SILVER OAK UNIVERSITY

School of Technology, Design and Computer Application

Silver Oak College of Computer Application

Bachelor of Science Computer Science & Information Technology

Course Name: Server Side Web Development Using Dot Net

Course Code: 3040243237

Semester: 4th

Prerequisite: A solid understanding of basic coding, web development, JavaScript

Course Objective: In the era of digitization, the demand of Internet based applications is increasing day by day. To put students in the orbit of this Internet driven world and to make them comfortable in developing various web based applications, this course is focusing on front-end and Back-end design.

Teaching Scheme:

Teaching Scheme				
L	T	P	Contact Hours	Credit
2	0	4	6	4

Contents:

Unit No.	Course Contents	Teaching Hours	% Weightage
1	**Introducing C# and the .NET Framework** Object Orientation; Type Safety; Memory Management; Platform Support; C# and CLR; CLR and .NET Framework; Other Frameworks; Framework Overview; .NET Standard 2.0; Applied Technologies	03	11
2	**The C# Language Basics Writing Console and GUI Applications** Identifiers and Keywords; Writing Comments; Data Types; Expressions and Operators; Strings and Characters; Arrays; Variables and Parameters; Statements (Declaration, Expression, Selection, Iteration, and Jump Statements); Namespaces	08	30
3	**Creating Types in C# Classes** Constructors and Deconstructors; this Reference; Properties; Indexers; Static Consturctors and Classes; Finalizers; Dynamic Binding; Operator Overloading; Inheritance; Abstract Classes and Methods; base Keyword; Overloading; Object Type; Structs; Access Modifiers; Interfaces; Enums; Generics	10	34
4	**Delegates; Events; Lambda Expressions** Exception Handling; Introduction of LINQ; Working with Databases; Writing Web Applications using ASP-NET	07	25

Course Outcome:

Sr. No.	CO-Statement	Unit
CO-1	Microsoft .Net Platform Features of Microsoft .Net Platform Component of the .Net	1
CO-2	Learn Architecture and overall concept of C# language.	2
CO-3	Study about class & inheritance.	3
CO-4	Performing Data Access in ASP .Net, AJAX and XML Web Services	4

Teaching & Learning Methodology:

1. Chalk/Board
2. PPT

List of Practical **Total Hours:56**

Sr. No.	Practical Name
1	Write a program to print and calculate addition, subtraction, modulus, and multiplication.
2	Write a program to convert years to minutes (years * 24 * 60 * 365).
3	Write a program to find the maximum and minimum from three numbers.
4	Write a program that shows compile-time type checking by attempting invalid type conversions.
5	Create an example to demonstrate garbage collection in .NET.
6	Write a program to calculate the factorial of a number.
7	Write a program to determine whether a number is odd or even.
8	Write a program to generate Fibonacci numbers up to a given value n.
9	Write a program to reverse a number.
10	Write a program that manipulates strings, including concatenation, splitting, and replacing text.
11	Develop a program that uses selection (if/else) and iteration (for/while) statements to find prime numbers.
12	Design a class Person with properties (e.g., Name, Age) and methods (e.g., DisplayInfo).
13	Build a class hierarchy with BaseClass and DerivedClass, showing method overriding and the base keyword.
14	Define an abstract class Shape with abstract methods like CalculateArea and CalculatePerimeter. Create derived classes like Circle and Rectangle.
15	Create an interface IMovable with methods like Move and Stop. Implement this interface in classes like Car and Bike.

16	Develop a generic class that implements a stack with push, pop, and peek functionalities.
17	Create an event-driven program where an event triggers when a threshold is reached (e.g., a counter crossing a value).
18	Write a program to calculate the sum of fractions from 1/2 to 9/10.
19	Write a program that demonstrates single-cast and multi-cast delegates.
20	Write a program that demonstrates proper exception handling with resource cleanup using finally.
21	Create a web page using AJAX controls and create a website with User Controls.
22	Create a webpage and utilize all Data Access controls.
23	Create a webpage using site navigation controls.
24	Build a Database Application Development with ADO.
25	Create a web page for a Database Application with Three-tier architecture.
26	Create a simple application to insert, update, and display data from a database using Entity Framework.
27	Use LINQ to filter and display data from a collection of objects (e.g., a list of employees).
28	Develop a Windows Forms or application for basic CRUD operations (e.g., a contact manager).

Major Equipment:

1. Computer/Laptop

Books Recommended:

1.Faraz Rasheed “Programmer Heaven C# School”.

2. Stephen Walthert “ASP.NET 3.5 unleased”, SAMS

3. Shibi Panikkar and Kumar Sanjeev, “C# with .NET Frame Work”, Firewall Media.

4. Jeffrey Richter, “Applied Microsoft .Net Framework Programming”, (Microsoft)

5. Balagurusamy, “Programming with C#”, TMH

List of Open-Source Software/learning website:

1. https://dotnet.microsoft.com/en-us/learn
2. https://code.visualstudio.com/
3. https://github.com/OmniSharp/omnisharp-roslyn
4. https://www.youtube.com/@freecodecamp

CO-PO-PSO MATRIX:

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