material. You will be expected to do a significant independent study. While challenging, comfort with these skills is in great demand in the workplace.

Assumptions

This course has no prerequisite courses; however, students are expected to be proficient in general programming principles and able to code in at least one language. Such experience will ensure that students are able to expediently learn new programming languages as they are introduced in this course.

No web development experience is required; this course assumes that students do not have any prior knowledge of the subject matter. It may be helpful, but is not required, to take a course on databases before this course.

Note that this is not a web *design* course. Presentation is covered and general design tools will be discussed, but the emphasis is on application programming using the web as a platform.

Course Requirements

Class attendance and participation policy

Attendance is not a graded component of this class, though students are encouraged to attend all lectures to fully benefit from the delivered lectures and peer discussion.

Course readings

In adhering to "real-world" industry norms, this class does not have any required texts, as all course material can be obtained through various free

online resources. However, various readings will be recommended during the course of this class and will likely be helpful to student learning.

Grades

This course will be graded as follows:

Project - 50%

Homework -20%

Mid-term (mode: TBD) – 15%

Project Presentation (mode: TBD) -15%

Homework

All homework should be uploaded on Github. The homework should also be hosted on any free web hosting site and the links put in the GitHub repository. Links to the Github should be sent via blackboard.

Project

Your project must solve a real or "realistic" business problem. That doesn't mean it has to be a business-oriented project, it could be a game. It just means that you need to create something that addresses a problem that people have in the world, using a web application/service. The projects could be of social value, or games.
You will participate in a group project (2 students in a group) to build a functioning responsive website. Your individual participation in this project will be measured by the number and quality of the code/documentation you write as measured by the version control system. If it is not clear from the version control system and the issue tracker what you contributed it will be assumed your team-mates did all the work (you will not get credit).
Each group will also be assessed at the end of the semester through a project presentation.

References

The following are some of the references for the course:
• Mozilla Developer Network

• FreeCodeCamp (Responsive Web Design, Javascript and DS, JS FrontEnd Libraries (React)
• HTML & CSS from Shayhowe
• State of Javascript
• Will Stern's LearnCode.academy great overview of the web dev field Web Development 2018 - The Must-Know Tech
• Brad Traversy's Traversy Media has another great reference to what we are going to go through Web Development In 2019 - A Practical Guide
• The New Boston Youtube Channel
• Scrimba
• Flexbox Froggy
• CS 50's Web Programming with Python and JavaScript

Software Required The official programming language for the course is Javascript.
You will need:
• A text editor Visual Studio Code, Atom, or any good text editor
• Install git
• Install node, npm and yarn (many npm packages)
• Browser: Google Chrome, Firefox Developer Edition

Tentative Course Schedule

May change to accommodate student needs.

Week 1 – HTML

Week 2 to Week 4 – CSS/Bootstrap/CSS preprocessors/Git

Week 5 to Week 8 – JavaScript /API's

Week 9 to Week 12- React

Week 13 to Week 15- Node

Collaboration and Academic Integrity

It is acceptable, even encouraged to form study groups and collaborate in understanding homework problems, and preparing for exams. However, all the work on homework and projects should be your own work exclusively.