ICOM-101-01 / MTEC-617-01 Media and Web Development - Fall 2023

Time : **Location:** Main Building B214A (Machine Lab) **Course Credit:** 2.0

Instructor: Max Fishman - mfishman@calarts.edu

Office hours: By appointment **TA Time:**

Course Description

This course provides an introduction to the process of modern web development for artists. Each student will learn the basics of HTML and CSS, and how to combine them into a functioning portfolio website. Students will learn how to work with rich media sources, create dynamic animations, and deploy content to the web using free and open source tools. The final project in this course is to have a personal website up and running. In addition, students will explore common open source CMS (content management systems) like Wordpress, Contentful and others. We will also explore how to deploy virtual machines (VM's) on cloud infrastructure (Google, Amazon AWS) to host our web applications and infrastructure.

Student Learning Outcomes

- Students will learn the tools and technologies behind modern front end web development.
- Students will gain the skills needed to represent themselves and their practice through their website and web applications.
- Students will improve their computer science fundamentals by learning how to use the command line (terminal) and the developer tools built into it.

Materials

- Equipment
    - A computer with internet access
    - Software
      we will install these together as the course progresses
    - A programming focused text editor of your choice (I recommend VSCode, Atom, or Sublime Text)
    - A modern web browser (Google Chrome, Firefox, Safari, Microsoft Edge)

Expected expenses

Purchasing a domain name to use as your website URL is an **optional**, but strongly encouraged part of this course. Domain name costs vary depending on TLD (.com, .me, .party, .art, etc) and some other factors, but most personal website domains come in at about $12 per year.

Schedule *(subject to change)*

Week 1 - Date 1

- Welcome
- Go over syllabus
- Web Fundamentals - IP Addresses, DNS, Servers, Front End / Back End
- Using the built-in dev tools to explore the web

Homework

1. Choose three websites to explore. These can be websites for businesses, organizations, or personal blogs.Spend at least 5 minutes on each website, taking note of the elements that you like and dislike. Consider the following questions as you explore:

- What is the overall design of the website? Is it visually appealing?
- Is the navigation intuitive? Can you find what you're looking for easily?
- Is the content organized in a logical way? Is it easy to read and understand?
- Are there any interactive elements, such as forms, videos, or games?
- Is the website responsive, meaning does it adjust to the size of the screen it is being viewed on?

3. After exploring each website, write a short summary analyzing the elements you liked and disliked, and explaining why. Be sure to include specific examples from the websites to support your analysis.

Week 2 - Date 2

- Introduction to HTML
    - Elements and Tags and attributes
        - Typography
            - `h1` - `h6`
            - `p`
            - `em` and `strong`
        - Layout
            - `div`

        - `span`
        - `section`, `article`, `figure`, `nav`
    - Attributes with links and images
        - `a` and `href`
        - `img` and `src`
- Using Glitch / Codepen / Web Editors

Homework

- Make an account on Glitch
- Design and code a "document" with html on glitch
    - Think about creating a Resume or CV, a simple flier for an event, liner notes for an album, or credits for a film. Think about using Iframes from the media you already have online. Go as far and be as creative as you like.
    - Make sure to use different heading levels with `h1` through `h6` tags (at least 2 different heading levels)
    - use the `p` tag to format text into paragraphs
    - divide your content into sections with `div`, `section`, or `article` tags
    - add emphasis with `em` and `strong` tags
    - **Extra Credit :** Use an `a` tag to link to another website
    - **Extra Credit :** Use an `img` tag to display an image

Week 3 - Date 3

- Introduction to CSS
    - Selectors
        - Tag
        - Child and sibling selectors
        - Class and ID attributes
    - Color
        - Web colors
        - Hex codes
        - `rgba()`
    - Font
        - System
        - Web fonts
        - loading from Google fonts
        - Creating a unique font - Calligraphr
    - Positioning with CSS Box Model
        - `padding`, `margin`, `border`

Homework

- Fork your assignment from last week (or start a new project if you like)
- Add some CSS to style your HTML
    - Use the CSS Box model to add `padding`, `margin`, or `border` styles to an element
    - Change the `color` or `background-color` of an element
    - Change the font of an element from the default
        - Extra credit : Load a font from google fonts
    - Use at least one `class` attribute to selectively style some HTML
- If you didn't last week, add an `img` and `a` tag to your document

Week 4 - Date 4

- Advanced CSS
    - Positioning and layout
        - Flex Box
        - CSS Grid
    - Background Images
        - Gifs
        - Videos
    - Psuedo-selectors
        - `:hover`
        - `:active`
        - `:visitied`
    - Embedded content
        - Vimeo/Youtube
        - Soundcloud / Bandcamp
    - Gradients
    - Transitions and Animations

Homework The things we learned in class this week are a little less linear, so for this assignment feel free to break away from the `styled text document` idea we have been working with. Try making a landing page, a looping animation, or just experiment and play with everything we've learned so far.

Not all techniques will be relevant to all projects, try to use at least 2 of the things we learned this week. Plus anything else you are excited about.

- Use `flex` or `grid` in your layout
- Use a css gradient, or the `background-image` to add detail
- Use a pseudo-selector to add conditional styling to some part of your site
- Use a CSS transition to animate an element on `:hover`
- Add a CSS animation to your site

Week 5 - Date 5

Leaving Glitch!

    - Installing and using a text editor
    - File Structure
        - unix path syntax
    - The stuff glitch hides
        - `head` and `body` tags
        - `style` tag
    - Installing Node.js
        - Running a development server
    - Using devtools

Homework

- Migrate one of the last two assignments (something with both HTML and CSS) out of glitch.
    - Create an index.html file and a style.css file
    - Link your style.css file to the index.html with a `style` tag inside the `head` element of your html
- Submit your work as a .zip file containing both your html and css files

Week 6 - Date 6

- Deployment
    - Github Pages
    - Google Cloud
    - AWS
    - Local PC
- Buying and linking domains

Homework

- Deploy one of your projects to the web

- Extra credit : Purchase and link a custom domain

Week 7 - Date 7

From this point onwards the schedule is more open, we may revisit some older material that is still unclear, or push forward and focus on whatever everyone is excited about

- Responsive Web Development
    - Responsive / Mobile First design
    - Media Queries
    - CSS Frameworks (Bootstrap / Material)
- Testing for mobile
    - Dev tools
    - Simulator (mac)
    - Mobile debugging with Safari

Homework: Work on your final site. If you want to expand on your previous assignments, GO FOR IT! If you want to start something new, this is a good time to spin that up.

Week 8 - Date 8

Basic Javascript

- listening for events (click, hover, key press)
- animation (jquery or anime.js talk about external libraries)
- Selecting elements with jquery

Homework: Continue working on your final site.

Week 9 - Date 9

- WordPress
    - Creating a WordPress site
    - Choosing a host
        - Wordpress.com
        - Setting up a site with Local
    - Creating a Post
    - Creating a Page
    - Themes
    - Menus
    - Plugins
    - Updates, backups and security

Homework: Continue working on your final site. Look over free Wordpress themes or plugins and suggest one or two to your fellow classmates.

Week 10 - Date 10

- Workshop time
    - Free work period to make progress with your final projects
    - Time to dig into specific issues and go over any key points we missed during the semester
- Address roadblocks before thanksgiving break

Homework Continue working on your final site.

Week 11 - Date 11

- Present final projects

Week 12 - Date 12

- Present final projects

Course Policies

All coursework in this course will be graded individually, with a focus on the students progression and growth.

Technical assignments will have clearly marked grading criteria. Each of which must be completed to receive full credit. Where possible, assignments will include extra credit criteria to encourage experimentation and risk taking.

The final project, and the work weeks associated with it, will be graded in the context of the course at large, and the students personal goals.

Final grades will be based on the following breakdown

- Attendance: 3 absences will yield an NX grade for the course.
- Assignments: 70%
- Final Project: 30% - Failure to submit a final project will yield an NC grade for the course.

Units

- Undergraduate students should be committing a total of 6 hours per week, including lectures.
- Graduate students should be committing a total of 8 hours per week, including lectures.
- Time spent outside of class constitutes researching, planning, and executing assignments

In-Class Behavior

Inappropriate, aggressive, or offensive behavior or language, or provocation of conflict will not be tolerated in this class.

If something about the class is making you uncomfortable, please contact your instructor immediately.

Institute Policies

Plagiarism: Plagiarism is the use of ideas and/or quotations (from the Internet, books, films, television, newspapers, articles, the work of other students, works of art, media, etc.) without proper credit to the author/artist. While the argument in a paper can be enhanced by research, students are cautioned to delineate clearly their own original ideas from source material. Students should introduce source material (either quoted or paraphrased); note when the source material ends; and provide citations for source materials using standard documentation formats.

According to CalArts policy, students who misrepresent source material as their own original work and fail to credit it have committed plagiarism and are subject to disciplinary action, as determined by the faculty member, the dean of the student's school and the Office of the Provost. If you have questions regarding plagiarism or would like direction on how to credit source material, there are reference guides on permanent reserve in the CalArts library. Please contact one of the CalArts reference librarians for more information.

These ideas are just as viable in the world of computer programming. If you use code written by someone else, you must provide attribution by including an authors name and/or url in your code comments!

Students with Disabilities: Students who have documented disabilities and who want to request accommodations should first go to the Student Affairs office in A207. The Office of Student Affairs will meet with students and communicate with their faculty about appropriate classroom

accommodations. Students are encouraged to use these procedures early in the semester, so that the proper arrangements can be in place throughout the course.