



# Web Design & Front-End Development

Welcome to the Web Design & Front-End Development course at St. Bede's College. This 2nd-year undergraduate course spans 45 lectures over 15 weeks, building on basic computer literacy and introductory HTML & CSS.

Our goal is to equip you with strong proficiency in front-end technologies, enabling you to create responsive, interactive, and visually appealing websites for real-world projects.





# Course Objectives & Outcomes

## Core Objectives

- Build strong proficiency in HTML5, CSS3, JavaScript.
- Create responsive, interactive, visually appealing websites.
- Develop skills for real-world web design projects.

## Key Learning Outcomes

- Build semantically structured, accessible websites.
- Create responsive layouts using CSS3, Flexbox, Grid, Bootstrap.
- Add interactivity through client-side JavaScript.
- Deploy and manage basic static websites.
- Develop a complete front-end project.

# Unit 1: Advanced HTML & Semantic Structure

## Topics Covered (Lectures 1-8)

- Semantic HTML5 elements: header, footer, section, article, nav.
- Forms & Input Types (radio, checkbox, date, color, etc.).
- Tables with advanced formatting.
- Embedding media (videos, audio, iframe).
- Accessibility basics (ARIA labels, semantic tags).

## Practical Applications

Build a multi-section web page with semantic elements.

Create a complex form with validation-ready input fields.

Embed a YouTube video and a Google Map.



# Unit 2: CSS3 Styling & Layout Techniques

## Topics Covered (Lectures 9-16)

- Box model, positioning, and z-index.
- Flexbox: layout and alignment techniques.
- CSS Grid: building 2D layouts.
- Pseudo-classes & pseudo-elements.
- Custom fonts, shadows, gradients.

## Practical Applications

Design a responsive 3-column layout using Flexbox.

Create a photo gallery using CSS Grid.

Style form elements using pseudo-classes.

# Unit 3: Responsive Design & Frameworks

## Topics Covered (Lectures 17-23)

- Media queries and breakpoints.
- Mobile-first design philosophy.
- Bootstrap 5 fundamentals (grid, containers, utilities).
- Bootstrap components: Navbar, Cards, Carousel.
- Theme customization with Bootstrap.

## Practical Applications

Recreate a layout using Bootstrap's grid system.

Build a responsive landing page with navbar and carousel.

Customize a Bootstrap theme for a blog layout.

# Unit 4: JavaScript for Interactivity

## Topics Covered (Lectures 24-32)

- JavaScript variables, functions, conditions, loops.
- DOM manipulation (querySelector, innerHTML, classList).
- Event handling (click, submit, change).
- Form validation techniques.
- Intro to animations using JS.

## Practical Applications

Create a form with real-time validation.

Build an image slider using JS.

Show/hide content based on user actions.

# Unit 5: Web Project Integration & Deployment

## Topics Covered (Lectures 33–39)

- File structure & linking (relative vs absolute paths).
- Version control basics with Git.
- Hosting static sites using GitHub Pages / Netlify.
- Basic SEO practices.
- Testing & browser compatibility.

## Practical Applications

Set up a personal portfolio project with Git.

Deploy a live site using GitHub Pages.

Optimize images and metadata for SEO.

# Unit 6: Final Project & Assessment

## Project Topics (Choose One)

- Responsive Portfolio Website with Bootstrap and JavaScript.
- Interactive Restaurant Website with Menu, Gallery, Reservation Form.
- Blog Site with Search, Categories, and Form Validation.
- E-commerce Homepage Prototype (Cart mockup, product cards, filters).

## Assessment Includes

Project Submission & Presentation.

Code Review & Usability Check.

Viva on technologies used.