

RIPHAH International Colleges						
A Project of RIPHAH International University						
Course Outline						
Course Information	Course Title	Web Application Development				
	Course ID		Course Type	Computing Elective		
	Credit hours	2	Hours per week (C-L)	1(Th)-3(Lab)		
	Program(s)	ADP Computing (CS)	Semester Session	Fall 2024		
Course Description	This course presents introduction to many of the basic concepts, issues and techniques related to designing (Graphic Design and Software Design), developing and deploying web sites. During the course students will learn about architectural and design issues that are unique to web development. They get hands on practical knowledge of Web Design (Graphics), HTML, XHTML, JavaScript, DHTML (CSS), Php and Web 2.0 concepts.					
Program Learning Outcome(PL O)	No	Program Learning Outcome	Description			
	PLO1	Knowledge for Solving Computing Problems	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements			
	PLO2	Ability to Design	Apply design and development principles in the construction of software systems of varying complexity.			
	PLO3	Problem Analysis	Identify and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines			
	PLO4	Modern Tool Usage	Create, select, or adapt and then apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations			
	PLO5	Individual and Teamwork	Function effectively as an individual and as a member or leader of a team in multidisciplinary settings			
Course Objectives (CO)	This course assumes that students design and develop fully functional website. When students complete this course, they will be able to;					
	No.	Objective		Relation with PLO		
	CO1.	Understanding the basic components in a web development		PLO1		
	CO2.	Knowing the basic syntax of the web related languages		PLO2		
	CO3.	Learning the features of web development: front end development and backend development		PLO2		
	CO4.	Developing web application to solve the real-world problems		PLO5		
Course Learning Outcomes (CLO)	At the end of this course students will be able to;					
	No.	Outcome	Relation with PLO	BT Level	PLO Level	
	CLO1.	Understand principles of web application development		PLO1	C4	I
	CLO2.	Identify the problems & develop their solutions by using web application tools and techniques		PLO2	C3	I
	CLO3.	Demonstrate the skills to develop programming related projects		PLO2	C2	I
	CLO4.	Model a solution for a given problem using web application development principles		PLO3	C4	I
CLO5.	Examine a web based solution		PLO5	C3	I	
Lecture type	Lectures, Lab sessions					

Prerequisites						
Textbook	Title	Edition	Authors	Publisher	Year	ISBN
	Programming Professional PHP5		Dave W. Mercer, Allan Kent, Steven D. Nowicki, David Mercer, Wanky Choi	Wiley	2005	978-0-764-55783-5
Reference Books	Beginning PHP5, Apache, and Mysql Web Development	11 <sup>th</sup> Edition	Elizabeth Naramore, Michael "BuzzLY" Glass	Wrox	2005	978-0-764-57966-0
Course Software or Tool	Netbeans, Windows OS, Notepad++, Notepad, Sublime Text, Wamp Server					
Assessment Criteria (100%)	Assessment	Weight	Used to attain CLO	Assessment	Weight	Used to attain CLO
	Assignment	5%	CLO1,2,4	Quiz	5%	CLO1,3,4
	Lab	15%	CLO1,3,4,5	Project / Presentation	10%	CLO 3,4,5
	Mid Term	25%	CLO1,2,3,4	Final	40%	CLO1,2,3,4
Methods of Evaluation	Quizzes, Assignments, Mid/Final exam, Lab, Project					
Notes						

Week No.	Topic	Lecture No.	Lecture Contents	Class Activity	Tasks
W1.	Introduction	L1.	<ul style="list-style-type: none"> <li>Introduction / Importance of the World Wide Web, Static &amp; Dynamic Websites, Markup Languages Vs Programming Languages</li> <li>Hypertext Markup Language (HTML), Tags, Attributes, Enhancements, HTML Standards, Creating HTML Document, HTML File Structure, HTML Editors, Web pages file extensions.</li> </ul>	Activity: Introduction of each student	Homework: Find out the latest Java compilers
		L2.	<ul style="list-style-type: none"> <li>Basic Structure of HTML Document, Paragraphs, Formatting Text, Linking, Images, Tables, Forms, Meta tags.</li> </ul>		
W2.	Basic CSS	L3.	<ul style="list-style-type: none"> <li>Introducing CSS,</li> <li>External CSS Style, Sheets</li> </ul>	Activity: Create an HTML page and add image.	
		L4.	<ul style="list-style-type: none"> <li>CSS Properties, Controlling Fonts, Text Formatting.</li> </ul>		

W3.	Advanced CSS	L5.	– CSS in Selectors, Lengths, – Dimensions, Links, Backgrounds,		Assignment 1
		L6.	– Lists, Tables, Outlines, Generated Content, Overflow, Page Layout.		
W4.	Introduction to Scripting Language	L7.	– Introduction to JavaScript, – Document Object Model,	Activity: Learn how to use the JavaScript for Onclick functions.	Quiz 1
		L8.	– Objects, Methods, and Properties.		
W5.	Data handling with JavaScript	L9.	– The Forms Collection, Images Collection	Quiz 2	Assignment 2
		L10.	– Functions, Events, Built-in Objects, String, Date, Math, Array, Window		
W6.	Project Proposal	L11.	– Make slider using HTML, CSS, JavaScript & jQuery.		
		L12.	– Make Drop Down menu using HTML, CSS, JavaScript & jQuery.		
W7.	Building Responsive Website	L13.	– Introduction to Bootstrap, Containers, Implementation of Grid,	Task: Learn how to use Bootstrap in web project.	Quiz 2
		L14.	– Form control, Floating labels, Modal, Buttons, Collapse, Carousel		
W8.	Building Responsive Website	L15.	– Form control		
		L16.	– Revision		
W9.	Mid Term Exam	L17.	– <b>Mid Term Examination</b>		
		L18.			
W10.	Backend Development (Introduction to PHP)	L19.	– Getting Started with the PHP, Static Vs Dynamic Pages, Dynamic Pages and PHP, – Installation, Platforms & Web Servers	Task: Learn how create connection with database.	
		L20.	– MySQL, Installation, Writing First Example of PHP, Common Errors with PHP		
W11.	Backend Development (Development in Php)	L21.	– Working with variables, – Conditional Statements, Loops. – Nested Functions and Recursion		Quiz 3
		L22.	– Simple Arrays, Initializing Arrays – Multidimensional Arrays		
W12.	Project Proposal	L23.	– Create employee management module using HTML ,CSS, JavaScript, PHP		
		L24.	– Create employee module in		

			detail		
W13.	PhP Framworks (Introduction)	L25.	– Introduction to WordPress, Getting Started with WordPress, Creating Blog Content		
		L26.	– Pages, Media, And Importing/Exporting Content		
W14.	PhP Framworks (Ecommerce)	L27.	– Introduction to WordPress (wp-admin) panel	Activity: How create Blogs?	Quiz 4
		L28.	– Installing a plugin		
W15.	PhP Framworks (CodeIgniter)	L29.	– Introduction, Connectivity with Database, Load or add a model in CodeIgniter		Assignment 4
		L30.	– Add / link an images/CSS/JavaScript from a view in CodeIgniter, Extend the class in CodeIgniter		
W16.	PhP Framworks (Blog Development)	L31.	– Add record in CodeIgniter, Get last inserted id in CodeIgniter, View, Update and Delete a record in CodeIgniter,		
		L32.	– CodeIgniter: Introduction, Sessions in CodeIgniter. Read, write, or remove session in CodeIgniter, Intro to Helpers, Libraries, and difference between them. Routing between classes, Session Library, Encrypt Class		
W17.	Project Demonstration	L33.	– Project Demonstrations	Project Demonstrations	
		L34.	– Make an Employee Management Module in CodeIgniter Web Framework		
W18.	Final Term Exam		– <b>Final examination</b>		

## LAB CONTENT

Week No.	Topic	Lab Contents / Activity	Home Tasks
W1.	Introduction	– Create a CV Using HTML	
W2.	Basic CSS	– Create a Signup Form Using HTML and css	
W3.	Advanced CSS	– Create a Slider	
W4.	Introduction to Scripting Language	– Create a Basic Structure (Menu, Slider, 3 Boxes)	
W5.	Data handling with JavaScript	– Create a Form and apply validation using JavaScript	
W6.	Data handling with JavaScript	<ul style="list-style-type: none"> <li>– Write a JavaScript program to find the area of a triangle where lengths of the three of its sides are 5, 6, 7.</li> <li>– Write a JavaScript program to get the current date</li> <li>– Write a JavaScript program to calculate</li> </ul>	

		<ul style="list-style-type: none"> <li>– multiplication and division of two numbers</li> <li>– Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit</li> </ul>	
W7.	Building Responsive Website	<ul style="list-style-type: none"> <li>– Write a JavaScript program to get the website URL (loading page).</li> <li>– Write a JavaScript function to get the value of the href, hreflang, rel, target, and type attributes of the specified link</li> </ul>	
W8.	Building Responsive Website	<ul style="list-style-type: none"> <li>– Write a JavaScript function to add rows to a table</li> <li>– Write a JavaScript program to remove items from a dropdown list</li> </ul>	
W9.		– <b>Mid-Term</b>	
W10.	Backend Development (Introduction to Php)	<ul style="list-style-type: none"> <li>– PHP – Environment Setup</li> <li>– Common Uses of PHP</li> <li>– Characteristics of PHP</li> <li>– "Hello World" Script in PHP</li> <li>– PHP – Variable Types</li> <li>– PHP – Constants.</li> <li>– PHP – Operator Types</li> <li>– PHP – Decision Making</li> <li>– PHP – Loop Types</li> <li>– PHP – Arrays</li> </ul>	–
W11.	Backend Development (Php)	<ul style="list-style-type: none"> <li>– Create database using PHP code.</li> <li>– Create a MySQL Table Using MySQLi using php</li> <li>– Insert Multiple Records into MySQLi using php</li> </ul>	–
W12.	Backend Development (Php)	<ul style="list-style-type: none"> <li>– Select Data from a MySQLi Database using php</li> <li>– Delete Data from a MySQLi Table using php</li> </ul>	–
W13.	Backend Development (Php)	<ul style="list-style-type: none"> <li>– Update Data in a MySQLi Table using php</li> <li>– Authentication system applying with session using php</li> </ul>	–
W14.	Php Frameworks (Introduction)	<ul style="list-style-type: none"> <li>– install or setup CodeIgniter In Xampp Server</li> <li>– Hello world example - CodeIgniter framework</li> <li>– Connect to a database in codeigniter</li> <li>– Database configuration Codeigniter framework</li> </ul>	–
W15.	Php Frameworks (CodeIgniter)	<ul style="list-style-type: none"> <li>– Insert data in to data base using Codeigniter framework</li> <li>– Fetch and view data from database using Codeigniter framework</li> </ul>	–
W16.	Php Frameworks (Blog Development)	<ul style="list-style-type: none"> <li>– Update data in to database using Codeigniter framework</li> <li>– Delete data in to database using Codeigniter framework</li> </ul>	–
W17.	Php Frameworks (Ecommerce)	<ul style="list-style-type: none"> <li>– WordPress implementation</li> </ul>	–
W18.		– <b>Final-Term</b>	

