

(Building Futures Through Digital Knowledge and Innovation)

Website Designing & Development (12 Months)

Syllabus

1. Introduction to Web Design and Development

- ✓ Role of front-end and back-end development in web projects.
- ✓ Overview of the full stack: **HTML, CSS, JavaScript, PHP, MySQL**.
- ✓ Setting up development environment: text editor, browser, local server.

2. HTML, CSS, and Responsive Design

- ✓ Structuring web content with HTML5.
- ✓ Styling web pages with CSS3, including Flexbox and Grid.
- ✓ Creating responsive layouts using media queries

3. JavaScript and DOM Manipulation

- ✓ Introduction to JavaScript and its applications.
- ✓ Document Object Model (DOM) manipulation for interactivity.
- ✓ Event handling, user input, and dynamic content.

4. Advanced JavaScript and jQuery

- ✓ Advanced JavaScript concepts: closures, scope, **this** keyword.
- ✓ Introduction to jQuery for simplifying DOM manipulation.
- ✓ Creating interactive elements and animations with jQuery.

5. Sass and Advanced CSS Techniques

- ✓ Utilizing Sass for organized and efficient CSS development.
- ✓ Using variables, mixins, and nesting in Sass.
- ✓ Implementing advanced CSS techniques like animations and transitions.

6. PHP Basics and Server-Side Scripting

- ✓ Introduction to PHP and its role in server-side scripting.
- ✓ Variables, data types, control structures, and functions in PHP.
- ✓ Integrating PHP with HTML to create dynamic web pages.

7. Database Design and MySQL

- ✓ Fundamentals of relational databases.
- ✓ Creating and managing databases using MySQL.
- ✓ Structuring tables, defining relationships, and writing SQL queries. Privacy laws and regulations

8. PHP and MySQL Integration

- ✓ Connecting to MySQL database using PHP.
- ✓ Querying, updating, and manipulating database records.
- ✓ Handling user input, form validation, and data security.

9. User Authentication and Security

- ✓ Implementing user registration and login systems.
- ✓ Hashing passwords for secure storage.
- ✓ User authentication and access control.

10. Git and GitHub for Version Control

- ✓ Introduction to version control with Git.
- ✓ Collaborative development workflows using GitHub.
- ✓ Cloning, branching, merging, and resolving conflicts.

11. Building a Dynamic Website

- ✓ Integrating front-end and back-end technologies.
- ✓ Creating a dynamic website with user registration, login, and data retrieval.
- ✓ Implementing a **CRUD** (Create, Read, Update, Delete) interface.

12. Project Deployment and Web Hosting

- ✓ Preparing a website for deployment.
- ✓ Hosting a website on a web server.
- ✓ Domain management and DNS configuration.

13. Artificial Intelligence in Web Development

- ✓ Introduction to AI and its role in modern web development
- ✓ Using AI tools like ChatGPT and Copilot for coding assistance
- ✓ Basics of integrating AI APIs (e.g., OpenAI API, Google AI) into web applications
- ✓ Personalization and recommendation systems using AI