



# GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Computer Applications

Level: UG

Course / Subject Code: BC03001051

Course / Subject Name: Web Development Project

w. e. f. Academic Year:	2025-26
Semester:	3
Category of the Course:	Skill Enhancement Courses

<b>Prerequisite:</b>	None
<b>Rationale:</b>	<p>This course introduces students to the fundamentals of web development. It emphasizes basic HTML for structure, CSS for styling, and JavaScript for interactivity to help students build static web pages and simple dynamic behavior.</p> <p><b>Pedagogy:</b> In this course, students work in pairs to develop web applications through a hands-on, project-based learning approach. Each weekly 4-hour lab includes a short concept briefing, instructor demo, team-based coding practice, and peer review. Students progressively build a web project starting with HTML structure, followed by CSS styling and JavaScript interactivity. The final mini project demonstrates their integrated learning, with teams presenting and documenting their work. Active learning methods like pair programming, peer assessment, and reflective feedback enhance collaboration and skill acquisition. The instructor acts as a facilitator, guiding students through checkpoints and encouraging creative exploration.</p>

## Course Outcome:

After Completion of the Course, students will be able to:

No	Course Outcomes	RBT Level
01	Create structured web pages using HTML elements.	CR
02	Style and layout web pages using CSS.	AP
03	Add interactivity to web pages using basic JavaScript.	AP
04	Demonstrate understanding of the Document Object Model (DOM) and perform basic manipulations using JavaScript.	AP
05	Develop a simple static web application combining HTML, CSS, and JavaScript.	CR

\*Revised Bloom's Taxonomy (RBT)

## Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
0	0	4	2	0	0	50	50	100



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## Course Content:

Unit No.	Content	No. of Hours
1	Introduction to HTML: Structure of HTML documents, common tags, attributes, links, images, lists, tables, forms.	12
2	CSS Basics: Inline, internal, and external CSS; selectors, properties, box model, colors, typography, backgrounds.	12
3	Layout with CSS: Positioning, float, flexbox, grid layout, media queries for responsiveness.	12
4	Introduction to JavaScript: Variables, data types, operators, control structures, functions, arrays, objects.	12
5	DOM Manipulation & Events: Accessing and modifying elements, handling user events, basic form validation, mini project.	12

## List of Laboratory / Active Learning Assignments:

- Weekly coding tasks and demonstrations
- In-class design challenges
- Peer code reviews
- Final mini project presentation

## Suggested Practical List:

1. Create a personal portfolio web page using HTML.
2. Design and style a product showcase using CSS.
3. Use Flexbox/Grid to layout a multi-column webpage.
4. Write a basic JavaScript program for a calculator or form validation.
5. Manipulate DOM to update page content dynamically.
6. Mini project combining HTML, CSS, and JavaScript.

## Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	20	-	-	50

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

## References/Suggested Learning Resources:

### (a) Books:

1. HTML and CSS: Design and Build Websites by Jon Duckett, Wiley Publishing Company
2. JavaScript and JQuery: Interactive Front-End Web Development by Jon Duckett, Wiley Publishing Company
3. Web Development with Node and Express by Ethan Brown, O'Reilly
4. HTML & CSS: The Complete Reference by Thomas Powell, McGraw-Hill
5. JavaScript: The Definitive Guide (Latest Edition) by David Flanagan, O'Reilly



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6. Mastering HTML, CSS & JavaScript Web Publishing by Laura Lemay, Rafe Colburn, Jennifer Kyrnin; BPB Publication

(b) Tools:

1. Git: <https://git-scm.com/>
2. GitHub: <https://github.com/>
3. GitHub Desktop: <https://desktop.github.com/>

(c) Resources:

1. HTML online resources:  
[https://spoken-tutorial.org/tutorial-search/?search\\_foss=HTML&search\\_language=English](https://spoken-tutorial.org/tutorial-search/?search_foss=HTML&search_language=English)
2. CSS online resources:  
[https://spoken-tutorial.org/tutorial-search/?search\\_foss=CSS&search\\_language=English](https://spoken-tutorial.org/tutorial-search/?search_foss=CSS&search_language=English)
3. JavaScript online resources  
[https://spoken-tutorial.org/tutorial-search/?search\\_foss=JavaScript&search\\_language=English](https://spoken-tutorial.org/tutorial-search/?search_foss=JavaScript&search_language=English)

## CO- PO Mapping:

Semester 3	Course Name : Web Development Project										
	POs										
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	2	-	1	-	-	-	-	-	-
CO2	3	3	3	-	3	-	-	-	-	-	-
CO3	2	3	3	-	3	-	-	-	-	-	-
CO4	2	2	3	2	3	-	-	-	-	-	-
CO5	2	3	3	2	3	-	-	-	-	-	-

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

**Note: The CO-PO mapping is indicative; the institute/faculty member can change as required.**

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