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.
SYLLABUS

THE COMPLETE WEB DEVELOPMENT BOOTCAMP

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
SYLLABUS
THE COMPLETE WEB DEVELOPMENT BOOTCAMP

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.

THE UNIX COMMAND LINE

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

GIT GITHUB AND VERSION CONTROL

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

NODE.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

EXPRESS.JS

APP BREWERY
www.appbrewery.co
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.
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