Course Syllabus

CSCI 39548 - Practical Web Development Fall 2025

Instructor: Kwame Agyemang Baffour
Email: kbaffour@gradcenter.cuny.edu

Time: Mondays 5:30 PM - 8:00 PM (Online synchronous)

Zoom Link:
https://us02web.zoom.us/j/3097306817?pwd=lqTzHe2mX84zOJcjggDd674yGptAeb.1
Office Hours: Upon request (kbaffour@gradcenter.cuny.edu)
Grading: Letter Grade

COURSE DESCRIPTION

This course introduces students to some of the popular technologies and tools used for full-stack web development. The goal is to offer an opportunity for Computer Science students to: build their online portfolios; practice working collaboratively with peers on the same codebase; and learn about tools for full-stack web development, so that they continue to work on personal projects after completion of the course.

TOPICS

- How to work collaboratively using Git and GitHub
- JavaScript, HTML, and Document Object Model (DOM) manipulation
- React
- Making external Application Programming Interface (API) requests
- Node.js
- Express and MongoDB

LEARNING OBJECTIVES

By the end of this course, students should:

- Be able to build end-to-end full-stack web applications
- Have acquired hands-on experience in modern web development technologies, including React, Node.js, Express, and MongoDB
- Be able to implement APIs and create databases for storing and retrieving data
- Have gained expertise in managing source code using Git and GitHub

TEXTBOOK

None

HOMEWORK

All homework should be uploaded on Github. The homework should also be hosted on any free web hosting site. Send the instructor a link to your hosted application.

FINAL PROJECT

Your project should aim to solve a real life problem or provide some significant value. That doesn't always imply it needs to be a project focused on business; it may be a game. It simply means that you must develop a web application or service that solves a problem that exists in the world. For inspiration, take a look around your environment, school, etc and consider any problems that can be solved or any processes that can be re-engineered utilizing knowledge from this course.

You will take part in a group project to create a working responsive website (maximum 4 students per group). Your individual participation in this project will be measured by the number and quality of the code you write as measured by the version control system. If the issue tracker and version control system do not make it apparent what you provided, it will be presumed that you did not participate in the activity.
Each group will also be assessed at the end of the semester through a project presentation.

A github repository should be created for the project and named as the project. The instructor should be sent an invite to view the project repository.

Project Milestones and Deliverables
Each group would be required to submit a proposal indicating project deliverables, timeline and milestones.

Midterm
The midterm would be organized as a sort of peer review. Each group will be assigned another group’s project, and asked to review the current status of the web application, outstanding deliverables and suggest improvements and changes.

GRADING

Assignments and Final Project can be done in groups (maximum 4 students per group). Working in groups is strongly recommended and encouraged so that students can learn to work collaboratively.

Attendance - 5%

Homework - 40%

Midterm Project -10%

Prototype of Project using Figma, Adobe XD, etc -10%

Final Project - 35%

COURSE SCHEDULE

May change to accommodate student needs or based on other factors as needed.

Week	Content	Readings	Task
1	Introduction to the Web, Internet, HTTP Git, Github	Fullstack part0 APIs & Client-side rendering | Full Stack Decal https://cs50.harvard.edu/web/2020/notes/0/	Lab on Git and Github Learn Git In 15 Minutes Learn Github in 20 Minutes
2	Introduction to HTML Containerization with Docker Deploy docker container to Google Cloud	Lesson 1 - HTML | Full Stack Decal	
3	CSS, Selectors, Specificity,	https://www.teaching-materials.org/htmlcss-2day/class1#/ https://www.teaching-materials.org/htmlcss-2day/class2#	Homework 1
4	Box Model, Positioning, Responsive CSS	https://fullstackdecal.com/docs/Lessons/Lesson4 Learn CSS Position In 9 Mi…	Homework 2
5	Flexbox, Grid	Lesson 2 - Introduction to CSS | Full Stack Decal Lecture 0 - CS50's Web Programming with Python and JavaScript	Project Proposals due Include a adobe/figma/etc file for your final project- due at midterm
6	Tailwind CSS Bootstrap		

Week	Content	Readings	Task
7	Javascript	Lesson 4 - JavaScript 1: Basic JavaScript | Full Stack Decal	Homework 3 Reading Assignment: Learn JavaScript for free - 9-hour interactive tutorial
8	JavaScript DOM JS ES 6	Lesson 5 - JavaScript 2: DOM | Full Stack Decal	
9	Javascript Async, Promises, Callbacks Making API requests	https://javascript.info/	
10	NPM Node	Lesson 7 - Node.js, NPM, and Yarn | Full Stack Decal	
11			
12	Express and MongoDB	Lesson 13 - Express and MongoDB | Full Stack Decal	Homework 5:Building a Simple CRUD app with Node, Express, and MongoDB | Zell Liew
	Express and MongoDB	Lesson 13 - Express and MongoDB | Full Stack Decal	
13	SPA with React	Fullstack part1 | Introduction to React	
14	SPA with React- components, props, states, useEffect	Lesson 8 - React 1: Intro to React, Props, and State | Full Stack Decal	Homework 4
15	Final presentations		

HUNTER POLICIES

Policy on Academic Integrity: Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The

College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

ADA Compliance: In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/ or Learning) consult the Office of AccessABILITY located in Room E1124 to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/TTY (212-650-3230).

Hunter College Policy on Sexual Misconduct: In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY- sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
- All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123. CUNY Policy on Sexual Misconduct Link: http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14- withlinks.pdf