

Course Summary

The purpose of this course is to educate the student in the important language skills necessary to use JavaScript. Whether you are looking to add interactivity to your website, control how a browser acts or alter your HTML document's content, it is important to have a firm grasp of JavaScript concepts. We begin this course by discussing the basic components and structure of JavaScript as well as learning the terminology. Then, we'll advance through topics to cover some more advanced concepts and uses for JavaScript.

Course Objectives

Understand the JavaScript language & the Document Object Model.

- Alter, show, hide and move objects on a web page.
- Check information input into a form.
- JavaScript allows programming to be performed without server interaction.
- JavaScript can respond to events, such as button clicks.
- JavaScript can validate data before sending out a request.
- JavaScript can adjust an HTML document for special effects.
- Master Core Programming Concepts.

Prerequisites

- HTML
- CSS

CHAPTER 1-Getting Acquainted with JavaScript

- Introduction to JavaScript
- Including JavaScript in projects (Internal/external)
- Uses for JavaScript

CHAPTER 2-The JavaScript Syntax

- How to write JavaScript code
- Comments in Js (single-line/ multi-line/ end of line)
- Whitespace
- Case Sensitivity
- Breaking Up a Line of Code

CHAPTER 3- JavaScript Variables & Data Types

- What are JavaScript Variables?
- Syntax for Text and Numerical Values
- Creating (Declaring) Variables
- Exploring Basic data types (String, Number, Boolean, Null, Undefined)
- Type Conversion in Js
- Using One Statement for Multiple Variables
- Arithmetic Operators
- Assignment Operators

CHAPTER 4- User Interaction.

- The Alert Box
- The Confirm Box
- The Prompt Box

CHAPTER 5-JavaScript Conditions

- Comparison Operators
- Logical Operators
- If -else statement
- Ternary operator
- The Switch Statement

CHAPTER 6- JavaScript Loops

- The FOR Loop
- The WHILE Loop
- The DO...WHILE Loop
- The Break and Continue Statements

CHAPTER 6- JavaScript Functions

- JavaScript Function Definition and Syntax
- Functions with a Return Value
- Calling a Function with Arguments
- Assigning Values to Undeclared Variables
- Scope – (Local Variables and Global Variables)

CHAPTER 7- Arrays IN JavaScript

- Create and Access an Array

- Array Functions

CHAPTER 8- JavaScript Objects

- Creating Objects
- Accessing Object Properties
- Accessing Object Methods

CHAPTER 9- JavaScript HTML DOM

- What is HTML DOM?
- Finding HTML Elements (By ID, Classes)
- Adding and removing CSS classes on elements

CHAPTER 10 - Events in JavaScript

- What are events
- Adding event Listeners to elements
- Exploring (onclick, on change, on submit, events)

CHAPTER 11-JavaScript Timing Events

- What are JavaScript Timing Events?
- SETINTERVAL () and CLEARINTERVAL () Methods
- SETTIMEOUT () and CLEARTIMEOUT () Methods
- The Date Object
- Creating a Clock

CHAPTER 12 – OOP IN JavaScript

- What is object-oriented programming
- Classes in JavaScript (properties/ methods and constructors)
- Instantiation
- Inheritance

CHAPTER 13 - USE STRICT & JavaScript Errors

- What is the USE STRICT Directive and Why Use It?
- What's Not Allowed in STRICT Mode?
- The Try...Catch Statement
- The Throw Statement

Chapter 14 – NETWORK REQUESTS

- Fetch API
- Form Data
- CORS Policy
- HTTP Methods - [get, post, put, delete]

Chapter 15 – Data Structures

- ArrayList
- Linked List
- Binary Search Tree

Chapter 16 – Algorithms

- Bubble sort
- Insertion Sort
- Recursion
- Merge Sort
- Quick Sort
- Binary Search