

**NIRMA UNIVERSITY**

<b>Institute:</b>	Institute of Technology
<b>Name of Programme:</b>	BTech All (Other than CSE)
<b>Course Code:</b>	3CS519IE24
<b>Course Title:</b>	Web Technologies
<b>Course Type:</b>	Interdisciplinary Minor-Elective
<b>Year of Introduction:</b>	2024-25

L	T	Practical Component				C
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**Course Learning Outcomes (CLO):**

At the end of the course, the students will be able to –

1. illustrate various concepts related to dynamic web pages and validate them using JavaScript (BL2)
2. apply the concepts of HTML and CSS to design static web pages (BL3)
3. develop web applications using the concepts of jQuery (BL4)
4. develop interactive advanced web applications using AngularJS and PHP. (BL4)

Unit	Contents	Teaching Hours (Total 45)
Unit-I	<b>Introduction to Internet protocols and web servers:</b> Internet Protocol Model overview, Internet Protocol, Web servers, IIS Configurations and settings, Apache Configuration	09
Unit-II	<b>HTML:</b> HTML Documents, HTML Structure tags, HTML Block level tags, HTML Text level tags, Different types of Lists, Nesting of lists, Linking HTML Documents, Frames, tables and forms	09
Unit-III	<b>Cascaded Style Sheets:</b> Different approaches to style sheets, using multiple approaches, linking to style information in separate file, setting up style information using inline, internal and external style sheet	09
Unit-IV	<b>JavaScript:</b> JavaScript syntax, variables and their types, JavaScript operators, arrays and array methods, control statements, built-in objects in JavaScript, Array, String, validation using JavaScript	10
Unit-V	<b>Introduction to JSON:</b> Use of JSON data structures, JSON object, Collection of name-value pairs, ordered list of values	08

**Self-Study:**

The self-study contents will be declared at the commencement of the semester. Around 10% of the questions will be asked from self-study content.

**Suggested Readings/ References:**

1. Deitel Nieto, Internet and World Wide Web: How to Program, Pearson
2. Scott Parker, The Web Designer's 101 Most Important Decisions Professional Secrets for a Winning Website, Adams Media
3. Kogent Learning Solutions Inc., Html5 Black Book: Covers CSS3, Javascript, XML, XHTML, Ajax, Php and JQuery, Dreamtech Press
4. Jon Duckett, Beginning Web Programming with HTML, XHTML, and CSS, Wiley
5. Achyut Godbole, Atul Kahate, Web Technologies, McGraw Hill Education

**Suggested List of Experiments:**

<b>Sr. No.</b>	<b>Title</b>	<b>Hours</b>
1	Design a web page to illustrate the various HTML tags.	02
2	Write CSS code to demonstrate Inline, Internal, and external cascading style sheets.	02
3	A) Write a script that reads in two integers and determines and outputs HTML text that displays whether the first is in a multiple of the second. B) Create a JavaScript that merges two arrays without duplicating elements. C) Implement a JavaScript function that takes a string as an argument that has lower and upper-case letters and converts upper-case letters to lower-case and lower-case letters to uppercase.	04
4	A) Write a JavaScript code to display the denomination of the amount deposited in the bank in terms of 100's, 50's, 20's, 10's, 5's, 2's and 1's (eg. If the deposited amount is Rs.163, the output should be 1-100's, 1-50's, 1-2's and 1-1's). B) Design a web page that has a simple guessing number game. Write a JavaScript function that generates a random number between 1 and 200. Give the user 5 attempts to guess the random number. If the user guesses it correctly, then change the background color of the web page to yellow, and if the user fails to guess the number after 5 attempts, then change the background color of the web page to orange.	04
5	Design a shopping website that provides information about various products to the visitor. A visitor can register on the shopping website if he wishes to purchase some item(s) now or in the future. The registration form should collect the necessary information of a visitor in order to deliver the product if an order is placed. Moreover, design a web page to place orders by the registered user. Validate all the fields of the registration form and order form.	04
6	Write programs/scripts to implement the basics of jQuery Syntax and jQuery Selectors.	02
7	Write programs/scripts for implementing jQuery Events and jQuery Effects.	04
8	Write an AngularJS script to display a list of courses stored in an array at the click of a button using ng-click. Also, demonstrate ng-init and ng-bind directives in AngularJS.	02
9	Create a Single page application using AngularJS for customer registration visiting a departmental store. The form should consist of fields such as name, contact no., gender, favorite item (to be selected from a list of items with quantity), and suggestions. Display the bill with the total number of items selected and the total amount to be paid.	04
10	Write a PHP program to read the employee details using the form component. Display the details once the user submits the form.	02