DECODEMTL

SYLLABUS
WEB DEVELOPMENT

COURSE OVERVIEW

The web development immersive is an eight-week intensive program for those looking to jumpstart their careers in web development. It requires dedication and focus, and if successfully completed can lead to career as a web developer.

In order to get you job-ready in eight weeks, you will be given a preparatory course to complete at home when you apply. This prep course will get you up to speed with the basics of JavaScript, HTML and CSS, Git and GitHub as well as the Linux command line. It is mandatory to complete this course before the program start date.

In the first two weeks of the course, we will practice using JavaScript to solve real-world problems and questions. After getting familiar with callbacks and Promises, we will be able to accomplish a vast set of powerful functionalities: we'll use our asynchronous programming knowledge to make API calls, database queries and create web servers. To apply this knowledge, we will be building a Reddit clone using MySQL, ExpressJS and Node. We will understand how to authenticate users with a username and password, properly hash passwords and create secure sessions. We will then turn to the world of front-end development, where we'll learn to reproduce designs using HTML and CSS with Flexbox. We will create our own tiny responsive CSS framework, and use it to reproduce layouts coming from Sketch or Photoshop. In the last two weeks, we will use all our newly acquired knowledge to create a final project with a team of two or three peers.

UNIT 1: PROGRAMMING

- Setting up your IDE and environment
- Learning command line basics
- Using Git and GitHub
- JavaScript and JSON review
- Introduction to APIs
- Introduction to NodeJS and npm
- Features of ECMAScript 6
- Object-Oriented Programming

UNIT 2: DATABASES AND BACK-END DEVELOPMENT

- Overview of data persistence options
- Discussion about SQL vs NoSQL
- Using MySQL for data modelling and persistence
- Creating an ExpressJS website with user signup/login
- Learn about password hashing and session management
- Deploying a web server on the Heroku platform

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UNIT 3: FRONT-END DEVELOPMENT

- Review of CSS and semantic HTML
- Overview of CSS3 and HTML5
- Introduction to SASS
- Using command line tools and NPM tasks to automate development tasks
- Using jQuery, AJAX and 3rd-party APIs
- Creating a single-page application with React

UNIT 4: BUILD AN MVP

In this section, you will work with a team of two to three of your peers to build an MVP. Under the supervision of your instructor and TAs, you will spend two weeks building a web or mobile application using the technologies and skills you have learned. In addition to learning a popular Git workflow, you will also learn about many new topics during this time. Here are some examples of what our students have learned about during their final projects:

Deploying on Heroku
- OAuth with Facebook, Google, GitHub
- WebSockets
- WebRTC
- WebGL
- Parse Server or Firebase
- React Native
- Building IoT devices
- Using NoSQL databases