AMRITA VISHWA VIDYAPEETHAM
AMRITA SCHOOL OF ENGINEERING, COIMBATORE
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Academic year: 2019 - 2020 , 2nd Semester, B.Tech CSE

19CSE103 USER INTERFACE DESIGN L-T-P-C: 1-0-3-2

Preamble

Focus in this course is on the basic understanding of user interface design by applying HTML, CSS and Java Script. On the completion of the course, students will be able to develop web applications.

Course Objectives

- To understand the concepts and architecture of the World Wide Web.
- To understand and practice Markup Language.
- To understand and practice Embedded Dynamic Scripting on Client-side Internet Programming.
- To understand and practice Web Development Techniques on client-side.

Syllabus

Unit 1

Introduction to Web – Client/Server - Web Server - Application Server- HTML Basics- Tags - Adding Web Links and Images-Creating Tables-Forms - Create a Simple Web Page - HTML 5 Elements - Media – Graphics.

Unit 2

CSS Basics – Features of CSS – Implementation of Borders - Backgrounds- CSS3 - Text Effects - Fonts - Page Layouts with CSS

Unit 3

Introduction to Java Script – Form Validations – Event Handling – Document Object Model - Deploying an application

Text Book(s)

Kogent Learning Solutions Inc. Html5 Black Book: Covers Css3, Javascript, Xml, Xhtml, Ajax, Php And Jquery. Second Edition, Dreamtech Press; 2013.

Reference(s)

1. Tittel E, Minnick C. Beginning HTML5 and CSS3 For Dummies. Third edition, John Wiley & Sons; 2013.
2. Powell TA, Schneider F. JavaScript: the complete reference. Paperback edition, Tata McGraw-Hill; 2012.

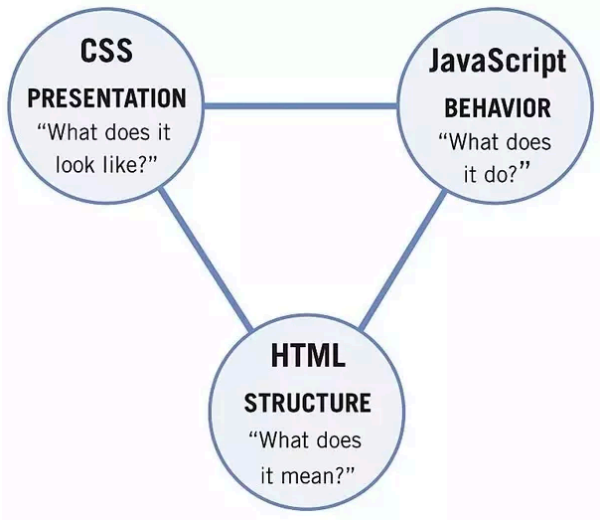
Course outcomes

COs	Course Outcome Description	BTL
CO1	Understand the basics of World Wide Web	L2
CO2	Understand the fundamentals of HTML5	L2
CO3	Understand the fundamentals of CSS and Java Script	L2
CO4	Design and deploy a simple web application	L3

CO-PO Mapping

PO/ PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	2										3	2
CO2	1	2	2										3	2
CO3	1	2	2					1					3	2
CO4	1	2	3		3			3	2				3	2

Concept Map



Evaluation Pattern

Evaluation mechanism	Weightage
Periodical 1	20%
Periodical 2	20%
Continuous Evaluation	30%
End-semester examination	30%

Course Plan

Lecture No(s)	Topics	Keywords	Objectives
1-3	Introduction to Web Client/Server - Web Server, Application Server	Introduction to Computer networks - Internet Standards – Introduction to WWW – WWW Architecture	To understand the concepts and architecture of the World Wide Web
4-6	Lab-1 - Introduction to IDE VS Code and configuring utilities to introduce IDE		
7-8	HTML Basics Elements	h, p, ,br, center, pre, hr, ul, ol, li	To understand working of basic HTML tags
9-11	Lab-2 - Introducing basic elements		
12	Adding Web Links	A link tag and its attributes	Linking webpage
13	Images, Tables	Img tag with its attributes, Table, th, tr, td, colspan, rowspantags	Include image in an HTML page
14-16	Lab-3 - Practice of Web Links and Image elements		
17-19	HTML Forms components	Form, form elements - input, select, option, texture, button and related attributes	Web form or HTML form on a web page allows a user to enter data that is sent to a server for processing
20-22	Lab-3 - Practicing form elements		

23-24	Create a Simple Web Page	Webpage creation	Simple webpage including all the learnt concepts
25-27	Lab-4 - Evaluation on creating simple Webpage		
28	HTML 5 Elements - Media	Semantic tags, Audio, Video tags along with control attributes	Embedding playable media files directly into a web page
29	HTML 5 Elements Graphics	canvas, SVG	Draw graphics using HTML elements
30-32	Lab-5 - Practicing Media and Graphics tags		
33-34	CSS Basics – Features of CSS	Three Different Ways Of Implementing Styles Within An Html Page	To define the style of an HTML document
35-37	Lab-6 - Practicing CSS feature		
38	Fonts	Family, style, size, weight, variant	Properties to define the font family, boldness, size, and the style of a text
39	Implementation of Borders	style, width, colour, radius	to specify the style, width, colour and radius of element's border
40-42	Lab-7 - Practicing CSS Fonts and Border features		
43-44	Backgrounds	background-color background-image background-repeat background-attachment background-position	Define the background effects for elements
45-47	Lab-8 - Practicing CSS Backgrounds features		

48	Text	color, direction, text-indent , text-align, text-overflow word-wrap word-break writing-mode	To manipulate text using CSS properties
49	Page Layouts	Column Layout	designing webpage layouts using CSS
50-52	Lab-9 - Evaluation on HTML and CSS		
53-54	Introduction to Java Script	History, How to run, Statements, variables, operators, data types, functions	Introduction to client-side scripting language
55-57	Lab-10 - Practice on <SCRIPT> element (Inline, Embedded, and External)		
57-58	Document Object Model	Document object	To understand DOM objects
59-61	Lab-11 - Practice on accessing elements using DOM - getElementsByID, Class, Name		
62-63	Form Validations and Event Handling	Forms: event and method submit, Form properties and methods. onClick, onSubmit	Validate form's data on the client's computer. processes keystrokes and mouse actions
64-66	Deploying web page in Apache Tomcat Web Server		

CO – PO Mapping – Justification

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

CO1	Understand the basics of World Wide Web	L2
CO2	Understand the fundamentals of HTML5	L2

CO3	Understand the fundamentals of CSS and Java Script	L2
CO4	Design and deploy a simple web application	L3

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2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

CO1	Understand the basics of World Wide Web	L2
CO2	Understand the fundamentals of HTML5	L2
CO3	Understand the fundamentals of CSS and Java Script	L2
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3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

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4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to Assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

-NA-

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

-NA-

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

CO3	Understand the fundamentals of CSS and Java Script	L2
CO4	Design and deploy a simple web application	L3

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

CO4	Design and deploy a simple web application	L3

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

-NA-

11. Project management and finance: Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

-NA-

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

-NA-

Faculty Members

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