FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: **Bachelor of Technology (Electrical Engineering)**

Semester: **VI**

Course Code: **202040622**

Course Title: **Web Programming**

Course Group : **Open Elective**

Course Objectives: To become familiar with the Web and how it works, this course provides basic knowledge of web fundamentals like WWW, DNS, client server architecture etc. By learning this course students will be able to create attractive web applications using web technologies like HTML,CSS, JavaScript and XML.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
				Theory		J/V/P*		Total
Lecture	Tutorial	Practical		Internal	External	Internal	External	
2	0	2	3	50/18	50/17	25/09	25/09	150/53

* **J**: Jury; **V**: Viva; **P**: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	**Introduction to Web** History of Internet, WWW, Browser architecture, Client Server Architecture, Protocols: HTTP, HTTPS, FTP, Introduction to DNS and how it works, types of servers, Introduction to Web 2.0 and Web 3.0	3
2	**Concepts of effective web design** Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, User centric design, Sitemap, Designing effective navigation, Static Vs dynamic websites	3
3	**Basics of HTML** Introduction to HTML, structure of an HTML page, HTML tags, HTML attributes, Comments in HTML, meta tags, frames, Tables, Images, Links, List, buttons, HTML forms, HTML5, audio and video interfaces, HTML Semantics, Introduction to XHTML, difference between HTML and XHTML, Introduction to DHTML.	10

4	**Designing with CSS** Introduction to CSS, types of CSS, Benefits of using CSS, CSS properties: background, color, fonts, Display and borders, CSS selectors, CSS Box Model, Positioning in CSS, links and tables with CSS, Introduction to CSS 2.0 and CSS 3.0.	**7**
5	**Introduction to JavaScript** Basics of JavaScript, Client side scripting with JavaScript, internal and external JavaScript , variables, Operators, functions, conditions, loops and repetition, arrays ,Pop up boxes, Advance JavaScript: JavaScript and objects, JavaScript own objects, the DOM and web browser environments, Manipulation using DOM, forms and validations, CSS and JavaScript, Events and buttons.	**12**
6	**XML** Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT	**5**

List of Practicals / Tutorials:

1	Demonstration of Web Browsers: Different components, Checking SSL Certificates, Inspect Elements, Browser Console, view Source etc.
2	Creating Sample HTML pages using tags like, headers, paragraphs, alignments, divisions etc.
3	Write an HTML code for 1. Displaying various types of List 2. Displaying Images in HTML
4	Write an HTML code for following table

A	B		
	C	D	E
	F	G	H
I	J		K

5	Design a web page using different types of CSS
6	Create an HTML page which shows the use of Positioning in CSS
7	Write HTML and CSS code for the following: (i) Set color of visited link to "green". (ii) Set background color of paragraph to "yellow" (iii) Set list style for unordered lists to "square". (iv) Set any image as the repeated background image of the page
8	Write an HTML code for the student registration form.
9	Write JavaScript code for Regular Expressions and validation.

10	Write a JavaScript that handles following events. (i) If the mouse is over heading, change font color to "red" and if the mouse goes out of the heading change it to "black" (ii) If key pressed is 'a','e','i','o','u', the message should be displayed on pop up box that "vowel is pressed"
11	Create Student.xml file which shows the details of student
12	Develop a simple website using Web designing fundamentals

Reference Books:

1	Developing Web Applications, Ralph Moseley and M. T. Savaliya, Wiley-India
2	Web Technologies, Black Book, dreamtech Press
3	Learning PHP, MySQL, JavaScript, CSS & HTML5, 3rd Edition, Robin Nixon, O'Reilly
4	Web Design, Joel Sklar, Cengage Learning

Supplementary learning Material:

1	https://www.w3schools.com/
2	https://www.tutorialspoint.com/
3	https://developer.mozilla.org/en-US/docs/Web
4	Coursera course on Web Design for Everybody: Basics of Web Development & Coding Specialization offered by University of MICHIGAN.
5	Coursera course on Responsive Website Development and Design Specialization offered by University of MICHIGAN.
6	NPTEL Video Lectures of Internet Technology by Indranil Sengupta, IIT Kharagpur [Available at: http://nptel.ac.in/courses/106105084/]

Pedagogy:
- Direct classroom teaching
- Assignments/Quiz
- Continuous assessment
- Seminar/Poster Presentation
- Course Projects

Internal Evaluation:

The internal evaluation comprised of written exam (40% weightage) along with combination of various components such as Certification courses, Assignments, Mini Project, Seminar, Unit test, Quiz, Class Participation etc. where individual component weightage should not exceed 20%.

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						R: Remembering; U: Understanding; A: Applying; N: Analyzing; E: Evaluating; C: Creating
R	U	A	N	E	C	
15%	20%	30%	10%	10%	15%	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Understand the basic concepts of the Web.	15
CO-2	Implement the modern web pages using the HTML and CSS features.	30
CO-3	Learn how to create dynamic web pages using JavaScript.	25
CO-4	Develop modern Web applications using the web design fundamentals.	30

Curriculum Revision:	
Version:	2.0
Drafted on (Month-Year):	June-2022
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	June-2025