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Course: Front-End Web Development

Course Description:

This course provides a comprehensive introduction to Front-End Web Development, focusing on the technologies and tools used to create engaging and interactive user interfaces. Students will learn HTML, CSS, and JavaScript to build responsive and visually appealing websites.

Course Objectives:

- Understand the core concepts of front-end web development.
- Gain proficiency in HTML, CSS, and JavaScript.
- Develop skills to create responsive and accessible web interfaces.
- Learn modern front-end frameworks and libraries.
- Explore best practices and industry standards for front-end development.

Course Outline:

Week 1: Introduction to Front-End Development

- Overview of front-end web development and its role in website creation.
- Introduction to web standards, W3C, and web accessibility.
- Basic principles of responsive design and mobile-first development.

Week 2: HTML & CSS Fundamentals

- Introduction to HTML and its structure.
- Working with text, links, images, and multimedia.
- Semantic HTML and its importance for accessibility and SEO.
- Introduction to CSS and its role in styling web pages.
- Selectors, properties, and values.
- Box model, layout techniques, and positioning.

Week 3: Responsive Web Design , CSS Preprocessors and Frameworks

- Media queries and creating responsive layouts.
- Fluid grids and flexible images.
- Responsive navigation and typography.
- Introduction to CSS preprocessors (e.g., Sass, Less) and their benefits.

- Working with variables, mixins, and nesting.
- Integration of CSS frameworks (e.g., Bootstrap, Foundation).

Week 4: JavaScript Fundamentals & DOM Manipulation

- Introduction to JavaScript and its role in enhancing interactivity.
- Variables, data types, and operators.
- Control flow, loops, and functions.
- Introduction to the Document Object Model (DOM).
- Selecting and modifying elements.
- Event handling and creating interactive web pages.

Week 5: Introduction to Front-End Frameworks

- Overview of popular front-end frameworks (e.g., React, Angular, Vue.js).
- Component-based architecture and development.
- Building dynamic and interactive web applications.

Week 6: Web Performance Optimization & Web Accessibility

- Techniques to optimize website loading speed.
- Minification, bundling, and caching.
- Performance auditing and testing tools.
- Understanding accessibility guidelines and standards.
- Techniques for creating accessible web content.
- Testing and evaluating accessibility.

Week 7: Version Control and Collaboration with Industry Best Practices and Trends

- Introduction to version control systems (e.g., Git) and their benefits.
- Collaborative web development workflows.
- Deployment strategies and hosting options.
- Exploring current trends and advancements in front-end development.
- Best practices for code organization, naming conventions, and documentation.
- Keeping up with evolving web standards and technologies.

Grading Criteria:

- Quizzes and Assignments: 40%
- Front-End Development Projects: 50%
- Class Participation: 10%