

JavaScript Course Outline for 3 Weeks

Week 1: Introduction to JavaScript and Core Concepts

Day 1: Understanding JavaScript

- Overview of JavaScript and its role in web development
- Embedding JavaScript into HTML
- Writing your first "Hello World" script

Day 2: Variables and Data Types

- Declaring variables using var, let, and const
- Understanding data types: strings, numbers, booleans, null, undefined

Day 3: Operators and Expressions

- Arithmetic, assignment, comparison, and logical operators
- Operator precedence

Day 4: Control Structures

- Conditional statements: if, else if, else, switch
- Loops: for, while, do...while

Day 5: Functions

- Defining and invoking functions
- Function parameters and return values

- Arrow functions

Day 6: Arrays

- Creating and manipulating arrays
- Common array methods: push, pop, shift, unshift, map, filter, reduce

Day 7: Objects

- Understanding objects and key-value pairs
- Accessing and modifying object properties
- Nested objects and arrays

Week 2: Intermediate JavaScript and the Document Object Model (DOM)

Day 8: The DOM and DOM Manipulation

- Understanding the DOM structure
- Selecting and manipulating DOM elements
- Modifying element content and attributes

Day 9: Event Handling

- Adding event listeners
- Handling events: click, submit, mouseover, etc.
- Event propagation and default behaviors

Day 10: Form Validation

- Accessing form elements
- Validating user input
- Providing feedback to users

Day 11: Error Handling and Debugging

- Understanding and using try, catch, finally
- Throwing custom errors
- Debugging techniques and tools

Day 12: Asynchronous JavaScript

- Introduction to asynchronous programming
- Understanding callbacks
- Introduction to Promises

Day 13: Working with APIs

- Understanding APIs and HTTP requests
- Fetching data using the Fetch API
- Handling JSON data

Day 14: ES6+ Features

- Template literals
- Destructuring assignments
- Spread and rest operators
- Modules

Week 3: Practical Application and Project Development

Day 15: Introduction to Project

- Planning a simple JavaScript project (e.g., a to-do list application)
- Setting up the development environment

Day 16: Building the User Interface

- Creating the HTML structure
- Styling with CSS

Day 17: Implementing Functionality

- Adding interactivity with JavaScript
- Manipulating the DOM based on user actions

Day 18: Data Persistence

- Storing data using localStorage
- Retrieving and displaying stored data

Day 19: Testing and Debugging

- Testing application functionality
- Debugging and fixing issues

Day 20: Project Enhancement

- Adding additional features (e.g., editing and deleting tasks)
- Improving user experience

Day 21: Review and Deployment

- Reviewing the codebase
- Deploying the application to a web server
- Reflecting on learning outcomes and planning next steps