

TECHYJAUNT FRONTEND WEB DEVELOPMENT SYLLABUS

Pre-requisites:

No prior knowledge on frontend web development

Code editor such as VS code, Arom, Notepad etc.

General Introduction to Frontend Web Development and the Technologies Used

- Overview of frontend web development
- Introduction to HTML, CSS, and JavaScript
- **HTML: HYPERTEXT MARKUP LANGUAGE**
 - Introduction and overview
 - HTML syntax: structure, tags, attributes, elements
 - HTML elements and their respective attributes: header elements, image element, link elements, paragraph element, form, ordered and unordered list, etc.
 - HTML grouping: using div and span tags for grouping
 - HTML forms: different types of input elements, placeholder attribute, required attribute, labels, buttons, etc.
 - HTML tables: representing tabular data using HTML table elements
 - HTML events
 - HTML header elements and meta tags
 - **Semantic HTML**: importance and usage of semantic elements like `<article>`, `<section>`, `<header>`, `<footer>`, `<main>`
- **CSS: CASCADING STYLE SHEETS**
 - Introduction to CSS
 - How CSS can be added to HTML: Inline CSS, Internal CSS, External CSS
 - CSS selectors: ID, class, universal selectors, grouping selectors, descendant/child selectors, pseudo-selectors
 - Background styling: bg-repeat, bg-position, bg-image, etc.
 - Styling fonts: color, bg-color, text-align, font-family, font-size, etc.
 - Box model: borders and outline, margin and padding, height and width, CSS dimensions
 - CSS display and positioning: visibility, display, scrollbars, static position, relative position, absolute position, fixed position, z-index
 - CSS media queries
 - CSS float and clear
 - CSS animations
 - CSS flexbox and grid

- **CSS preprocessors:** Introduction to Sass or LESS, benefits, variables, nesting, mixins
- **Responsive Design:** mobile-first design principles, responsive typography, and images

- **JAVASCRIPT**

- Introduction to JavaScript, rules and syntax, commenting, etc.
- Linking JavaScript to your HTML file
- Dialog boxes: prompt box, alert box
- Document Object Model (DOM)
- JavaScript variables: var, let, and const keyword, variable scope, variable data types, reserved words
- JavaScript operators: logic operators, arithmetic operators, comparison operators
- Strings and their methods: length(), slice(), charAt(), toUpperCase(), etc.
- Conditional statements: if-else statement, switch statement, while loop, do-while loop, for loop
- Loop control: continue statement, break statement
- Functions: function definition, anonymous functions, function calling, function parameters, return statement
- Numbers and their methods
- Arrays and their methods: push(), map(), pop(), unshift(), etc.
- Objects: key-value pairs, dot notation, bracket notation, destructuring, spread operator, etc.
- DOM manipulation: the event object, event propagation, event bubbling
- Event listeners: submit, click, mouse-over, etc.
- **ES6+ features:** arrow functions, template literals, promises, async/await

- **Version Control with Git**

- Basics of Git and GitHub
- Cloning, branching, committing, pushing, and creating pull requests
- Importance of version control in collaborative projects
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- **JavaScript Libraries and Frameworks**

- Introduction to popular libraries/frameworks [React]
- Basic usage and benefits of these tools

- **Build Tools**

- Basics of npm (Node Package Manager)

- **Accessibility**

- Importance of web accessibility
- ARIA roles and attributes
- Best practices for making websites accessible

- **Performance Optimization**
 - Basic techniques for optimizing website performance
 - Minification, image optimization, lazy loading
 - Importance of performance in user experience
- **Deployment**
 - Basic deployment concepts
 - Introduction to platforms like Netlify, Vercel, or GitHub Pages

Assignments and Projects:

- Assignments will be given at the end of each class to ascertain understanding.
- Necessary videos and PDFs will be provided to guide students.
- At the end of the course, each student will be required to build three projects.