Intro to Web Development

Tandon School of Engineering of New York University
Technology, Culture + Society | Integrated Digital Media
DM-UY 2193 Section D | Spring 2021

January 28 - May 10
Tuesday + Thursday 2 - 3:50pm
IDM - 370 Jay Street, 3rd Floor, room 307 + ONLINE

Course Website: https://github.com/IDMNYU/webDev_D_Spring2021
Course Wiki: https://github.com/IDMNYU/webDev_D_Spring2021/wiki
Course Discord: https://discord.gg/X4WRS7AyUd

Professor: rebecca (marks) leopold
Contact: rebleo@nyu.edu
Office hours: Online by appointment. Please schedule with me at least 24 hours in advance.

Course Pe-requisites:

Basic computer knowledge. Familiarity with programming is preferred but not required.

Course Description:

This course is an introduction to viewer (client) side programming. The semester is scheduled in sequence to enable incremental understanding and application of best practices for authoring the web. This course will provide a basic understanding of the methods and techniques of developing a simple to moderately complex front end site. Students will create and maintain websites that take into consideration aesthetic quality, user experience and technical expertise. Participants will explore granular techniques for design and programming using: HTML5, CSS3, EcmaScript6 and various external libraries.

IDM Program Learning Objectives:

Students will:

1. Develop conceptual thinking skills to generate ideas and content in order to solve problems or create opportunities.

2. Develop technical skills to realize their ideas.

3. Develop critical thinking skills that will allow them to analyze and position their work within cultural, historic, aesthetic, economic + technological contexts.

4. Gain knowledge of professional practices and organizations by developing their verbal, visual, and written communication for documentation and presentation, exhibition and promotion, networking + career preparation.

5. Develop collaboration skills to actively and effectively work in a team or group.

Course Objectives:

* Web Development Workflow Including Command Line Tools
* User Interface (UI) / User Experience (UX)
* HTML5 / CSS3
* The Responsive Web (flexible media & media queries)
* EcmaScript 6
* CSS + EcmaScript Libraries: Bootstrap, Materialize, etc.

Student Learning Outcomes:

By the end of the course, students will be able to:

1. Design, build, and develop content for a professional-quality website
2. Understand + implement the iterative process - including maintaining + adding to an existing site
3. Learn how to proactively learn + use the web to research open source tools + documentation
4. Create an internal developer / creative community

Course Structure:

Class time will be spent as a combination of lecture, discussion, in class exercises, group work, critique + student presentations. Homework will consist of weekly projects that ask students to respond to readings, thinking critically about the cultural implications of networked technologies while building on each week's technical material. After week two - students should expect to build and publish a **new web page every week** in response to the technical and conceptual material.

Course Modality:

This will be a blended synchronous class with many students learning remotely. Class meetings will be recorded in the event a students is unable to attend synchronously. We have a dedicated Discord server where students can share resources, ask each other questions and give feedback on work asynchronously. Students should be prepared to host their own Zoom sessions outside of class to complete pair or group projects. All students should expect to attend class via Zoom and in-person students should remember to bring headphones to class. Due to Covid protocols and student desire - we may not always meet on campus. Best to be flexible - there is a light at the end of this tunnel!

Course Materials:

- Students will need a laptop (or desktop) for class (if this is an issue, please come talk to me).
- Text editing software - VCS, Atom, Sublime
- Web Browser: Chrome or Firefox
- Command Line + Unix shell - Mac Terminal or Windows Power Shell
- A Github Account + Git

Research + Resources (or the class repo):

All materials for this class are open source + can be accessed via the web. Regular updates to the class repo will contain starter code gone over during class as well as links to further technical reading (or watching). There will likely be more resources than you could possibly research + implement each week. The idea is to point students to a wide array of resources with an emphasis on the most modern + concise online documentation. Pick and choose what is of most interest to you - the repo is a jumping off point for your own research + you can always return back to a week to catch up on

missed material. Later in the semester students will be responsible for citing + discussing their research methods and discoveries with the class.

"Share" (or the class wiki):

The class wiki - is where the rest of the syllabus including in-class and homework assignments will be found. To turn in your homework you should add a link to your work weekly using [Markdown](https://www.markdownguide.org/). You are required to post on the wiki. To contribute to the wiki you must set up a [Github](http://www.github.com) account.

Readings:

Readings will be assigned weekly and can be accessed from the class wiki.

Grading + Attendance Policy:

Class Participation (20% of grade): Please arrive on time having completed the assignments. Participation in class discussions and peer feedback are not only expected, but will be reflected in your grade.

Weekly Design + Technical Exercises (20% of grade): will be executed through the semester by following in class demonstrations, online tutorials and assigned readings. These exercises will be essential for learning markup and coding and to successfully complete more complex projects.

Class Site for Documentation + Reflection (15% of grade):

Students will be expected to document their work, write reading and personal reflections on a website built for + during class using [Github pages](https://pages.github.com/). We will build this site together incrementally during the first few weeks, following assignments + projects are to be added + linked to throughout the semester.

Midterm Project (20% of grade)

The midterm assignment will be a project that demonstrates a working knowledge of HTML and CSS elements. This project must be completed, published + presented in class.

Final Project (25% of grade)

Class will culminate with final projects. It is expected that these will be both technology and content driven. The final project will be built over the course of several weeks. This project must be completed, published + presented in class.

Qualitative Grading Overview

A. Excellent (90-100)

Performance, participation, and attendance of the student has been of the highest level, showing sustained excellence in meeting course responsibilities. Work clearly differentiates itself from other work, has memorable impact, pursues concepts and techniques above and beyond what is discussed in class. The student thoroughly understands the web design and development process.

B. Very Good / Good (80-89)

Performance, participation, and attendance of the student has been good, though not of the highest level. Work demonstrates a better than average web design and development process.

C. Satisfactory (70-79)

Performance and attendance of the student has been adequate, satisfactorily meeting the course requirements. Work is average and competent, showing a basic understanding of the web design and development process.

D. Poor; Below Average (60-69)

Performance and attendance of the student has been less than adequate. Work is lacking in many or most areas that show any understanding of visual foundation. Problems may include lack of interest, procrastination, poor planning and poor craft.

F. Unacceptable (59 & Below)

Performance and attendance of the student has been such that course requirements have not been met. Work shows no overall understanding of the course material on many levels or either a severe lack of interest.

Academic Accommodations:

If you are student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at http://www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 2nd floor.

Illness and Excused Absence Statement:

If you are experiencing an illness or any other situation that might affect your academic performance in a class, please email Deanna Rayment, Coordinator of Student Advocacy, Compliance and Student Affairs: deanna.rayment@nyu.edu. Deanna can reach out to your instructors on your behalf when warranted.

Inclusion Statement:

The NYU Tandon School values an inclusive and equitable environment for all our students. I hope to foster a sense of community in this class and consider it a place where individuals of all backgrounds, beliefs, ethnicities, national origins, gender identities, sexual orientations, religious and political affiliations, and abilities will be treated with respect. It is my intent that all students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. If this standard is not being upheld, please feel free to speak with me.

Weekly Schedule:

**** Note - the following schedule is an outline, subject + likely to change. After the first week please refer to the class repo + wiki.**

 Part 1 - Introduction to the (local) Web (dev workflow)

Week 1 - Intro to Class

* Intro to Course
* What is the web?
* Intro to GitHub

Assignment:

1. Sign up for Github + email me yr username. Download + install the requisite software.
2. Reading: John Berger - Ways of Seeing episodes 1, 2, 3, 4 (approx 1 hour 45 minutes), 1972. Take notes. Be prepared to talk about the text in class next week and to prepare a website response the following week.
    * https://www.youtube.com/watch?v=0pDE4VX_9Kk
    * https://www.youtube.com/watch?v=m1GI8mNU5Sg
    * https://www.youtube.com/watch?v=Z7wi8jd7aC4
    * https://www.youtube.com/watch?v=5jTUebm73IY

Week 2 - Ways of Seeing

* Intro to Unix + the Command Line
* Intro to HTML - txt + image
* Learning Github

In Class Exercise:

* Learning Unix - Clean the Fridge

Assignment For Thursday:

* Craft a response to the "text." Do not simply summarize what you saw, instead tell us your thoughts. Did a moment jump out at or resonate with you? Did you disagree with something? Did it make you think of something you hadn't thought previously? This shouldn't be a "written" response. With the bit of HTML you now know - using image, text (or sound or video) and hyperlinks to create a "poster" for your interpretation of *Ways of Seeing*. If you've done any web programming before - show us what you know. And most importantly: be creative!

Thursday February 4

Class Site Workshop:

* Installing Git
* Setting up class site w/ Github Pages
* Creating + cloning a repo to publish finished work

 Part 2 - Interaction Design for the Web w/ CSS

Week 3 - Intro to CSS

* Design Thinking Student Presentations - Your presentation must be created in HTML + CSS

Week 4 - HTML Box Model + CSS Positioning

* No class Thursday February 16th - NYU on a Monday schedule

Assignment:

Reading + Website Prompt: net.art

Week 5 - Responsive Web Design

* CSS Flexbox + Grids

Assignment:

Reading + Website Prompt: Gee Debord

Week 6 - CSS Animation

* Midterm Project Proposals + User Testing

Week 7 - Midterm Project Presentations

 Part 3 - Programming in the Browser

Week 8 - Intro to JavaScript + the DOM

Assignment:

Reading + Website Prompt: Marshall McLuhan

Week 9 - Native JS

Week 10 - Using JS Libraries

Week 11 - JQuery + Bootstrap

Week 12 - 15 - Final Projects