# Course Outline: Web Development Fundamentals – JavaScript

Proposed Code: QAJSFUND

# **Course Outline**

This course follows on from Web Development Fundamentals – HTML and CSS (QAHTMLCSSFUND) to add in the third skill basics needed for web development - JavaScript. This course, using the latest revision of JavaScript and developer tools, starts with the basics needed to write simple scripts, before building on this to prepare you for using modern JavaScript frameworks and libraries such as React and Angular.

**Target Audience:**

The course is aimed at anyone who wants to learn web development and perhaps progress into using modern JavaScript libraries and frameworks. It is suitable for those who are relatively new to programming, or experienced developers skilled in other languages who need to learn the nuances of JavaScript.

# **Pre-requisites**

* Delegates ***MUST*** have HTML and CSS skills equivalent to those provided by the Web Development Fundamentals – HTML and CSS course (<http://www.qa.com/QAHTMLCSS>).
* Familiarity with programming would be beneficial, we recommend Programming Foundations ([www.qa.com/QAPROGFOU](http://www.qa.com/QAPROGFOU)) to new developers

**At the end of this course you will be able to:**

* Set up a development environment for programming in modern JavaScript
* Manage and use JavaScript types and data structures effectively
* Control the flow of programs using loops and conditional code
* Use JavaScript alongside HTML, manipulating and changing the DOM
* React to events to make web pages respond to user interaction, including form handling
* Produce and use basic Object-Oriented JavaScript
* Work with asynchronous data using JavaScript

# **Outline**

The course will be delivered through instructor-led sessions, supported by short exercises. Your learning will be augmented through a ‘Hackathon’ to bring together the skills, techniques and knowledge and use basic Agile methodology.

**The Developer Environment**

|  |
| --- |
| * The Modern Web Developer’s Tool Set |

**JavaScript Basics**

|  |
| --- |
| * JavaScript in HTML |
| * Types |
| * Operators |

**JavaScript Data Structures**

|  |
| --- |
| * Arrays |
| * Collections |

**JavaScript Program Control**

|  |
| --- |
| * Conditionals |
| * Loops |
| * Functions |

**JavaScript and the DOM**

|  |
| --- |
| * Manipulating styles |
| * Events |
| * Forms |

**JavaScript Deeper Dive**

|  |
| --- |
| * Modules |
| * Object Oriented JavaScript |
| * Error Handling and Debugging |
| * Asynchronous JavaScript |

**Hackathons**

Build upon a given website using set of user stories to implement JavaScript features to enhance it using the skills, techniques and knowledge gained during the course.

**Related Courses**

You may be interested in these courses which build upon the skills, knowledge and understanding from this course:

* Developing Applications using ReactJS ([www.qa.com/qareactjs](http://www.qa.com/qareactjs))
* Developing Applications using Angular ([www.qa.com.qaangular](http://www.qa.com.qaangular))
* Programming with TypeScript ([www.qa.com/qapts](http://www.qa.com/qapts))