NYU, Tandon School of Engineering
Technology, Culture and Society | Integrated Digital Media

Intro to Web Development

DM-UY 2193 | Tues, Thur 10:30am – 12:20pm | 370 Jay Street, Room 307
Professor Mira Alibek ma82@nyu.edu
Github: https://github.com/miraalibek/NYU_IDM_IntroToWeb
Slack: https://nyu--idm.slack.com (the invite link will be sent out to the class)
Office hours by appointment Tue 12:20 - 2:00 (will set up sign up for class)

The pacing of this course may vary depending on student needs, comprehension and technologies that are sometimes rapidly changing in the midst of our learning process.

COURSE PREREQUISITES
Basic computer knowledge. Basic familiarity with any programming/scripting language, graphic design programs is preferred but not required.

COURSE DESCRIPTION
In this course, students focus on client-side programming. Assignments are arranged in sequence to enable the production of a website of professional quality in design and production. This studio stresses interactivity, usability, and the quality and appropriateness of look and feel. This course will provide a basic understanding of the methods and techniques of developing a simple to moderately complex web site. Using the current standard web page language, students will be instructed on creating and maintaining a simple website using HTML5, CSS3, JavaScript and various external libraries.

LEARNING OBJECTIVES
Students will:
- Students will develop conceptual thinking skills to generate ideas and content in order to solve problems or create opportunities. Students will develop a research and studio practice through inquiry and iteration.
- Students will develop technical skills to realize their ideas. Students will understand and utilize tools and technology, while adapting to constantly changing technological paradigms by learning how to learn. Students will be able to integrate/interface different technologies within a technological ecosystem.
- Students will develop critical thinking skills that will allow them to analyze and position their work within cultural, historic, aesthetic, economic, and technological contexts.
- Students will gain knowledge of professional practices and organizations by developing their verbal, visual, and written communication for documentation and presentation, exhibition and promotion, networking, and career preparation.
- Students will develop collaboration skills to actively and effectively work in a team or group.

LEARNING OUTCOMES
By the end of the course, students will be able to:
- Design, build, and develop content for a professional-quality website.
- Understand and implement the iterative process

- Learn how to proactively learn, also known as self-regulated learning. In any learning situation, you should study beforehand, make/do, debug, reflect, adjust, and do it all over again (iteration). Learning happens in a cycle.
- Create an internal developer / creative community

COURSE OBJECTIVES

- User Interface (UI) / User Experience (UX)
- HTML5 / CSS3
- HTML/CSS Frameworks: Bootstrap, Materialize, etc.
- The Responsive Web (flexible media & media queries)
- Javascript/Javascript Libraries

SOFTWARE REQUIREMENTS

- Browser: Chrome or Firefox
- Github Account: github.com/join
- Developer Tools for Chrome or Firefox
  - Firebug for Firefox, http://getfirebug.com or
  - Chrome Developer Tools, https://developers.google.com/chrome-developer-tools
- HTML Text Editor (Atom, Sublime Text, Brackets.io, etc)
- FTP Application (Cyberduck, Transmit, Fetch, FileZilla, etc)
- Web Server Space
  - I highly recommend that you get your own web server space from an internet service provider.

COURSE STRUCTURE

Class time will be spent as a combination of lecture, review, and in class exercises. Homework will consist of online tutorials as well as weekly projects that build on each week's topics of discussion.

CLASS OUTLINE

You can find detailed class outline here:
https://github.com/miraalibek/NYU_IDM_IntroToWeb/blob/master/Class_Outline.md

WEEK 1

Sept 3
Introductions + class logistics
CONTEXT: history, disciplines
Get to know the editor (atom :: necessary packages linter, browser preview)
Intro to HTML: Basic syntax, structure of HTML document, text blocks, links
HOMEWORK: Design inspiration

Sept 5
Design inspiration: presentations
More basic HTML: whatever wasn't covered in previous class
What is semantic HTML, why developed

Validation (inside Atom with linter and with W3C)

HOMEWORK: Essay from Internet is Dead >> read and write a small review in an .html page, using basic html blocks

WEEK 2

Sept 10

Organizing content: UX basics, deliverables, concepts, UI patterns, CTAs

Wire-framing: looking inside Sketch

Activity: Sketching a page (pencil & paper or Sketch), looking at UI libraries in Sketch

Design inspiration: presentations (if not finished in previous class)

Sept 12

Intro to CSS: basic syntax, integration with HTML, different selectors

Layout strategies: Organizing content with HTML/CSS (overview of methods, like floats, flex and CSS Grid)

block vs inline vs inline-block;

div element and CSS Box model (box-sizing)

Basic float (if there is time)

WEEK 3

Sept 17

Layout strategies: more floats, cleafix hack, positioning, z-index, overflow

Images on the web, alt, scaling

Sept 19

UI Design (principles, grids, Sketch/Photoshop)

Design systems >> look at sample design style guide

Color on the web

HOMEWORK: reading on interactive design

WEEK 4

Sept 24

More CSS: typography

Google fonts, Webfonts, Iconography

Activity: find fonts, convert to webfont, build a type scale

Sept 26

CSS grids

Troubleshooting: basic strategies

Some template solutions

Workshop class: Working with float grids

WEEK 5

Oct 1

Flexbox: syntax, CSS-tricks article

Exercise: building out a small module with flex

autoprefixer (atom package and git.hub page)
HOMEWORK: Final project moodboards, sketches

Oct 3
Flexbox grid
Forms
Looking at Bootstrap (grid, building exercise)
Mood-boards: informal presentations / class working session

WEEK 6
Oct 8
Animation: visual cues, examples
In code: animations/transitions/transforms
picture, image map, photo filters
<video>

Oct 10
CSS Grid Module: reasons for emergence (best for large page layouts rather than modules), basic syntax
Building exercise: basic page layout with CSS Grid module
HOMEWORK: (not due until Oct 17): Start thinking about midterm > final project proposals

WEEK 7
Oct 15
No Class

Oct 17
Responsive design: concepts & guiding principles
Types of layouts (fixed, fluid, adaptive, responsive)
Looking at more samples of various UI patterns for responsive
Code: media queries, viewport metatag, viewports
Overview of some proportional units
HOMEWORK REMINDER: project proposals due Oct 17th

WEEK 8
Oct 22
Midterm Proposals:Presentations and critiques

Oct 24
WORKSHOP AND REVIEW
This class is a chance to review some topics from before our midterms. Students can request to go over and practice certain material (might include Flexbox, CSS Grid module or responsive)

WEEK 9
Oct 29
Intro to JS: syntax, basic terminology, integration with HTML, examples (what JS can do), exercise: writing some basic code

Oct 31
Intro to DOM Manipulation: alert function, grabbing elements by ID, Class, Element name, changing innerHTML, events & functions

WEEK 10
Nov 5
Practicing JS & JS math, events, loops

Nov 7
Javascript events and animations

WEEK 11
Nov 12
Jquery: intro, jQuery effects (hid/show, fade, slide, add/append, remove, addClass, set CSS)

Nov 14
Jquery: more complex Jquery examples & workshop class

WEEK 12
Nov 19
JS objects, website hosting, internet structure in macro (DNS), read about server side of the web

Nov 21
Materialize framework: looking at .js/.css files available; building out layouts based on templates

WEEK 13
Nov 24
Coming back to Bootstrap and looking at its .js code and teamplate examples.

Nov 26
NO CLASS - Thanksgiving break

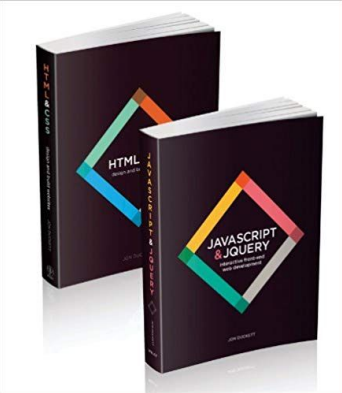
WEEK 14
Dec 3
Review class: this class is reserved for reviewing material that student find important/difficult. These topics are determined earlier (Nov 24)

Dec 5
Getting ready for final presentations: Workshop class

WEEK 15
Dec 10
Getting ready for final presentations: Workshop class

Dec 12> Final project presentations, group critiques

RECOMMENDED READING



Web Design with HTML, CSS, JavaScript and jQuery
by Jon Duckett
Publisher: John Wiley & Sons Inc
ISBN-13: 978-1119038634
ISBN-10: 1119038634

This is a recommended as a reference for this class. Most of the resources for this course can be found online and will be listed out in resources for each week.

LAPTOP USAGE DURING CLASS
I love having WiFi available and I think it is a valuable tool for use in the classroom. Unfortunately, it can very easily be a distraction as well. Laptop use will be expected in class but should be focused on class-specific material, applications, and research. Whenever classmates or guests are presenting please keep your laptop closed.

GRADING
NOTE: While you are expected to document and host your work on Github or another external server, links to assignments, projects, and documentation will be submitted and graded on NYU Classes. This will allow me a space to privately communicate any notes and point deductions connected to each student's assignment. It will also allow you to track your progress in the class. After midterm and final presentations, grades from the NYU Classes gradebook will be migrated to Albert.
Grades will be determined according to the following breakdown:

Regular Assignments 25%
We will have weekly assignments that are relevant to material from the previous class. When it is assigned, each assignment will contain a breakdown of how many points it is worth and the grading criteria. Most assignments will include a Learning Log, where you will be asked to provide some assessment of your clarity on a topic after doing a tutorial. Please refer to the Learning Logs file in this repository for more instructions. Late assignments will lose a point for each day they are late.

Mid-Term Project 20%
The midterm assignment will be a project that demonstrates a working knowledge of HTML and CSS elements. This project must be completed, published, and presented.

Participation and Attendance 20%

Attendance is *mandatory*. Please inform me via Slack direct message if you are going to miss a class. Showing up late for class or an excessive number of absences will adversely affect your grade. This class will be participatory, you are expected to participate in discussions and give feedback to other students both in class and participate with their projects. This (along with attendance) is 20% of your overall grade. PLEASE NOTE: 5 unexcused absences will result in your grade dropping (half a grade, for example from B to B-)

Final Project 20%
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, and presented.

Documentation 15%
5% - Students will be expected to document their work on Github. You may also set up a blog on a site like Wordpress or Medium for supplementary narrative documentation. If you already have your own hosted website and would like to blog there, that works, too.
You can receive web server space from IDM's Technology Manager, Elton Kwok, MAGNET 883 IDM's FTP server info: http://sites.bxmc.poly.edu (Use active mode)

QUALITATIVE GRADING OVERVIEW
Each student will be judged on the quality, experimentation, and improvement that their work shows.

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.

NOTABLE DATES

You can find the official academic calendar here