Amrita School of Engineering, Chennai

Name of the Course / Code	19CSE103/USER INTERFACE DESIGN	Department	CSE
Credit	2	Semester / Year	II SEMESTER
Name of the Faculty	Dr. P. RAGUPATHY	Pre-requisite	NIL
Designation / Dept	ASSISTANT PROFESSOR / CSE	Academic Year	2021-2022
Course Overview	This course provides the foundations of HTML, CSS and Java Script. This course is very much useful to create websites. Web development is the main application of this course.		

	Course Objective		Course Outcome	BTL	Weightage of BTL
1	Focus in this course is on the basic understanding of user interface design by applying HTML, CSS and Java Script.	CO1	Understand the basics of World Wide Web.	2	0.22
2	On the completion of the course, students will be able to develop basic web applications	CO2	Understand the fundamentals of HTML5	3	0.24
3	This course will serve as the foundation for students to do several projects and other advanced courses in computer science	CO3	Understand the fundamentals of CSS and Java Script.	3	0.99
		CO4	Design and deploy a simple web application.	6	0.78

	Course BT Level	2.23

Course 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.Responsive Web Design – Grid view, Media Queries, Images, Videos, frameworks and templates.

Unit 3
Introduction to Java Script – Form Validations – Event Handling – Document Object Model –Deploying an application.

TEXTBOOK:

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

REFERENCES:

1. Amrita Vishwa Vidyapeetham BTECH CSE 2019

2. Tittel E, Minnick C. Beginning HTML5 and CSS3 for Dummies. Third edition, John

Wiley & Sons; 2013.

3. Powell TA, Schneider F. JavaScript: the complete reference. Paperback edition, Tata

McGraw-Hill; 2012.

Concept Map
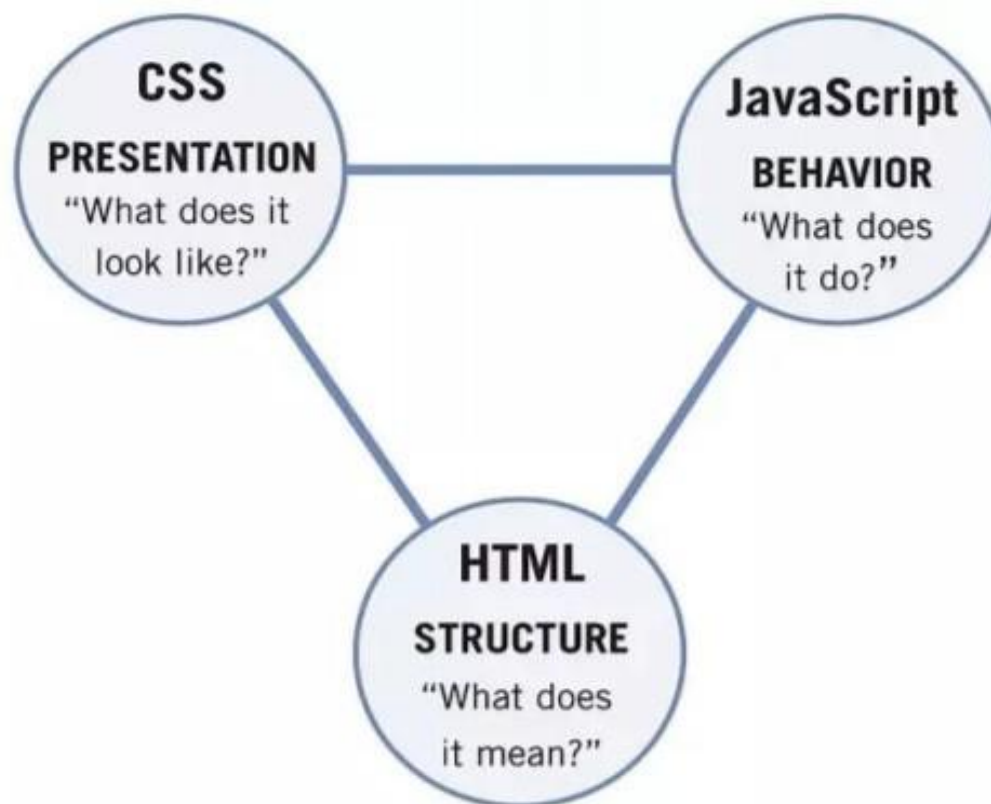
COURSE SUMMARY

Level of Attainment (2021-2022)				
Threshold (%)	Target (%)	Percentage of Students		
		Level 1	**Level 2**	**Level 3**
Weightage Components(2021-2022)				
Components/	CO1	CO2	CO3	CO4

CO					
Midterm (20)					
CA(10)					
Lab Component (40)					
ESE(30)					
Total					

Evaluation and Grading

Components	Internal (70)		External (30)	Total (100)
	Weightage			
Mid Term Exam	Online (10 Marks) Viva (10 Marks) Total – 20 Marks			
Continuous Assessments*	10 Quiz(2)			
Lab Component (40)	Experiment	20	External End Sem Exam(30)	Internal + External = 100 Marks
	Assignment(1)	10		
	Lab Exam	10		

*Continuous Assessments can be a combination of quizzes and assignments.

Programme Outcome (PO)

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

PO 2	**Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 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.
PO 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.
PO 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.
PO 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.
PO 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.
PO 8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance:** Demonstrate knowledge and understanding of the 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.
PO 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.
PSO 1	Ability to design and engineer, innovative, optimal and elegant computing solutions to interdisciplinary problems using standard practices, tools and technologies.
PSO 2	Ability to learn emerging computing paradigms for research and innovation

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2
CO														
CO 1	2	2	2			2	2						3	2
CO 2	2	2	2							3			3	2
CO 3	2	2	2					1		3			3	2
CO 4	2	2	3	2	3			3	2				3	2

3 – Strong, 2 – Moderate, 1 – Weak

Class	Topics to be covered	Mode of Teaching	In-Class Activities	Out- Class Student Activities (E – References)	CO Mapping	Reference
1(L)	Introduction to Web Client/Server – Web Server, Application Server	Online class demonstration, Presentation, Discussion with students	Each student discusses their view on Web	https://nptel.ac.in/courses/106/105/106105084/ and https://www.youtube.com/watch?v=BcmUOmv11N8	CO1	T1,R2
2-3(P)	Introducing basic HTML elements, Practice of web links, tables and images	Online class demonstration, Presentation, Discussion with students	Lab Questions over basic HTML tags	https://www.youtube.com/watch?v=QetWL4lWlL4 (NPTEL and IIT) and https://www.youtube.com/watch?v=6kycPB7RMnY and https://www.w3schools.com/html/html_intro.asp	CO1	T1, R2
4(L)	HTML: Frames, iFrames	Online Demo	Inquiry based learning from students	https://www.educba.com/html-frames/and https://www.w3schools.com/html/	CO1	T1, R2
5-6(P)	Forms and its components	Online class demonstration, Presentation, Discussion with students	Inquiry based learning from students	https://www.educba.com/html-frames/and https://www.w3schools.com/html/	CO1	T1, R2
7(L)	Practicing Form elements and creating a simple web page	Online Demo	Lab exercises over Frames, iframes, and forms	https://www.codecademy.com/articles/local-web-page or https://websitesetup.org/ or https://www.wix.com/ or https://www.w3schools.com/html/	CO1	T1, R2
8-9(P)	HTML 5 elements: Media and Graphics	Online class demonstration, Presentation, Discussion with students	Student centered approach by making students understand by their own	https://www.w3schools.com/html/ and https://www.oreilly.com/library/view/html5-media/9781449308063/ch01.html	CO2	T1, R2

10(L)	Practicing media and Graphics tags	Online class demonstration, Presentation, Discussion with students	Lab exercises over HTML webpage with media and graphics	https://jats.nlm.nih.gov/archiving/tag-library/1.1d1/n-wdi2.html and https://www.w3schools.com/html/	CO2	T1, R2
11-12 (P)	CSS Basics – Features of CSS:	Online class demonstration, Presentation, Discussion with students	Inquiry based learning from students	https://www.w3schools.com/css/ and https://www.w3.org/Style/LieBos2e/enter/Overview.en.html	CO3	T1,R2
13(L)	3 Ways of Implementing Styles Within Html	Online class demonstration, Presentation, Discussion with students	Inquiry based learning from students	https://www.w3schools.com/css/ and https://www.w3.org/Style/LieBos2e/enter/Overview.en.html	CO3	T1,R2
14-15 (P)	Practicing CSS Feature	Online class demonstration, Presentation, Discussion with students	Lab exercises over basic features of CSS	https://www.w3schools.com/css/ and https://www.w3.org/Style/LieBos2e/enter/Overview.en.html	CO2	T1, R2
16 (L)	CSS Fonts and implementation of borders, backgrounds, Text	Online class demonstration, Presentation, Discussion with students	Student centered approach by making students understand by their own	https://www.w3schools.com/css/ and https://www.w3.org/Style/LieBos2e/enter/Overview.en.html	CO3	T1, R2
17-18(P)	Practicing CSS Fonts	Online class demonstration, Presentation, Discussion with students	Lab exercises over fonts, borders, backgrounds, and text	https://www.w3schools.com/css/ and https://developer.mozilla.org/en-US/docs/Learn/CSS/Building_blocks/Backgrounds_and_borders	CO3	T1, R2
19(L)	Implementation of borders, backgrounds, Text	Online class demonstration, Presentation, Discussion with students	Lab exercises over fonts, borders, backgrounds, and text	https://www.w3schools.com/css/ and https://developer.mozilla.org/en-US/docs/Learn/CSS/Building_blocks/Backgrounds_and_borders	CO3	T1, R2

20-21(P)	CSS Page Layout and Column Layout	Online class demonstration, Presentation, Discussion with students	Lab exercises	https://www.w3schools.com/css/ or https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Introduction	CO3	T1, R2
22 (L)	Designing layouts using CSS	Online class demonstration, Presentation, Discussion with students	Exercises to design webpage using Layouts in CSS	https://www.w3schools.com/css/ and https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Introduction	CO3	T1, R2
23-24 (P)	Inline, Internal and External Style Sheets	Online class demonstration, Presentation, Discussion with students	Student centered approach by making students understand by their own	https://www.coursera.org/projects/compare-inline-internal-external-css and https://www.w3schools.com/css/	CO3	T1, R2
			Quiz 1			
25 (L)	Practicing to create webpage using HTML and CSS	Online class demonstration, Presentation, Discussion with students	Online tools to familiarize with CSS in HTML	https://www.w3schools.com/css/ and https://www.coursera.org/lecture/web-development/creating-html-how-to-practice-l2b0A	CO2	T1, R2
26-27 (P)	Responsive Web Design and templates.	Demo & execution	Implementing using Dreamweaver tool	https://www.webdew.com/blog/responsive-web-design-templates	C04	T1, R2
28 (L)	Grid view, Media Queries	Online class demonstration, Presentation, Discussion with	Inquiry based learning from students side	https://www.youtube.com/watch?v=mu0qTVIkkAs	CO4	T1, R2

			students			
29-30 (P)	Images, Videos, frameworks	Online class demonstration, Presentation, Discussion with students	Implementing using Dreamweaver tool and Inquiry based learning from students side	https://www.youtube.com/watch?v=ZsJRXS_vrw0	C04	T1, R2
31(L)	Introduction to Java Script and client side scripting language, Event handling and validation using java script	Online Execution using tools	Lab exercises ,Inquiry based learning from students side	https://data-flair.training/blogs/javascript-events/ and https://www.w3schools.com/js/ and https://javascript.info/	CO3	T1,R3
32-33(P)	Practice Script element (Inline, Embedded and External),	Online class demonstration, Presentation, Discussion with students	Lab exercises to familiarize the basis of scripting language	https://data-flair.training/blogs/javascript-events/ and https://www.w3schools.com/js/ and https://javascript.info/	CO3	T1,R3
34(L)	Practice session over the event handling and validation, multi validation forms	Online class demonstration, Presentation, Discussion with students	Lab exercises to familiarize the basis of scripting language	https://data-flair.training/blogs/javascript-events/ and https://www.w3schools.com/js/ and https://javascript.info/	CO3	T1,R3
Assignment 1						
35-36(P)	Event handling – background color change	Online class demonstration, Presentation, Discussion	Inquiry based learning and flipped classroom	https://javascript.info/ and https://data-flair.training/blogs/javascript-events/ and https://www.w3schools.com/js/	CO3	T1,R3

		with students	approach			
37(L)	combo box and other features in java script	Online class demonstration, Presentation, Discussion with students	Inquiry based learning and flipped classroom approach, Lab exercises	https://javascript.info/ and https://data-flair.training/blogs/javascript-events/ and https://www.w3schools.com/js/	CO3	T1,R3
38-40(P)	Event handling on Mouse click, Mouse over, on click and on submit	Online class demonstration, Presentation, Discussion with students	Exercises to familiarize the mouse events in Java Script	https://javascript.info/mouse-events-basics and https://www.w3schools.com/js/ and https://javascript.info/	CO3	T1,R3
41(L)	Practicing HTML CSS	Combined exercises over HTML, CSS and Java	Lab exercises ,Online Practicing Java Script	https://www.w3schools.com/js/ and https://javascript.info/ and https://www.w3schools.com/css/	CO4	T1,R3
42-43(P)	Practicing Java Script and doubt clearance session POGIL Approach	Combined exercises over HTML, CSS and Java	Online Practicing Java Script			
Quiz 2						
44(L)	Practicing HTML, CSS, and Java Script and	POGIL Approach	Lab exercises ,Combined exercises over HTML, CSS and Java Script	https://www.w3schools.com/js/ and https://javascript.info/ and https://www.w3schools.com/css/	CO4	T1,R3
45(L)	Practicing CSS, and Java Script	Lab Activity	Combined exercises with CSS	Revision	CO3	T1,R3

		BTL Mapping			
UNIT	**Major Topics**	**Skill Set**	**CO**	**BTL**	**Weightage of BTL**
1	World Wide Web, HTML Elements, tags and attributes	Learning to create webpage using HTML	1 2	3 3	1.5 0.6
2	CSS, its features, sheets, styles and properties	Learning CSS and Incorporating HTML and CSS to create their own web page	3 4	3 3	1.2 0.45
3	Java Script and its event handling techniques, Deploying Applications	Learning Java Script and incorporating HTML,CSS and Java Script together in their web page	4 4	6 6	2.76 0.78
			Course BT Level : 2.43		

Faculty **Course Mentor** **Academic In charge** **Principal**

CO. No	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	Questions for Student Survey on Learning Outcomes (Upon completing the module, I am able to:)					
CO1	Can you understand the basics of World Wide Web ?					
CO2	Can you understand and develop interactive Web pages using HTML5 ?					
CO3	Can you present a professional document using Cascaded Style Sheets and construct websites for user interactions using JavaScript?					
CO4	Can you develop and deploy web applications?					