



The
App Brewery

Web Development Bootcamp.

TAUGHT BY

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COURSE LENGTH

12 Weeks

COURSE FEE

\$18,000

SYLLABUS

THE COMPLETE WEB DEVELOPMENT BOOTCAMP



APP BREWERY

www.appbrewery.com

WEB DEVELOPMENT FUNDAMENTALS

- Understand how websites work and how HTML, CSS and JavaScript contribute.
- Understand how the internet works.
- Start coding with HTML, CSS, and JavaScript.
- Learn and understand git, GitHub and version control.
- Use the Unix command line to become a power user and write bash commands.
- Learn key troubleshooting and debugging skills to apply to your projects.

HTML 5

- Learn the anatomy of HTML syntax to structure your websites.
- Understand the HTML boilerplate and HTML doctypes.
- How to structure text in HTML.
- How to structure HTML lists to create unordered and ordered lists.
- How to insert images using HTML
- How to create hyperlinks using anchor tags.
- Understand how to use HTML tables for content.
- How to use tables for layout.
- Learn HTML best practices.
- Understand about HTML forms and create a simple contact me form.
- HTML Divs and how to separate content for CSS styling.

CSS 3

- Understand what are cascading style sheets and how you can use it to style your website.
- How to use CSS selectors and properties.
- Learn about how to use inline, internal and external CSS.
- Understand CSS coding best practices.
- Learn about CSS sizing methods.
- Learn the anatomy of CSS syntax and structure.
- CSS specificity and implementing style hierarchy.
- Class vs. Ids and how to target each.
- CSS display and how to implement layout.
- How to use CSS static, relative and absolute positioning systems.
- Font styling using CSS and web safe fonts.
- Centering elements using CSS.
- Website design fundamentals and typography.
- How to use CSS float and clear.
- How combine CSS selectors and understand selector priority.

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BOOTSTRAP 4

- Learn the fundamentals of implementing responsive web design.
- How to use Balsamiq to mockup and wireframe websites.
- The fundamentals of UI design for websites.
- How to install the Bootstrap framework.
- Understanding the Bootstrap grid layout system.
- How to use bootstrap containers to layout your website easily.
- Learn to use other Bootstrap components such as buttons.
- Adding symbols using Font Awesome.
- Learn to use Bootstrap carousels.
- Add Bootstrap cards to your website.
- Using Bootstrap navigation bars.

JAVASCRIPT ES6

- The Fundamentals of Code
- Starting code with alerts and prompts.
- Understand Variables and Data Types in JavaScript
- Variable naming in JS
- Working with strings and numbers
- Randomisation and logical operators
- Loops, collections and Conditionals.
- Functions and invocation patterns
- Discussion of ECMAScripts
- Intermediate JavaScript
- Learn to use JS Expressions, Operators, Statements and Declarations
- Object-Oriented Programming
- JS Objects and Prototypes
- `This`, Scope and Closures
- Objects and Prototypes
- Refactoring and Debugging

DOCUMENT OBJECT MODEL (DOM)

- Learn the tree structure of HTML based websites.
- Traverse through the document using object notation.
- Separation of concerns and coding best practices.
- Manipulate and change the HTML elements using your understanding of the DOM.

JQUERY

- Installing and using the jQuery framework.
- Learning about jQuery functionality

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- Introduction to functions in jQuery
- Manipulating text, styles and attributes with jQuery
- Create animations and customisations with jQuery
- Use your jQuery knowledge to make your website interactive
- Responding to user initiated events with jQuery

THE UNIX COMMAND LINE

- How to use basic bash commands in a Unix/Linux Terminal.
- How to manipulate files and folders without needing a graphical user interface.
- How to download and install to your computer using command line.

GIT GITHUB AND VERSION CONTROL

- Using git for version control and collaboration
- Git forking, branching and cloning
- Using GitHub as a remote repository
- Checkout and rolling back changes with git
- Using git and GitHub with Xcode

NODE.JS

- Explore the components of back-end development, working with an MVC framework
- Apply concepts like data types, objects, methods, object-oriented programming, and classes in the context of back-end development.
- Server-Side JavaScript
- Using Node on the command line
- NPM
- JavaScript Build Processes
- Event Loop and Emitters
- File System Interaction
- Modules
- Native Node drivers

EXPRESS.JS

- Understand how to install and use express in Node applications
- Creating Node and Express based servers
- RESTful Routing with Express
- Understand and use middleware for Node applications

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Databases



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APPLICATION PROGRAM INTERFACES (APIS)

- Understand what APIs are and how they work.
 - HTTP in Depth
 - Calling APIs
 - Reading API documentation
 - Basic API Authentication
 - Server to server communication
- JSON vs. XML, sending data over the wire.

EJS

- Understand what EJS does and how to use it with Node and Express.
- Templating with EJS
- Running code in EJS templates
- Passing data from server to template and vice versa
- Creating layouts/partials with EJS

DATABASE FUNDAMENTALS

- Data Relationships
- Designing a Data Model
- Relational Databases
- Alternative Databases
- Entity Relationship Modelling (ERM) and Object Relational Mapping (ORM)

SQL DATABASES

- Working with Database Schemas
- Create-Read-Update-Destroy (CRUD)
- Database Joins
- Querying SQL databases

NOSQL DATABASES WITH MONGODB AND MONGOOSE

- Serialization
- How to model NoSQL data
- Document Databases (MongoDB)
- Create-Read-Update-Destroy (CRUD)
- NoSQL Best Practices
- Mongo Shell and command line use
- Installing MongoDB
- Mapping relationships with MongoDB
- Using an object-data modelling library (Mongoose) to work easily with your data.

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DEPLOYMENT

- Understand hosting and deployment.
- Hosting static websites with GitHub Pages.
- Deploying server based applications with Heroku.
- Deploying Databases with Mongo Atlas.

BUILDING RESTful APIs

- Understand REST and guiding principles behind API design.
- Learn to work with a MongoDB GUI Robo 3T
- Implementing GET, POST, PUT, PATCH and DELETE by creating a public API from scratch.
- Understand and use chained route handlers from Express.

AUTHENTICATION and SECURITY

- Understand the need for authentication and keeping user details secure.
- Learn about Encryption and use encryption to keep your database secure.
- Learn and implement Hashing and Salting with bcrypt
- Using Sessions and Cookies to persist user log in sessions.
- Setting up local authentication from scratch.
- Implementing Passport to authenticate users quickly and effectively.
- Understand and use environment variables to keep secret keys secure.
- Understand and use OAuth 2.0 to log in users using Google and Facebook.

REACT.JS

- Learn front-end development with React.
- Understand when and how to use React Components.
- Learn to pass Props and work with them.
- Learn to write JSX and understand JSX syntax.
- Learn about the React DOM.
- Learn State Management in React.
- Learn about React Hooks.
- Learn about conditional rendering in React.
- Understand the difference between class and functional components.

JAVASCRIPT ES6

- Arrow Functions
- Map/Filter/Reduce
- Find/FindOne/FindIndex
- Import/Export and Modules
- Object and Array Destructuring
- Spread Operator

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WEB3 BASICS AND BLOCKCHAIN DEVELOPMENT

- Understand Web3 and blockchain development.
- Understand a Canister
- Understand a Motoko actor

DEPLOY YOUR CV WEBSITE ONTO A BLOCKCHAIN

- Set up a cycles wallet
- Obtain free cycles from Dfinity
- Understand how to manage the cycles balance of a canister
- Build and deploy a static, personal CV website to the Internet Computer
- Check how many cycles were used

WORK WITH A REACT FRONTEND AND BLOCKCHAIN BACKEND

- Use a React frontend in combination with the Internet Computer
- Allow users to create their own notes and persist these in a canister
- Learn to use CRUD style operations on a canister from the front end
- Learn to use the Candid interface to test the app

CREATE YOUR OWN CRYPTO TOKEN

- Understand the role of tokens in dapps and open internet services
- Create a token modelled on Ethereum's ERC-20 and deploy it on the Internet Computer
- Create a faucet contract that dispenses small amounts of the token.
- Understand and work with principal IDs to identify users and smart contracts
- Use the Plug wallet to track token balances
- Learn how to transfer the token between user accounts.

CREATE AN NFT AND MARKETPLACE

- Create a non-fungible token modelled on ERC-721 and deploy it to the Internet Computer
- Build a marketplace website like OpenSea to allow users to mint, buy and sell NFTs.
- The owner of the NFT can interact with the canister to transfer the ownership of the .jpeg to another account

FAQ

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What's the difference between your online and in-person bootcamp?

The online bootcamp on Udemy has the same curriculum as our in-person bootcamp. Our in-person bootcamp only runs once per year and is wait-list based. The Udemy online course can be taken at anytime, on your schedule.

What's the difference between your online courses on Udemy and appbrewery.com?

Since 2019, we have moved all our courses on to Udemy other than some courses with prior contracts (e.g. the agreement with Google for the Flutter course). You should get our courses from Udemy.

How long does the bootcamp take to complete?

We teach the course in person over 12 weeks. But we have seen students online complete the course as quickly as 3 weeks. It depends if you are going to work full-time or part-time. It can also be helpful to read around the topics and do more self-directed research and experimentation.

I don't have any prior experience or a technical background, can I join?

The course is designed for students of all levels. The youngest person we've had on the course is 11, the oldest 86. The most inexperienced student didn't know what a website is, the most experienced works for Twitter as a developer. The most important thing is perseverance and willingness to learn. If you have that then you'll do great!