

JavaScript and JQuery – Syllabus

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 A: Introduction to JavaScript

1. Introductions, motivation: web developer, orientation, Introduction
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.
3. Setup environment
4. Introduction to Procedural Programming
5. JS History
6. Dynamic (JS enabled) vs. Static web sites.
7. Front-End “big three” : HTML, CSS and JavaScript!
8. Training Environment.
9. Best Approaches to Learn JS
10. Editors, Where to place your JS Code? And Using CodePen
11. Webkit’s Web Inspector
12. Tracking down errors
13. JS versions (EcmaScript5 and EcmaScript6)
14. Browser Support for ES6

Module B: Variable, Value, Data type, Operators and Expressions

1. Comments
2. Variables: and let keyword
3. Statements
4. Value
5. JS Keywords
6. Primitive Data types
7. Non-Primitive Data types
8. Type of Operators

9. Understanding Expressions

Module C: Arrays, Decision making and Loops

1. String
2. Arrays
3. If Statement
4. If-Else Statement
5. If-Else-IF ladder and Nested If Statements
6. Switch
7. Handling repetitive tasks with loops
8. For Loop
9. While and Do-While Loop

Module D: Functions, Variable Scope and Objects

1. What is Function?
2. Calling a Function
3. Parameters and default parameters
4. Scope of Variables: block level scope (ES6)
5. Predefined Functions
6. What is Objects?
7. Elements and Properties
8. Accessing an Object's properties and methods
9. Constructor and this keyword
10. Date and Math Objects

Module E: The Browser Environment

1. BOM (Browser Object Model)
2. Window.* properties
3. DOM (document object model)
4. Accessing DOM Nodes
5. Modifying DOM Nodes
6. Creating and Removing Nodes

Module F: Events and Event Handling

1. What are Events?
2. Listen to Events.
3. Event Handling
4. HTML5 Forms and Input tag (form validation)
5. Get and Post methods

Module G: What is New in ES6.

1. Constants
2. *Scoping: block scope variables and functions*
3. Arrow functions
4. Extended Parameter Handling
5. Template Literals
6. Enhanced Object Properties
7. Restructuring Assignment
8. Class Definition and Inheritance
9. Symbol Type
10. Iterators & For-Of Operator
11. Generators
12. Typed Arrays
13. New Built-in Methods
14. Promises
15. Internationalization & Localization

Module H: JQuery

1. What is jQuery?
2. Structure of jQuery
3. Using jQuery and including .js file to HTML
4. Type of Selectors
5. Handling Events with jQuery

Module I: AJAX and JQuery

1. Introduction to AJAX
2. Asynchronous access to remote data

3. GET HTTP request
4. AJAX Load
5. Send Data
6. Call-back Handlers
7. Change AJAX data type
8. Status Codes
9. JSON?
10. Accessing and Consuming remote JSON Data

Module J: HTML5 Forms and JQuery UI

1. Understanding Forms
2. Adding Smarts to Your Forms
3. Form Validation
4. Validation Tutorial
5. Updating Database Table Values
6. Introduction to jQuery UI
7. Animation and Special Effects