Lingaya's Vidyapeeth

Deemed-to-be-University u/s 3 of UGC Act 1956, Government of India
NAAC ACCREDITED
Approved by MHRD / AICTE / PCI / BCI / COA / NCTE
Nachauli, Jasana Road, Faridabad- 121002 (Haryana)
Website: www.lingayasvidyapeeth.edu.in | Ph: 0129-2598200-05

COURSE PLAN & COURSE DATA SHEET

PROGRAM: BSC - VI Sem	DEGREE: Bsc
COURSE: Programming Using C Sharp	SEMESTER: 6th CREDITS: 4
COURSE CODE: BCS 206 REGULATION:	COURSE TYPE: CORE
COURSE AREA/DOMAIN: Computer Applications	CONTACT HOURS: 56
CORRESPONDING LAB COURSE CODE (IF ANY): BCS 256	LAB COURSE NAME (IF ANY): Programming Using C Sharp Lab

PROGRAM EDUCATIONAL OBJECTIVES:

SYLLABUS:

UNIT	DETAILS	HOURS
I	PHILOSOPHY OF .NET AND ITS MAJOR COMPONENTS: Origin of .NET technology; .NET platform; benefits and limitations of .NET; building blocks of .NET framework; .NET programming languages; .NET types and namespaces; Understanding CLR, CTS and CLS; developing C# Applications using Visual Studio .Net	10
II	EVOLUTION OF C#: comparison among C++; Java and C#; benefits of C#; object-oriented programming using C#	10
III	C# PROGRAMMING: introduction to C#; creating a C# program; types in C#; classes; inheritance and polymorphism; methods; statements and control; arrays and strings; interfaces; abstract and base classes.	12
IV	STATEMENTS AND CONTROL: properties and indexers; delegates and their usefulness; I/O in C#; exception and error handling in C#.	12
V	ADO .NET AND ASP.NET: comparison of ADO and ADO. NET; introduction to data access with ADO.NET components of ADO.NET; Comparison of ASP and ASP .NET; features of ASP .NET; features provided by ASP .NET; web forms and their components.	12
	TOTAL HOURS	56

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Teacher Centric Approach			
TC1: Chalk and Talk, Blended learning	TC2: PPT,	TC3: Video Lectures	TC4:

Learner Centric Approach:			
LC1: Assignment. recent trends.	LC2: Mini project.	LC3: Quiz/Class test.	LC 4: Seminar on
LC5: Group Task.	LC6: Others		

DETAILED SESSION PLAN

Lecture session/ Number	Topics to be covered	CO addressed	Teacher Centric Approach	Learner Centric Approach	References	Relevance with POs and PSOs
1	Origin of .NET technology; .NET platform	CO1	TC1, TC2	,LC3	T1/R1/W1	
2	benefits and limitations of .NET	CO1	TC1, TC2	LC1,LC3	T1/R1/W1	
3	building blocks of .NET framework	CO1	TC1, TC2	LC1,LC3	T1/R1/W1	
4	.NET programming languages; .NET	CO1	TC1, TC2	LC3	T1/R1/W1	
5	Understanding CLR, CTS and CLS	CO1	TC1, TC2	LC1,LC3	T1/R1/W1	
6	developing C# Applications using	CO1	TC1, TC2	LC1,LC3	T1/R1/W1	
7	comparison among C++; Java and C#	CO2	TC1, TC2	LC3	T1/R1/W1	
8	benefits of C#	CO2	TC1, TC2	LC1,LC3	T1/R1/W1	
9	object-oriented programming using	CO2	TC1, TC2	LC1,LC3	T1/R1/W1	
10	creating a C# program	CO3	TC1, TC2	LC1,LC3	T1/R1/W1	

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11	types in C#; classes	CO3	TC1, TC2	LC1,LC3	T1/R1/W1	
12	inheritance and polymorphism	CO3	TC1, TC2	LC1,LC3	T1/R1/W1	
13	methods; statements and	CO3	TC1, TC2	LC1,LC3	T1/R1/W1	
14	arrays and strings	CO3	TC1, TC2	LC3	T1/R1/W1	
15	interfaces; abstract and base classes	CO3	TC1, TC2	LC1,LC3	T1/R1/W1	
16	properties and indexers	CO4	TC1, TC2	LC1,LC3	T1/R1/W1	
17	delegates and their usefulness	CO4	TC1, TC2	LC1,LC3	T1/R1/W1	
18	I/O in C#	CO4	TC1, TC2	LC1,LC3	T1/R1/W1	
19	exception and error handling in C#	CO4	TC1, TC2	LC1,LC3	T1/R1/W1	
20	comparison of ADO and ADO. NET	CO5	TC1, TC2	LC1,LC3	T1/R1/W1	
21	introduction to data access with	CO5	TC1, TC2	LC1,LC3	T1/R1/W1	
22	Comparison of ASP and ASP .NET	CO5	TC1, TC2	LC1,LC3	T1/R1/W1	
23	features of ASP .NET	CO5	TC1, TC2	LC1,LC3	T1/R1/W1	
24	web forms and their components	CO5	TC1, TC2	LC1,LC3	T1/R1/W1	

TEXT/REFERENCE BOOKS:

T/R	BOOK TITLE/AUTHORS/PUBLICATION
1	Jain, V K, "The Complete Guide to C# Programming", IDG Books India
2	Pappas & Murray, "C# Essentials", Prentice Hall of India
3	Gunnerson Eric, "A programmer's Introduction to C#", IDG Books
4	Wakefield, "C# and .NET Web Developers Guide", IDG Books India.

 # WEB SOURCE REFERENCES (W):

1	https://www.w3schools.com/cs/index.php
2	https://www.javatpoint.com/c-sharp-tutorial

COURSE PRE-REQUISITES:

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C.CODE	COURSE NAME	DESCRIPTION	SEM
BCS 206	**Programming Using C Sharp**	**4-0-0**	**6TH**

COURSE OUTCOMES:

S.NO	DESCRIPTION	PO(1..12) MAPPING	PSO(1..3) MAPPING
Cxxx.1	To learn existing statistical algorithms of Machine Learning (ML) and Pattern Recognition (PR).	PO1,PO2,PO3	PSO1,PSO2,PSO3
Cxxx.2	To understand the difference between Classification and Regression	PO1,PO2,PO3	PSO1,PSO2,PSO3
Cxxx.3	To have hands-on experience in implementing various ML and PR techniques on different datasets.	PO1,PO2,PO3	PSO1,PSO2,PSO3
Cxxx.4	To learn to compare the performance of two learning systems.	PO1,PO2,PO3	PSO1,PSO2,PSO3
Cxxx.5	To study few optimization methods used to estimate the parameters of a model during training.	PO1,PO2,PO3	PSO1,PSO2,PSO3
COURSE OVERALL PO/PSO MAPPING:			

COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1):

S.NO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Cxxx.1	1	1	2	-	-	-	-	-	-	-	-	-	1	2	2
Cxxx.2	2	1	2	-	-	-	-	-	-	-	-	-	2	2	2
Cxxx.3	1	2	2	-	-	-	-	-	-	-	-	-	2	2	2
Cxxx.4	2	1	1	-	-	-	-	-	-	-	-	-	1	1	1
Cxxx.5	1	1	2	-	-	-	-	-	-	-	-	-	2	1	1

* For Entire Course, PO & PSO Mapping

POs & PSO REFERENCE:

PO 1	Engineering Knowledge	PO7	Environment & Sustainability	PSO 1	To equip the students with theoretical and implementation knowledgebase in all the existing statistical algorithms of Machine Learning (ML) and Pattern Recognition (PR) , understand the difference between Classification and Regression
PO 2	Problem Analysis	PO8	Ethics	PSO 2	on experience in implementing various ML and PR techniques on different datasets
PO 3	Design & Development	PO9	Individual & Team Work	PSO 3	optimization methods used to estimate the parameters of a model during training
PO 4	Investigations	PO10	Communication Skills		
PO 5	Modern Tools	PO11	Project Mgt. & Finance		
PO 6	Engineer & Society	PO12	Life Long Learning		

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COs VS POs MAPPING JUSTIFICATION:

S.NO	PO/PSO MAPPED	LEVEL OF MAPPING	JUSTIFICATION
Cxxx.1			
Cxxx.2			
Cxxx.3			
Cxxx.4			
Cxxx.5			
Cxxx*			

GAPS IN THE SYLLABUS - TO MEET INDUSTRY/PROFESSION REQUIREMENTS, POs & PSOs:

SNO	DESCRIPTION	PROPOSED ACTIONS
1		
2		
3		
4		
5		

PROPOSED ACTIONS: TOPICS BEYOND SYLLABUS/ASSIGNMENT/INDUSTRY VISIT/GUEST LECTURER/NPTEL ETC

TOPICS BEYOND SYLLABUS/ADVANCED TOPICS/DESIGN:

1	
2	
3	
4	
5	
6	
7	

DELIVERY/INSTRUCTIONAL METHODOLOGIES:

☐ CHALK & TALK	☐ STUD. ASSIGNMENT	☐ WEB RESOURCES	☐ NPTEL/OTHERS
☐ LCD/SMART BOARDS	☐ STUD. SEMINARS	☐ ADD-ON COURSES	☐ WEBNIARS

ASSESSMENT METHODOLOGIES-DIRECT

☐ ASSIGNMENTS	☐ STUD. SEMINARS	☐ TESTS/MODEL EXAMS	☐ UNIV. EXAMINATION
☐ STUD. LAB PRACTICES	☐ STUD. VIVA	☐ MINI/MAJOR PROJECTS	☐ CERTIFICATIONS
☐ ADD-ON COURSES	☐ OTHERS		

ASSESSMENT METHODOLOGIES-INDIRECT

☐ ASSESSMENT OF COURSE OUTCOMES (BY FEEDBACK, ONCE)	☐ STUDENT FEEDBACK ON FACULTY (TWICE)
☐ ASSESSMENT OF MINI/MAJOR PROJECTS BY EXT. EXPERTS	☐ OTHERS

INNOVATIONS IN TEACHING/LEARNING/EVALUATION PROCESSES:

1. **Technology Integration:** Embrace and integrate technology tools in the classroom to enhance the learning experience. This can include interactive whiteboards, educational apps, virtual reality, and online collaboration platforms. Utilizing technology allows for more dynamic and interactive lessons, catering to diverse learning styles.

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2. **Personalized Learning Paths:** Implement personalized learning approaches that cater to individual student needs and pace of learning. Adaptive learning platforms and data analytics can help tailor educational content, assignments, and assessments based on the strengths and weaknesses of each student, promoting a more customized learning experience.

3. **Active Learning Strategies:** Move away from traditional lecture-based approaches and incorporate active learning strategies. This involves engaging students in hands-on activities, group discussions, problem-solving exercises, and real-world projects. Active learning fosters critical thinking, collaboration, and practical application of knowledge.

4. **Blended Learning Models:** Adopt blended learning models that combine face-to-face instruction with online resources. This allows for flexibility in learning, enabling students to access materials at their own pace outside the classroom. Flipped classrooms, where students learn new concepts online and engage in discussions and activities during class, are an example of a blended learning approach.

5. **Assessment Innovation:** Rethink assessment methods to go beyond traditional exams and quizzes. Explore alternative forms of assessment, such as project-based assessments, portfolios, presentations, and peer assessments. Additionally, incorporate formative assessments and feedback throughout the learning process to help students track their progress and make improvements.

Prepared by   **Approved by**
(Mr. Monu)   **(HOD)**

Additionally, the details to be compiled separately by the Departmental Coordinator for the entire Department.