Intro to Web Development

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

Monday + Wednesday 8:00 am - 9:50 am
September 2 - December 20
IDM - 370 Jay Street, room 311

Course Website: https://github.com/IDMNYU/webDev_B_Fall2021
Course Wiki: https://github.com/IDMNYU/webDev_B_Fall2021/wiki

Professor: rebecca (marks) leopold
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Office: 370 Jay Street, 3rd Floor, room 344
Office hours: By appt - Monday, Tuesday or Thursday. Schedule 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.

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 Unix Bash shell
* User Interface (UI) / User Experience (UX)
* HTML5 / CSS3
* The Responsive Web
* Native (Vanilla) Javascript
* CSS + Javascript 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. Learn the git and Github workflows while using Github Pages to publish and maintain our sites.
3. Understand + implement the iterative process - including maintaining + adding to an existing site
4. Learn how to proactively learn + use the web to research open source tools + documentation
5. Create an internal developer / creative community

Course Structure:

Class time will be spent as a combination of lecture, discussion, in class exercises, critique, user testing + 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. Students should expect to build a new web page every week.

Required Materials:

- Students will need a laptop 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 - Mac Terminal or Windows Power Shell
- A Github Account + Git

Course Machines:

Laptops are the only machines that can be used for this course and should be closed during classmate presentations and critique. Mobile devices and tablets are strictly prohibited during class time. There will be a zero tolerance policy regarding the use of any software that does not relate to course material during class time. The misuse of networked technologies will negatively impact your performance in this course.

Research + Resources - 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" - class wik):

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 Writing, Design + Code Exercises (35% of grade): will be executed through the semester by following in class demonstrations, online tutorials and assigned readings. These assignments will be essential for learning markup and coding and to successfully complete more complex projects.

Students will be expected to document their work, write reading and personal reflections on a website built for + during class using **Github Pages**. We will build this site together incrementally during the first few weeks, following assignments + projects are to be added + linked to throughout the semester. **It is mandatory that you use git via the command line to push / publish your sites. You will lose points on any assignment that is not hosted on Github pages.**

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.

Weekly Schedule:

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

 Part 1 - Introduction to Web Dev

Week 1 - Introductions

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

Week 2 - Ways of Seeing + Intro to HTML

* Intro to Unix + HTML
* Setting up class site w/ Github Pages

Week 3 - HyperText Narratives + Web 1.0

* Site Mapping
* Hyperlinking w/ HTML
* Intro to CSS styling

 Part 2 - Interaction Design for the Web w/ CSS

Week 4 - Intro to Web Design + the Box Model

* Wire Framing
* HTML Box Model
* CSS Positioning

Week 5 - Intro to net.art

* Responsive Web Design
* CSS Flexbox + Grids

Week 6 - Pair programming projects

* CSS Animation
* Midterm Project Proposals + User Testing

Week 7 - Midterms

* Midterm Project Presentations

 Part 3 - Programming in the Browser with JavaScript

Week 8 - Web 2.0

* Intro to JavaScript + the DOM

  Assignment:

  * Reading: Tim O'Reilly, 2005 + 2009

Week 9 - the Document Object Model

* Programming in the Browser w/ Native JavaScript

Week 10 - JS Libraries

* Programming in the Browser w p5.js
* Intro to JQuery

Week 11 - TBD

Week 12 - TBD

Week 13 - Final Projects

* Final Project Proposals

Week 14 - May 4 + 6

* Final Project User Testing

Week 15 - May 11

* Final Project Presentations