Web Technology I

Course Code: CIT106
Year : 1
Semester : II
Credit Hour: (2TH + 1PR)

Course Objectives:

This course is designed to serve as an ideal beginners guide to writing web pages using HTML, using CSS to make pages more appealing and add interactivity to pages using JavaScript. After completing the course, students will be familiar with the recent technologies such as web technology, client side programming, server side programming, and will be able to develop web based applications.

Course Content:

1. **Basic Concept:** **3hrs**

   1.1. Introduction to Internet, WWW, Web Browser, Web Servers, URL;

   1.2. Overview of different protocols: HTTP, HTTPS, POP, SMTP, FTP, WAP;

   1.3. Domain name and hierarchy, domain name registration process, web hosting.

2. **HTML and XHTML:** **8hrs**

   2.1. Structuring Documents for the Web: Introducing HTML and XHTML, Tags and Elements, Basic Syntax;

   2.2. Basic Text Formatting , Presentational Elements, Phrase Elements;

   2.3. Lists, Creating Links, Images, Audio, and Video, Using Images asLinks, Adding Flash, Video, and Audio to Your Web Pages;

   2.4. Tables : Introducing Tables, Basic Table Elements and Attributes,Spanning Columns Using the colspan Attribute, Spanning Rows Using the rowspan Attribute;

   2.5. Forms and Form Controls: Introducing Forms, Creating a Form with the Element, The action Attribute , The method Attribute, The id Attribute, The onsubmit Attribute, The onreset Attribute, The enctype Attribute, The accept-charset Attribute, The accept Attribute, The target Attribute, White Space and Text Inputs, Buttons, Checkboxes, Radio Buttons, Select Boxes, File Select Boxes, Hidden Controls

   After completion of this section following web-pages have to be developed:

   - *Web page with list and menus*
   - *Different look and feel web pages using divisions*
   - *Photo gallery*
   - *Page with internal and external links*
   - *User interface with different controls to take user data should be developed*

3. **Introducing Cascading Style Sheet:** **8hrs**

   3.1. Introduction, Where You Can Add CSS Rules, Levels of Style Sheets

   3.2. Style Specification Formats, Style classes, Properties and Property Values, color, The :focus and :active Pseudo-Classes , Positioning and Layout with CSS

After completing CSS, Program with different kinds of styles should be developed.

4. **Learning JavaScript:** **10hrs**

   4.1. Basic of JavaScript and The Document Object Model

   4.2. Starting to Program with JavaScript: Variables, Assigning a Value to a Variable, Lifetime of a Variable, Operators, Arithmetic Operators, Assignment Operators, Comparison Operators, Logical or Boolean Operators, String Operator (Using + with Strings)

   4.3. Functions, Conditional Statement, Looping

   4.4. Event and Event handling

   4.5. DOM Event Model and Element Positioning

   4.6. Changing colors and fonts

   4.7. Form Validation: When to Validate, What You Can Check For, How to Check a Form, Checking Text Fields, Select Box Options, Radio Buttons, Checkboxes

   After completion of JavaScript: User interface with form validation capability should be developed, (validation: check for empty fields, specific length string, email validation)

5. **Programming in PHP and MYSQL:** **16hrs**

   5.1. PHP's Place in the Web World, Basic Rules of PHP Programs, Uses of PHP

   5.2. Text, Numbers, Variables in PHP

   5.3. Primitives, Operations, Expression and Control Statements

   5.4. Array, Functions, Form Handling

   5.5. Working with Databases : Organizing Data in a Database, Connecting to a Database Program, Creating a Table, CRUD operation 5.6 Cookies, Session Tracking

   After completion of this section, web site with data entry form with form validation functionality, attractive look and feel and basic database handling should be developed.

Laboratory

1. Every topic of the course content should be included for the lab.
2. Individual or group project work to develop a web application should be assigned. This should cover most of the technologies included in the course content. Final evaluation for project work should be done by External assigned by Department.

References Books:

1. Beginning HTML, XHTML, CSS, and JavaScript, Jon Duckett, Addison- Wiley
2. Learning PHP 5, A Pain-Free Introduction to Building Interactive Web Sites, David Sklar, O'Reilly Media
3. Programming the World Wide Web, Robert W. Sebesta, Addison- Wesley
4. PHP and MySQL Web Development, Luke Welling, Addison-Wesley Professional O'Reilly Media