

NIRMA UNIVERSITY

Institute:	Institute of International Study
Name of Programme:	Bachelor of Science (Computer Science and Engineering) [2+2 Dual Degree]
Faculty	Faculty of Technology & Engineering
Course Code:	2CS203
Course Title:	Web Technologies
Course Type:	Core
Year of Introduction:	2023-24

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

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

1. apply the concepts of HTML and CSS to design static web pages. (BL-3)
2. explain various concepts related to dynamic web pages and validate them using JavaScript. (BL2)
3. outline the concepts of jQuery and implement the web applications. (BL2)
4. design and develop interactive advanced web applications using AngularJS and PHP. (BL6)

Syllabus:

Total Teaching hours: 30

Unit	Syllabus	Teaching hours
Unit-I	HTML and CSS: Basic formatting tags, List, Tables, images, forms, Types of cascading style sheets, Style Specification Formats.	04
Unit-II	JavaScript: Introduction to JavaScript, Variables and Objects, Decision Making Statement, Loops, Arrays, Functions, Document Object Model (DOM), Event Model.	08
Unit-III	jQuery: jQuery Introduction, jQuery Syntax, jQuery Selectors, jQuery Events, jQuery Effects.	06
Unit-IV	VueJS: Introduction, Template, Components, Binding, Events, Directives	07
Unit-V	PHP: PHP Syntax, Variables, Data Types, Functions, PHP Forms, Accessing Form Elements.	05

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

Suggested

**Readings/
References:**

1. Kogent Learning Solutions Inc, HTML 5 Black Book: CSS3, Javascript, XML, XHTML, AJAX, PHP and jQuery, Dreamtech Press.
2. Harvey M. Deitel, Paul J. Deitel & Abbey Deitel, Internet and World Wide Web: How to Program, Pearson Education
3. Nixon, R., Learning PHP, MySQL & JavaScript: with jQuery, CSS & HTML5, O'Reilly.
4. Ajdin Imsirovic, Vue.js Quick Start Guide: Learn how to build amazing and complex reactive web applications easily using Vue.js, Packt Publishing Limited

Suggested List of Experiments:	Sr. No.	Title	Hours
	1	A. Design a web page to illustrate the various HTML tags. B. Design a static and interactive webpage using different HTML tags such as forms, framesets, tables, navigation bars, etc.	06
	2	A. Write CSS code to demonstrate Inline, Internal, and external cascading style sheets. B. Design an organisation website containing the following information: home page, about, and services provided using different CSS features.	04
	3	A. Write a script that reads in two integers and determines and outputs HTML text displays whether the first is 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 with lower and upper-case letters and converts upper-case letters to lower-case and lower-case letters to upper-case.	06
	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 (e.g., 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 which has a simple guessing number game. Write a JavaScript function which generates random number in between 1 to 200. Give user 5 attempts to guess the random number. If user guess it correctly then change the background color of web page to yellow and if user fail to guess the number after the 5 attempts, then change the background color of web page to orange.	04
	5	Design a shopping website that provides information about various products to the visitor. A visitor can register to the shopping website if he wishes to purchase some item(s) now or in future. The registration form should collect necessary information of a visitor in order to deliver the product if order placed. Moreover, design a web page to place orders by the registered user. Validate all the fields of the registration form and order form. The website should also keep track of the visitors.	08
	6	A. Write programs/scripts for implementing basics of jQuery Syntax and jQuery Selectors. B. Write a program to receive the selected value and currently selected text of a drop-down list using JQuery. C. Design an application for the registration which requires online payment. D. Write a program to delete all the rows of the employee database except the first one.	08

- 7 Write programs/scripts for implementing jQuery Events and jQuery Effects. 04
- 8 Create a Vue.js application that fetches weather data from an API. Display the current weather conditions, temperature, and location. Add a search feature to allow users to search for the weather of different locations. 04
- 9 A. Create a Single-page application using VueJS for customer registration visiting a departmental store. The form should consist of fields such as name, contact no., gender, favourite item (to be selected from a list of items with quantity) and suggestions. Display the bill with a total number of items selected and the total amount to be paid. 08
- B. Build a Vue.js application that allows users to create, update, and delete to-do items. Implement features like marking tasks as completed and filtering tasks based on their status.
- C. Build a survey or quiz application using Vuejs where users can answer questions and receive feedback. Utilise data binding to display questions and options dynamically. Implement event handling to capture user responses and calculate scores.
- 10 A. Write a PHP program to read the employee details using the form component. Display the details once the user submits the form. 08
- B. Write a PHP program to pass the variable using a URL.
- C. Write a PHP program to store the student information and display the student information in tabular form. Modify the program to display the student information on another page.
- D. Write a PHP program to demonstrate the usage of sessions and cookies.

Suggested Case List: -NA-