

CSPE3007 WEB TECHNOLOGY (3-0-0)

Course Objectives:

- Illustrate the Semantic Structure of HTML and CSS.
- Compose forms and tables using HTML and CSS.
- Design Client-Side programs using JavaScript and Server-Side programs using PHP.
- Infer Object Oriented Programming capabilities of PHP.
- To create more interactive and responsive web applications by allowing web pages to update content without reloading the entire page

Module-I: (08 Hrs)

Introduction to HTML

Web Essentials: Clients, Servers and Communication:

The Internet – Basic Internet protocols – The WWW, HTTP request message – response message, web clients, web servers.

Introduction to HTML, what is HTML and Where did it come from? HTML Syntax, Semantic Markup, Structure of HTML Documents, Quick Tour of HTML Elements, HTML5 Semantic Structure Elements, HTML Tables and Forms, Introducing Tables, Styling Tables, Introducing Forms, Form Control Elements, Table and Form Accessibility.

Module-II: (08 Hrs)

Introduction to CSS

What is CSS, CSS Syntax, Location of Styles, Selectors, The Cascade: How Styles Interact, The Box Model, CSS Text Styling.

Advanced CSS: Layout, Normal Flow, Positioning Elements, Floating Elements, Constructing Multicolumn Layouts, Approaches to CSS Layout, Responsive Design, CSS Frameworks.

Module-III: (08 Hrs)

JavaScript: Client-Side Scripting

What is JavaScript and What can it do? JavaScript Design Principles, where does JavaScript Go? Syntax, JavaScript Objects, The Document Object Model (DOM), JavaScript Events, Forms, Introduction to Server-Side Development with PHP, what is Server-Side Development, A Web Server's Responsibilities, Quick Tour of PHP, Program Control, Functions.

Module-IV: (08 Hrs)

Introduction to PHP

Declaring variables, data types, arrays, strings, operations, expressions, control structures, functions, reading data from web form controls like Text Boxes, radio buttons, lists etc., Handling File Uploads, connecting to database (My SQL as reference), executing simple queries, handling results, Handling sessions and cookies.

File Handling in PHP: File operations like opening, closing, reading, writing, appending, deleting etc. on text and binary files, listing directories.

Module-V: (08 Hrs)

Introduction to AJAX

Exploring different web technologies, creating a simple AJAX application, interacting with the Web Server Using the XML Http Request Object, Create an XML Http Request Object, Interact with the Web Server. Differentiating AJAX and Non-AJAX application.

Working with PHP and AJAX: Introduction, Process Client Requests, Accessing Files Using PHP, Implementing Security and Accessibility in AJAX applications: Introduction, Secure AJAX Applications, and Accessible Rich Internet Applications.

Course Outcomes:

After the completion of course, students will be able to:

- Demonstrate the ability to construct web pages using HTML5, CSS and CSS frameworks.
- Develop Client-Side Scripts using JavaScript.
- Develop Server-Side Scripts using PHP to generate and display the contents dynamically.
- Appraise the principles of object-oriented development using PHP.
- Build dynamic, interactive and secure web applications using AJAX and PHP.

Text Books:

1. Randy Connolly, Ricardo Hoar, "Fundamentals of Web Development", 1stEdition, Pearson Education India.
2. Zak Ruvalcaba Anne Boehm, "Murach's HTML5 and CSS3", 3rdEdition, Murachs/Shroff Publishers & Distributors Pvt Ltd, 2016.

Reference Books:

1. Robin Nixon, "Learning PHP, MySQL &JavaScript with jQuery, CSS and HTML5", 4thEdition, O'Reilly Publications, 2015.
2. Nicholas C Zakas, "Professional JavaScript for Web Developers", 3rd Edition, Wrox/Wiley India, 2012.