

A. Course Handout

Institute Name	Chitkara University Institu	Chitkara University Institute of Engineering & Technology			
Department Name	Department of Computer	Department of Computer Science & Engineering			
Programme Name	Bachelor of Engineering (E	Bachelor of Engineering (B.E.)-Computer Science & Engineering			
Course Name	Introduction to Web	Session	2021-2022		
	Technologies				
Course Code	CS111	Semester/Batch	1st/2021		
Lecture/Tutorial (Per Week)	0-0-10	Course Credit	4		

1. Objectives of the Course

The main objectives of the course are:

- To provide knowledge of Hypertext Markup Language and to enable students to build user friendly websites.
- To provide the required skills and project-based experience needed for entry into web design and development careers.
- To provide knowledge of variety of strategies and tools to create well-designed websites.

2. Course Learning Outcomes

Student should be able to:

CLO01: Identify the basis of designing a Website; create Web pages, links, images, tables and pages layouts in HTML.

CLO02: Describe and identify the use of JavaScript and successfully place it into Web pages and also recognize the uses of JavaScript.

CLO03: Use JavaScript to manipulate elements in the DOM to change appearance and visibility.

CLO04: Describe how intended website design features will specifically benefit a target user group content strategy.

3. Recommended Books (Reference Books/Text Books):

RB1: 'Web Enabled Commercial Application Development using HTML, JavaScript, DHTML and PHP' by Ivan Bayross, 4th Edition, BPB Publications.

RB2: 'The Complete Reference HTML & XHTML' by Thomas Powell, 5th Edition, Tata McGraw-Hill Company Limited.

RB3: 'HTML 4.0' by E. Stephen Mack, Janan Platt, Anaya Multimedia publication.

RB4: 'Mastering HTML, CSS &JAVAScript Web Publishing' by Laura Lemay, Rafe Coburn, Jennifer Kyrnin, 7th edition, SAMS publication.

RB 5: 'Learning web designing: a beginner's guide to HTML, CSS, JavaScript, and web graphics' by Niederst Robbins, 4th Edition, Oreilly Publication

4. Other readings and relevant websites

S.No.	Link of Journals, Magazines, websites and Research Papers
1.	https://www.w3schools.com/
2.	http://www.quirksmode.org/dom/intro.html
3.	https://www.codeschool.com/courses/front-end-foundations
4.	https://www.w3schools.com/jquery/
5.	http://nptel.ac.in/courses/106105084/13



5. Recommended Tools and Platforms

Sublime Text/Notepad++/Any text editor
Coding Ninjas (online platform- https://www.codingninjas.com/)

6. Course Plan

Lecture No.	Торіс	Detailed Contents
1-2	Getting Started with Basics	 Welcome to Course History Of Web Client Server Architecture Frontend and Backend What Happens When You Visit a Website
3-5	Introduction to HTML	 HTML Page Structure Title Tag Basic HTML Tags Unordered Lists Ordered Lists Adding Lists to Blog page Adding Image to Blog Page Adding Header To Blog Page Learning Anchor Tag, Internal and External links
6-8	More on HTML	 Div Tag Semantic Tags Adding Internal Links to Web Page Block vs Inline Elements Text Formatting Tags Special Characters Adding Tables More Attributes and Tags Related to Table
9	Forms	 Creating a Simple Form Input Types Attributes of form elements Radio button and Checkbox Select, Textarea and Button Form Attributes Media Tags Favicon and Meta Tags
10-12	Introduction to CSS	CSS IntroductionBlog Page Structure



		 Adding Styles Using CSS Adding Styles Using External CSS Preference of Rules Chrome Dev Tools Class Selector ID Selector Specificity of Selectors Grouping and Nesting of CSS Selectors
13-15	Styling with CSS	 Adding Color CSS Units How to Add Border to an Element Text Styling Adding Background to an Element Margins Padding Display Property Aside Section of Blog Page Position Property Box Model Min Max Width
16-17	Resume Project	 Resume Project Intro HTML Structure Adding Header Background image Navigation Adding Social Icons About Section
18-20	Flex	 Flex Intro Flex direction Flex Wrap Flex Grow and Flex Shrink Flex justify content Align content Converting Resume Code to Flex Resume Skills section and Heading Creating Skill indicators
21-23	Completing Resume	 Overflow-Wrap Gradients Link Related Pseudo Classes Lightbox Animation Pseudo Elements Using Before and After Pseudo elements



24-26	Responsive Design	 What and Why of Responsive Designs Different ways to make Responsive Measurement Units for Responsive Designs Viewport Meta Tag Media Queries Desktop First vs Mobile First Responsiveness Check on Resume Media Queries on Resume
27-29	Animations and 3d Space	 Transitions and Transforms Creating a Simple Animation Animation Property Multiple Animations Animate.css Starting with 3D Cube Animation Building Second Face of Cube
30-34	Bootstrap	 What are Frontend Frameworks Getting Started with Bootstrap Adding Bootstrap to your Project Bootstrap Breakpoints Bootstrap Grid System Code Using Bootstrap Grid System Margin and Display Utilities Other Utility Classes Bootstrap Components Modals Collapse Component Nav Navbar Jumbotron Template
35	Major Project	 Web Design Process CSS Variables CSS Variables Scope Project Demo Video
36-42	Starting with JavaScript	 Intro to JavaScript History of JavaScript Chrome Dev Tools Variables Null vs Undefined Operators Type Coercion Conditionals Loops



43-48	Javascript functions and Arrays	 Functions Variable Length Arguments Function Hoisting Functions and Scope Function within Function Function Expressions Function Declaration vs Expressions Passing function as arguments Arrays Functions on Arrays Splice function Iterating over arrays
49-53	Object and Timing Events	 Objects Square Bracket Notation Deleting Properties How are Objects Stored Iterating Over Objects Nested Objects Arrays and Objects Iterating over array using for in Timing Events Countdown Timer
54-57	Understanding Dom	 DOM Accessing DOM Fetching Elements Event Handling Script Tag External JS File Other Mouse and Keyboard Events Propagation of Event Strict Mode
58-60	Calculator Project	VS CodeCalculator DemoHint - Calculator

7. Evaluation Scheme & Components:

Evaluation	Type of Component	No. of	Weightage of	Mode of
Component		Assessments	Component	Assessment
Component 1	Project-based assessment	02*	20%	Online /Offline



Component 2	Sessional Test	03**	30%	Online /Offline
Component 3	End Term Examination	01	50%	Online /Offline
Total			100%	

^{*}Project based assessment is mandatory, the ERP system automatically picks the average marks of best 02.

8. <u>Details of Evaluation Components</u>:

Evaluation Component	Description	Syllabus Covered (%)	Timeline of Examination	Weightage (%)
Component 1	Project-based assessment	100%	Mid of semester and End of semester	20%
	Sessional Test-1	30%	5 th week of semester	
Component 2	Sessional Test-2	25%	7 th week of semester	30%
	Sessional Test-3	25%	9 th week of semester	
Component 3	End Term Examination*	100%	At the end of the semester	50%
Total				100%

^{*}As per Academic Guidelines minimum 75% attendance is required to become eligible for appearing in the End Semester Examination.

9. Syllabus of the Course:

Subject: Introduction to Web Technologies	Subject Code: CS 111
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S.N.	Topic (s)	No. of Lectures	Weightage %
1	 Getting Started with Basics Welcome to Course History Of Web Client Server Architecture Frontend and Backend What Happens When You Visit a Website 	1	3%
2	Introduction to HTML	1	4%

^{**}Out of 03 STs, the ERP system automatically picks the average marks of best 02 STs.



	HTML Page Structure		
	Title Tag		
	Basic HTML Tags		
	Unordered Lists		
	Ordered Lists		
	Adding Lists to Blog page		
	Adding Image to Blog Page		
	Adding Header To Blog Page		
	Learning Anchor Tag		
	2 Zearning / merior ray		
3	More on HTML	1	
	Div Tag		
	 Semantic Tags 		
	 Adding Internal Links to Web Page 		
	Block vs Inline Elements		6%
	 Text Formatting Tags 		
	Special Characters		
	Adding Tables		
	 More Attributes and Tags Related to Table 		
4		2	
	Forms Creating a Simple Form		
	Creating a Simple Form Input Types		
	Input Types Attributes of forms alamanta		
	Attributes of form elements Parkin button and Charleton		
	Radio button and Checkbox		6%
	Select, Textarea and Button Serve Attributes		
	• Form Attributes		
	Media Tags		
	Favicon and Meta Tags		
5	Introduction to CSS	1	
	CSS Introduction		
	Blog Page Structure		
	 Adding Styles Using CSS 		
	 Adding Styles Using External CSS 		
	 Preference of Rules 		504
	Chrome Dev Tools		6%
	Class Selector		
	ID Selector		
	 Specificity of Selectors 		
	 Grouping and Nesting of CSS Selectors 		
6	Styling with CSS	1	
J	Adding Color		
	CSS Units		6%
	How to Add Border to an Element		0/8
	Text Styling		
	- 10/10/04/11/16		



Adding Background to an Element Margins Margins Padding Display Property Aside Section of Blog Page Position Property Box Model Min Max Width 7 Resume Project Intro HTML Structure Adding Header Background image Navigation Adding Social Icons Adding Social Icons About Section 8 Flex Flex Intro Flex direction Flex Wrap Flex Grow and Flex Shrink Flex grow and Flex Shrink Flex justify content Align content Converting Resume Code to Flex Resume Skills section and Heading Creating Skill indicators 9 Completing Resume Overflow-Wrap Gradients Link Related Pseudo Classes Lightbox Animation Pseudo Elements Using Before and After Pseudo elements Responsive Design What and Why of Responsive Designs Different ways to make Responsive Measurement Units for Responsive Designs Viewport Meta Tag Media Queries Desktop First vs Mobile First		Addison Dealers and the set Element		
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11 Animations and 3d Space 2	11	Animations and 3d Space	2	
Transitions and Transforms		Transitions and Transforms		604
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Animation Property		Animation Property		



	Multiple Animations		
	Animate.css		
	Starting with 3D Cube AnimationBuilding Second Face of Cube		
42	-		
12	Bootstrap ■ What are Frontend Frameworks	2	
	Getting Started with Bootstrap		
	Adding Bootstrap to your Project Bootstrap Project		
	Bootstrap Breakpoints Deathtrap Grid Systems		
	Bootstrap Grid System Goda Using Restators Grid System		
	Code Using Bootstrap Grid System		
	Margin and Display Utilities		6%
	Other Utility Classes		
	Bootstrap Components		
	• Modals		
	Collapse Component		
	• Nav		
	Navbar		
	Jumbotron Template		
13	Major Project	2	
	Web Design Process		
	CSS Variables		6%
	CSS Variables Scope		
	Project Demo Video		
14	Starting with Javascript	1	
1	Intro to Javascript		
	History of Javascript		
	Chrome Dev Tools		
	 Variables 		
	Null vs Undefined		6%
	Operators		
	Type Coercion		
	• Conditionals		
	• Loops		
15	Javascript functions and Arrays	2	
15	Functions	2	
	Variable Length Arguments		
	Function Hoisting		
	Functions and Scope		
	Function within Function		
	Function Expressions		5%
	Function Declaration vs Expressions		
	Passing function as arguments		
	ArraysFunctions on Arrays		
	■ Functions on Arrays		
	Splice function		



	 Iterating over arrays 		
16	Object and Timing Events	2	
	 Objects 		
	Square Bracket Notation		
	 Deleting Properties 		
	How are Objects Stored		
	 Iterating Over Objects 		5%
	Nested Objects		
	 Arrays and Objects 		
	 Iterating over array using for in 		
	Timing Events		
	Countdown Timer		
17	Understanding Dom	1	
	• DOM		
	Accessing DOM		
	 Fetching Elements 		
	Event Handling		F9/
	Script Tag		5%
	External JS File		
	Other Mouse and Keyboard Events		
	 Propagation of Event 		
	Strict Mode		
18	Calculator Project	1	
	• VS Code		3%
	Calculator Demo		370
	Hint - Calculator		
20	Closures	2	
	Revisiting Old Concepts - Window Object		
	Revisiting Old Concepts - Scopes		
	Avoid Global Variables		
	• IIFE		
	Let vs IIFE		1%
	• Closures		170
	More on Closures		
	Closures and let		
	Let in for loops		
	Arrow Functions		
	Bindings in Arrow Function		
21	Constructors and Prototypes	2	
	Intro to Lecture		
	This Keyword		
	This in Strict Mode		10/
	Function to create Objects		1%
I	Constructor		
	Adding Behaviour to Objects		



	Why Prototypes ?		
	More Properties around Prototype		
	Objects		
	object vs Object()		
	• Class		
	Class Expressions and Hoisting		
	 Inheritance Using Classes 		
23	JQuery-1	2	
	Introduction to JQuery		
	Writing Code Using Jquery		F9/
	Modifying CSS Using Query		5%
	Event Handling Using JQuery		
	Event naming osing squery		

This Document is approved by:

Designation	Name	Signature
Course Coordinator	Ms. Navjeet Kaur	
Program Head	Dr. Raj Gurang Tiwari	
Dean	Dr. Meenu Khurana	
Date (DD/MM/YYYY)	30/11/2021	