AMITY UNIVERSITY
UTTAR PRADESH

Course Title: .NET FRAMEWORK AND C#
Course Code: CSIT732

L	T	P/ S	SW/F W	TOTAL CREDIT UNITS
3		2	-	4

Course Objectives:

The objectives of the course are:

- This course is aimed to provide a deep understanding of .NET Framework Programming Environment for the students so that they would be able to meet industry requirement.
- The main focus on the concepts regarding C# with LINQ (Language Integrated Query) are added to the .NET Framework as it is apply to all sources of information, not just relational or XML data.

Pre-requisites:

- Basic Programming Language
- Database Management Systems

Course Contents/Syllabus:

	Weightage (%)
Module I : .Net framework	**10**
The .Net framework: Introduction, The Origin of .Net Technology, Common Language Runtime (CLR), Common Type System (CTS), Common Language Specification (CLS), Microsoft Intermediate Language (MSIL), Just-In –Time Compilation, Framework Base Classes	
Module II: C –Sharp Language	**25**
C –Sharp Language (C#): Introduction, Data Types, Identifiers, Variables, Constants, Literals, Array and Strings, Object and Classes, Inheritance and Polymorphism, Operator Overloading, Interfaces, Delegates and Events. Type conversion.	
Module III : C# Using Libraries	**25**

C# Using Libraries: Namespace- System, Input-Output, Multi-Threading, Networking and Sockets, Managing Console I/O Operations, Windows Forms, Error Handling.	
Module IV : Advanced Features Using C#	**25**
Advanced Features Using C#: Web Services, Window Services, Asp.net Web Form Controls, ADO.Net. Distributed Application in C#, Unsafe Mode, Graphical Device interface with C#.	
Module V: .Net Assemblies and Attribute	**15**
.Net Assemblies and Attribute: .Net Assemblies features and structure, private and share assemblies, Built-In attribute and custom attribute. Introduction about generic.	

Student Learning Outcomes:

The student will be able to:

- Explain about framework technology.
- Illustrate the concept of windows as well as web applications in real life situations.
- Demonstrate the knowledge of tools and various functions.
- Examine the opportunities of web development in IT industry.
- Analyze, design and develop websites.

Pedagogy for Course Delivery:

The course will be delivered using classroom teaching, short practical experiments and lab experiments. Apart from this instructor is free to adopt any methodology to make class interactive.

Lab/ Practical details, if applicable:

List of Experiments:

1. Write a C# program to find minimum of three numbers.
2. Write a C# program to swap two numbers without using three variable.
3. Write a C# program to find the Simple Interest.

4. Write C #program for adding, subtracting and multiplying two matrices.
   The program takes inputs for rows and columns of the two matrices separately and then calculates the following :
   1. Addition
   2. Subtraction
   3. Multiplication.

5. Write a program to demonstrate Operator overloading.

6. Write a program in C # on parameterized constructor in multilevel inheritance.

7. Write a program on exception handling for addition of two byte numbers.

8. Using Try, Catch and Finally blocks write a program in C# to demonstrate error handling.

9. Design a simple calculator using Switch Statement in C#.

10. Demonstrate Use of Virtual and override key words in C# with a simple program.

11. Find the sum of all the elements present in a jagged array of 3 inner arrays.

12. Write a Program in C# to demonstrate Command line arguments processing.

13. Write a Program in C# to demonstrate boxing and unBoxing.

14. Implement linked lists in C# using the existing collections name space.

15. Write a program in C# to Input Two Double numbers from the user and find the Addition, Subtraction, Multiplication, Division, Remainder and factorial of the two numbers. (using windows forms)

16. Write a program in C# (for beginners) to input the name from the user and his marks in two subject and find the total in the two subjects(windows form)

17. Write a Program in C# to multiply to matrices using Rectangular arrays.

18. Write a program to demonstrate abstract class and abstract methods in C#.

19. Write a program in C# to build a class which implements an interface which already exists.

20. Write a program to illustrate the connectivity of C# with database.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	Total
60%	40%	100%

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	**Mid Term**	**Assignment**	**Viva**	**Attendance**	
Weightage (%)	10	10	5	5	70

Lab/ Practical/ Studio Assessment:

	Continuous Assessment/Internal Assessment					End Term Examination	
Components (Drop down	**Lab Record**	**Mid Term**	**Performance**	**Viva**	**Attendance**	**Experiment**	**Viva**
Weightage (%)	10	10	10	5	5	40	20

Text

1. Karli Watson, Christian Nagel, Jacob Hammer Pedersen, Jon D. Reid, Morgan Skinner, Eric White," Beginning Visual C# 2008", Wiley,2008, ISBN: 978-0-470-19135-4

2 Balagurusamy," Programming with C#", TMH, 2008., ISBN: 9780070667570

References:

- Fergal Grimes," Microsoft .Net for Programmers". (SPI), ISBN: 1930110197
- Mark Michaelis, "Essential C# 3.0: For .NET Framework 3.5", Pearson Education, 2nd Edition, 2008.ISBN: 0321533925
- Shibi Parikkar, "C# with .Net Frame Work", Firewall Media.ISBN: 8170082463

Any other Study Material:

- www.tutorialpoint.com/csharp

- http://msdn.microsoft.com