

Web Development Learning Roadmap: HTML, CSS, and JavaScript (2025)

Introduction

This document serves as a comprehensive learning roadmap for students who want to learn and upskill themselves in modern web development using HTML, CSS, and JavaScript. The topics are structured to provide a step-by-step learning experience, starting from the basics and advancing to industry-relevant concepts.

1. HTML (HyperText Markup Language)

1.1 Basics of HTML

- Introduction to HTML
- Structure of an HTML Document
- HTML Elements and Tags
- Attributes in HTML
- Semantic HTML
- Forms and Input Elements
- HTML5 Features

1.2 Advanced HTML

- HTML APIs (Geolocation, Web Storage, etc.)
 - Multimedia (Audio, Video, Canvas, SVG)
 - Accessibility and Best Practices
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2. CSS (Cascading Style Sheets)

2.1 Basics of CSS

- Introduction to CSS
- Selectors, Properties, and Values
- Box Model
- Colors, Backgrounds, and Borders
- Typography and Text Styling

2.2 Advanced CSS

- Flexbox and Grid Layout
- Responsive Design and Media Queries
- CSS Animations and Transitions
- Custom Properties (CSS Variables)
- CSS Preprocessors (SASS/SCSS - Optional)

2.3 Modern CSS Techniques

- Dark Mode Implementation
 - Advanced CSS Selectors
 - Using CSS with JavaScript (CSS-in-JS, Styled Components, Tailwind CSS - Optional)
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3. JavaScript (JS)

3.1 JavaScript Basics

- Introduction to JavaScript
- Variables and Data Types
- Operators and Expressions
- Functions and Scope
- Loops and Conditional Statements
- Event Handling and DOM Manipulation

3.2 Intermediate JavaScript

- ES6+ Features (let, const, arrow functions, destructuring, spread/rest operators)
- Template Literals
- Promises and Async/Await
- Fetch API and AJAX
- Modules and Imports

3.3 Advanced JavaScript

- Object-Oriented Programming (OOP) in JS
 - Prototypes and Inheritance
 - Closures and Higher-Order Functions
 - JavaScript Design Patterns
 - Functional Programming Concepts
 - Memory Management and Performance Optimization
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