

# JavaScript and JQuery – Course Syllabus

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## Overview

This course is designed to accommodate website designers who have some experience building web pages. Lessons familiarize students with the ins and outs of basic JavaScript and then move on to advanced tools for adding really useful interactivity to a Web site as quickly and easily as possible with the help of pre-written jQuery libraries.

Students will learn how to use simple JavaScript Code that will liberate them from all of the minute, time-consuming details of creating JavaScript programs that run well across different browser platforms.

## Prerequisites

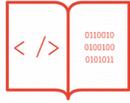
Students should feel comfortable with HTML and CSS to get the most from this course. Class discussions are geared toward intermediate and advanced computer users.

## Module 0: Introduction to JavaScript

- 0.1 Introductions, motivation: web developer, orientation, Introduction Milestone Learning Management System (LMS).
- 0.2 Course syllabus, grading structure and deadlines, the tools we will use in this course i.e. browsers, web editors, version control, standards validators and cheat-sheets, collaborative tools etc.
- 0.3 Pre-Test (HTML & CSS)
- 0.4 Introduction to Procedural Programming
- 0.5 JS History
- 0.6 Dynamic (JS enabled) vs. Static web sites.
- 0.7 Front-End “big three” : HTML, CSS and JavaScript!
- 0.8 Training Environment.
- 0.9 Best Approaches to Learn JS
- 0.10 Editors, Where to place your JS Code? And Using CodePen
- 0.11 Webkit’s Web Inspector
- 0.12 Tracking down errors
- 0.13 JS versions (EcmaScript5 and EcmaScript6)
- 0.14 Browser Support for ES6

## Module 0 Practice and Assessment

- 0.15 Programming & Code Reading Assignments: 3
- 0.16 Reading Assignments: 1



## **Module 1: Variable, Value, Data type, Operators and Expressions**

- 1.1 Comments
- 1.2 Variables: and let keyword
- 1.3 Statements
- 1.4 Value
- 1.5 JS Keywords
- 1.6 Primitive Data types
- 1.7 Non-Primitive Data types
- 1.8 Type of Operators
- 1.9 Understanding Expressions

### **Module 1 Practice and Assessment**

- 1.10 Programming & Code Reading Assignments: 3
- 1.11 Reading Assignments: 1

## **Module 2: Arrays, Decision making and Loops**

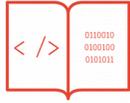
- 2.0 String
- 2.1 Arrays
- 2.2 If Statement
- 2.3 If-Else Statement
- 2.4 If-Else-IF ladder and Nested If Statements
- 2.5 Switch
- 2.6 Handling repetitive tasks with loops
- 2.7 For Loop
- 2.8 While and Do-While Loop

### **Module 2 Practice and Assessment**

- 2.9 Programming and Code Reading Assignments: 3
- 2.10 Reading Assignments: 1

## **Module 3: Functions, Variable Scope and Objects**

- 3.0 What is Function?
- 3.1 Calling a Function
- 3.2 Parameters and default parameters



- 3.3 Scope of Variables: block level scope(ES6)
- 3.4 Predefined Functions
- 3.5 What is Objects?
- 3.6 Elements and Properties
- 3.7 Accessing an Object's properties and methods
- 3.8 Constructor and this keyword
- 3.9 Date and Math Objects

### **Module 3 Practice and Assessment**

- 3.10 Programming and Code Reading Assignments: 3
- 3.11 Reading Assignments: 2

### **Module 4: The Browser Environment**

- 4.0 BOM (Browser Object Model)
- 4.1 Window.\* properties
- 4.2 DOM (document object model)
- 4.3 Accessing DOM Nodes
- 4.4 Modifying DOM Nodes
- 4.5 Creating and Removing Nodes

### **Module 4 Practice and Assessment**

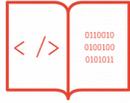
- 4.6 Programming and Code Reading Assignments: 4
- 4.7 Reading Assignments: 2

### **Module 5 – Events and Event Handling**

- 5.1 What are Events?
- 5.2 Listen to Events.
- 5.3 Event Handling
- 5.4 HTML5 Forms and Input tag (form validation)
- 5.5 Get and Post methods

### **Module 5 Practice and Assessment**

- 5.6 Programming and Code Reading Assignments: 3
- 5.7 Reading Assignments: 2



## Module 6: What is New in ES6.

- 6.1 Constants
- 6.2 *Scoping: block scope variables and functions*
- 6.3 Arrow functions
- 6.4 Extended Parameter Handling
- 6.5 Template Literals
- 6.6 Enhanced Object Properties
- 6.7 Restructuring Assignment
- 6.8 Class Definition and Inheritance
- 6.9 Symbol Type
- 6.10 Iterators & For-Of Operator
- 6.11 Generators
- 6.12 Typed Arrays
- 6.13 New Built-in Methods
- 6.14 Promises
- 6.15 Internationalization & Localization

### Module 6 Practice and Assessment

- 6.24 Programming and Code Reading Assignments: 3
- 6.25 Reading Assignments: 3

## Module 7: JQuery

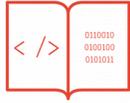
- 7.0 What is jQuery?
- 7.2 Structure of jQuery
- 7.3 Using jQuery and including .js file to HTML
- 7.4 Type of Selectors
- 7.5 Handling Events with jQuery

### Module 7 Practice and Assessment

- 7.6 Programming and Code Reading Assignments: 3
- 7.7 Reading Assignments: 1

## Module 8: Filtering, Searching and Effects

- 8.1 Selectors Recap
- 8.2 Element and ID Selectors



- 8.3 jQuery DOM Traversal
- 8.4 jQuery DOM Manipulation
- 8.5 jQuery Effects (...)

### **Module 8 Practice and Assessment**

- 8.6 Programming and Code Reading Assignments: 3
- 8.7 Reading Assignments: 1

### **Module 9: APIs**

- 9.0 Geo-location
- 9.1 Local Storage
- 9.2 Session Storage
- 9.3 History

### **Module 9 Practice and Assessment**

- 9.4 Programming and Code Reading Assignments: 3
- 9.5 Reading Assignments: 1

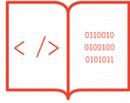
### **Module 10: AJAX and JQuery**

- 10.0 Introduction to AJAX
- 10.1 Asynchronous access to remote data
- 10.2 GET HTTP request
- 10.3 AJAX Load
- 10.4 Send Data
- 10.5 Callback Handlers
- 10.6 Change AJAX data type
- 10.7 Status Codes
- 10.8 JSON?
- 10.9 Accessing and Consuming remote JSON Data

### **Module 10 Practice and Assessment**

- 10.10 Programming and Code Reading Assignments: 3
- 10.11 Reading Assignments: 1

### **Module 11: HTML5 Forms and JQuery UI**



- 11.0 Understanding Forms
- 11.1 Adding Smarts to Your Forms
- 11.2 Form Validation
- 11.3 Validation Tutorial
- 11.4 Updating Database Table Values
- 11.5 Introduction to jQuery UI
- 11.6 Animation and Special Effects

#### Module 11 Practice and Assessment

- 11.7 Programming and Code Reading Assignments: 3
- 11.8 Reading Assignments: 1

**Module 12: Final Project.**