SILVER OAK UNIVERSITY

College of Technology

Bachelor of Technology

Information Technology

Course Name: Advanced Web Technology & Summer Internship

Course Code:1010043322

Semester:5th

Prerequisite:

Basic knowledge of Programming

Objective:

1. Understand the basic concepts of web designing.
2. Describe the fundamental concepts of HTML, CSS, JavaScript
3. Demonstrate the use of Server-side Programming Language PHP and Laravel Framework along with Node.js.

Teaching Scheme:

Teaching Scheme				
L	T	P	Contact Hours	Credit
4	1*	2	7	6

*** Summer internship credit**

Contents:

Unit	Topics	Teaching Hours	Weightage %
1	**Introduction:** Basics of WWW, HTTP protocol methods and headers, HTTP Request and Response, Architecture of web browser, Web server installation and configuration, Web security, CORS, Understanding SEO.	4	7
2	**HTML:** HTML page structure, formatting tags in HTML, tables, links, images, meta tags, frames, html form tags, media, APIs, HTML5 tags in relation to validations and SEO.	7	12
3	**CSS:** Need for CSS, Basic syntax and structure, Backgrounds, Colors and properties, Manipulating texts, Fonts, borders and boxes, Margins, Padding Lists, CSS2, CSS3, Animations, Tool-Tips,Style images, Variables, Media Queries, Wildcard Selectors (*, ^and $) in CSS, Media Query, CSS variables	7	12
4	**Java Script:** Javascript Syntax, Types of Javascript, variables, arrays, functions, conditions, loops, Pop up boxes, Javascript objects and DOM, Javascript inbuilt functions, Javascript validations, Regular expressions, Event handling with Javascript, Callbacks in Javascript, Function as arguments in Javascript, Object concepts in Javascript, JSON	10	16

5	**PHP Basics** Introduction to Server side programming, PHP variables, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, String, Form processing, File uploads, Dates and time zone, Working with Regular Expressions, Exception Handling, Working with JSON data, Object Oriented Programming with PHP	10	17
6	**PHP MVC Framework - Laravel** Introduction to Laravel and MVC, Environment Setup, Routes, Namespaces, Controllers, Views, Request Response, Redirections, Forms, Session, Cookies, Database connectivity and CRUD Operations.	9	18
7	**Node.js** Introduction to Node.js, Node Package Manager, REPL Terminal, Node.js Webserver - Server and Clients, Creating a simple server, Rendering HTML, Rendering JSON Data, Routing	9	18

Course Outcomes:

Sr. No.	CO Statement	Unit
CO-1	Describe the concepts of WWW, HTTP protocol and client-server architecture.	1
CO-2	Develop the web pages (HTML, CSS, Javascript)	2
CO-3	Apply the new features of CSS rules in the web pages for rich User Interface.	3
CO-4	Apply Vanilla JavaScript to display Alert, Prompt and Confirm messages.	4
CO-5	Develop fully functional dynamic web applications using the concepts of PHP, MySQL and Laravel framework	5,6
CO-6	Explore the new feature of Node.js Webserver - Server and Clients related things.	7

Teaching & Learning Methodology:

The various methods or tools to teach the above subject:

1. Problem-based Learning
2. PPT Presentation

List of Experiments: Total Hours: 28

Sr. No.	Practical Name
1	Make a Resume like word document using all the HTML tags. (Don’t use CSS)
2	Create HTML webpage that shows Poster Presentation using all Table Properties.
3	Create table structure as given in image using table.
4	Create HTML webpage that Demonstrate use of Frame and Framesets.
5	Create Registration form and do proper validation with HTML 5 inbuilt functionality. (Don’t use JavaScript)
6	Demonstrate the use of inline, Internal and external stylesheet with proper example.
7	Demonstrate the use of onchange, onmouseover, onmouseout, onkeypress, onload, onfocus events with proper example.

8	Design a web page containing a table with 3 columns and 50 rows. Label each location in the table with row and column location.
9	Demonstrate the use of Array method push(), pop(), shift(), unshift(), sort(), concat(), reverse()
10	Create Array of Colors and bind it with DropDwonList (Select Tag). If any of the color selected then appropriate background color should be set for the page.
11	Write a JavaScript code to change the background color of page at specific time interval.
12	Write JavaScript code that display the text “SILVER OAK UNIVERSITY” with increasing font size in interval of 1 second in blue color. When font size reaches to 50px it should stop.
13	Demonstrate use of different types of pop box in JavaScript.
14	Demonstrate JavaScript Form Validation with proper example.
15	Create HTML page with JavaScript which takes integer number as input and Tells whether the number is prime or not.
16	Write an HTML and JavaScript program which accepts N as input and displays First N Fibonacci numbers as list.
17	Write a Node JS code to create a server.
18	Write a code for reading a file asynchronously (non-blocking code) in Node.js
19	Create webpage in PHP for file upload with following criteria. 1)File type should be .jpg, .gif and .png only. 2)File should not be larger than 800KB. 3)Check if uploaded file already exists.
20	Demonstrate the concept of Exception Handling in PHP with proper example.
21	Create webpage in PHP that collect user information and also display that information on other page.
22	Demonstrate the concept of Cookies and Session in PHP.
23	Create student registration page in PHP and store information in Database. (Use MYSQL).
24	Demonstrate how to display/fetch records in tabular form from database using PHP & Mysql.

List of Open Source Software/learning website:

1. Web Security and SEO
    - https://www.tutorialspoint.com/seo/index.htm
    - https://github.com/vasanthk/web-security-basics
2. HTML
    - https://developer.mozilla.org/en-US/docs/Web/HTML
    - https://www.w3schools.com/html/
    - https://www.tutorialspoint.com/html/index.htm
3. CSS
    - https://developer.mozilla.org/en-US/docs/Web/CSS
    - https://www.manning.com/books/css-in-depth
    - https://www.w3schools.com/css/
    - https://www.tutorialspoint.com/css/index.htm
4. Java Script
    - https://javascript.info/
    - https://github.com/getify/You-Dont-Know-JS
    - https://www.w3schools.com/js/
    - https://www.tutorialspoint.com/javascript/index.htm
5. PHP
    - https://www.w3schools.com/php/
    - https://www.tutorialspoint.com/php/index.htm |
6. Laravel
    - https://www.tutorialspoint.com/laravel/index.htm
    - https://laravel.com/

7. Node.js
    - https://www.w3schools.com/nodejs/
    - https://www.tutorialspoint.com/nodejs/index.htm

CO-PO-PSO Matrix:

Co. No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO-1	1	1										1	1	1
CO-2	1	2	3						2			1	1	1
CO-3	1	1	2		1				2	1		1	1	1
CO-4	2	2	3	2	3	2			3	1	3	3	1	1
CO-5	2	2	3	2	3	2			3	1	3	3	1	1
CO-6	1	1			2							1	1	1