App Development
(Ages 13+)

Learning Objective:

You will be introduced to JavaScript and jQuery fundamentals in the form of specific examples. Each example will introduce you to new code and techniques. In the process, you will learn the basics of computational thinking and lay a foundation for building a live e-commerce application in the Applied JavaScript projects. *Prerequisite: Basic Html / Css with some prior experience*

Projects & Challenges:

Functions, Events, and Error Handling

- Learn the basics of JavaScript and jQuery Coding. You will learn how to create functions, handle errors with try/catch blocks and log data to your browsers console. jQuery methods for UI manipulation will be introduced along with event handling for the onLoad, onChange, onMouseOver, & onMouseOut events. Combined these technologies will give you a foundation in basic Web Development. (est. 30+ min)
- Your Project: In this project you will be provided with the HTML & CSS code. Your job will be to write the JavaScript & jQuery code to load a page to a default state hiding and showing elements. Toggle the color of a button based on mouse movements and toggle the visibility of HTML elements by clicking a button. (est. 30+ min)

Data Types, Numbers & Strings

- You will be introduced to JavaScript Object Notation (JSON) & basic Data Types for working with Data. You will learn basic Math operations, incrementing / decrementing numbers, and some Number Methods for converting strings into numbers. Next, you will focus on manipulating Strings (text data) and working with the built in JavaScript String methods writing Data to the screen for review. (est. 30+ min)

- <u>Your Project:</u> You will work with JSON data structures and loops. Adding totals and writing information to the console and the page. When you are finished you will click a button and display a list of orders in a table format. (est. 30+ min)

Conditionals, Comparisons & Loops
- You will be introduced to the foundations of logical decision making (computational thinking) using the "if" statement, "switch" statement, "comparison operators" and different "looping" techniques. Combined these techniques will give you the ability to change the behavior of an outcome based on the data inputs and logical conditions you create. (est. 30+ min)
- <u>Your Project:</u> You will construct a JSON object of food related information then loop through it using a FOR loop. In the process you will use an IF conditional statement and SWITCH conditional statement to construct the actual list of items shown on the screen. (est. 30+ min)

Arrays & Dates
- You will learn how to store and manipulate data in a virtual filing cabinet called an Array. We will cover creating Arrays, adding / removing items, changing existing values, sorting, and looping over Array items. The JavaScript Date object will be introduced along with the build in JavaScript methods to extract the year, month and day down to the millisecond. (est. 30+ min)
- <u>Your Project:</u> You will create an array of items, loop through it and write functions to add and remove items. You will construct a human readable date from the JavaScript date object and methods. (est. 30+ min)

JSON, LocalStorage & Ajax Callbacks
- Learn one of the foundational concepts of modern web design, sending data back and forth from a Browser to a Webserver using the jQuery Ajax pattern. In this module you will be introduced to JSON object manipulation for data transfer and the jQuery Ajax callbacks (Get / Post) that make communication between the two possible. (est. 30+ min)

- <u>Your Project:</u> You will write code that communicates with a webserver to add items to a list, remove items from a list, and display the list on the screen. (est. 30+ min)

Completion Certificate:
When you finish the learning path a Certificate of Completion will be emailed.

Certificate of Completion

THIS CERTIFIES THAT

[Your Name]

HAS SUCCESSFULLY COMPLETED

App Development

[Competion Date]

{CCK}
CodeCampKidz