

# Web Development Foundations - Course Syllabus

**Total Duration: 40 Hours**

## **Unit 1: Designing for the Internet**

- Welcome to Web Foundations
- Course overview and explanation of the course toolkit
- Overview of web design terminology, workflows, and careers
- Introduction to UX & UI
- Define and differentiate concepts of UI and UX
- Recognize common UI design software tools and shortcuts
- Design Workflow & Principles
- Define scope and conduct research for a new project idea
- Understand the importance of the target audience
- Designing for Responsive Layouts
- Identify grid types for optimal content display
- Understand responsive and mobile-first design approaches
- Typography and Color Theory
- Introduction to typography in web design
- Understanding color theory for web design
- Implementing text and color for readability
- UI Patterns and Components
- Understanding common UI patterns (buttons, forms, navigation)
- Applying UI components to create effective layouts
- Unit Project: Mood Board to Mockup

## **Unit 2: Web Development Basics**

- The Internet & HTML
- Overview of the internet, history, and regulations
- Introduction to HTML syntax and text formatting
- Styling with CSS
- Understanding CSS and its role in web development
- Compare UI design concepts with CSS properties
- Explore character sets and font families
- Advanced CSS Techniques
- Advanced selectors, pseudo-classes, pseudo-elements

- Working with Flexbox and CSS Grid Layout
- Introduction to CSS animations and transitions
- Arranging Content
- Structuring content using semantic HTML
- Positioning elements with CSS
- Unit Project: Green Team Website

### **Unit 3: Advanced Web Development Concepts**

- Introduction to JavaScript
- Overview of JavaScript in web development
- Basic syntax and data types
- JavaScript Functions and Control Flow
- Understanding functions, parameters, return values
- Working with control structures (if-else, loops)
- DOM Manipulation
- Understanding the Document Object Model (DOM)
- Selecting and modifying elements with JavaScript
- Event handling and user interaction
- Unit Project: Interactive Website

### **Unit 4: Final Project & Deployment**

- Final Project Planning
- Define project goals, gather requirements, develop a timeline
- Create a design plan and start coding
- Integrating JavaScript & CSS
- Enhance the final project with JS interactivity and advanced CSS
- Final Testing and Debugging
- Perform cross-browser testing and improve code quality
- Deploying Your Website
- Deploy sites using GitHub Pages and Netlify
- Set up and maintain a live website
- Unit Project: Final Website

### **Learning Objectives**

- Define industry terms and careers in web design
- Compare and contrast UI and UX design
- Utilize design software for UI/UX projects

- Create structured content using HTML
- Apply CSS styling and advanced techniques (Flexbox, Grid, Animations)
- Implement JavaScript for interactivity
- Use the DOM to manipulate content dynamically
- Debug JavaScript code and troubleshoot issues
- Deploy a live website using GitHub Pages or Netlify