Ramgarhia Polytechnic College, Phagwara

Computer Science and Engineering Department

Head of Department:	Er. Poonam Rana
Name of the Faculty:	Er. Anju Bala
Discipline:	CSE
Semester:	3rd
Subject:	Software Engineering
Lesson Plan Duration:	16 Weeks

RATIONALE

The system analysis and design is backbone of Application software development. After studying the subject the students will be able to develop and design the system according to given requirements. It involves various steps in analysis and design of the system. It includes the knowledge of preparing a project systematically. It is important to know about various aspects of system analysis and design so that the students will be able to understand the responsibilities while designing and implementing the project.

Learning Outcomes

After undergoing this course, the students will be able to:

CO1. Analyze business problems and develop a requirements/specification document.

CO2. Describe the various phases of the system development life cycle.

CO3. Identify the expected benefits and scope of the projects.

CO4. Explain at least three ways in which information system support business requirement.

CO5. Prepare and develop data flow diagrams and decision tables.

CO6. Perform a feasibility study of the system.

CO7. Write detailed design specifications for programmers' and database.

CO8. Select methods for evaluating the effectiveness and efficiency of a system.

CO9. Apply different testing techniques on simple programmer.

PO ⇨ / CO ⇩	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		—					
CO2		—					
CO3						—	
CO4							—
CO5		—					
CO6		—	—				
CO7		—	—				
CO8		—	—				
CO9		—	—				

Syllabus

Units	Details	Hours
1.	Introduction Concept of system. Types of systems, Open and Closed, Static and Dynamic with examples	(04 hrs)
2.	Overview of System Analysis and Design Systems Development life cycle, brief Introduction to feasibility, design implementation and testing and maintenance	(08 hrs)
3.	Preliminary Investigations Project selection, scope definition and preliminary investigation	(08 hrs)
4.	Feasibility Study Technical and economic and operational feasibility, cost and benefit analysis	(08 hrs)
5.	Requirement Specifications and Analysis Fact finding techniques, data flow diagrams, data dictionaries, decision trees and tables, structural English.	(08 hrs)
6.	Detailed Design Module specification, file design, data base design	(05 hrs)

7.	Testing and Quality Assurance Maintenance, unit and integration testing techniques, design objectives, quality factors such as reliability etc.	(07 hrs)

Reference Books:

1. Software Engineering by Dr. Lalit Goyal, ; Eagle Prakashan
2. System Analysis and Design by Awad, Galgotia Publications, New Delhi
3. Software Engineering by Nasib Singh Gill; Khanna Book Publishing Co. (P) Ltd., New Delhi.

Delivery/Instructional Methodologies

Sr.No.	Description
1.	Chalk and Talk
2.	PowerPoint Presentation

Assessment Methodologies

Sr. No.	Description	Type
1.	Student Assignment	Direct
2.	Test	Direct
3.	Board Examination	Direct
4.	Student Feedback	Direct

Gaps in the syllabus - to meet industry/profession requirements

S.NO.	DESCRIPTION	PROPOSED ACTIONS	PO MAPPING
	N/A	N/A	N/A

Topics beyond syllabus/advanced topics

Units	Details	Hours
N/A	N/A	N/A

Web Source References

Sr. No.	URL
1.	https://nptel.ac.in/

Lesson Plan

Week	Theory		Practical	
	Lecture Day		Practical Day	
1st	1st	Introduction	1.	N/A
	2nd	Concept of system.		
	3rd	Types of systems -Open and Closed		
	4th	Static and Dynamic with examples		
2nd	5th	Overview of System Analysis and Design	2.	N/A
	6th	Systems Development life cycle		
	7th			
	8th			
3rd	9th	Brief Introduction to feasibility	3.	N/A
	10th	Design implementation and testing and maintenance		
	11th			
	12th	Preliminary Investigations		
	13th			

4th	14th	Project selection	4.	N/A
	15th	Scope definition and preliminary investigation		
	16th			
5th	17th		5.	N/A
	18th			
	19th	Feasibility Study		
	20th			
6th	21st	**REVISION**	6.	N/A
	22nd	**1st Sessional Test (Tentative)**		
	23rd	Technical and economic and operational feasibility		
	24th			
7th	25th		7.	N/A
	26th	Cost and benefit analysis		
	27th			
	28th	Introduction to Requirement Specifications and Analysis		
8th	29th	Fact finding techniques	8.	N/A
	30th			
	31st	Data flow diagrams		
	32nd			

9th	33rd	Data dictionaries	9.	N/A
	34th			
	35th	Decision trees and tables		
	36th			
10th	37th	Structural English.	10.	N/A
	38th	Introduction to Detailed Design		
	39th			
	40th	Module specification		
11th	41st		11.	N/A
	42nd	File design		
	43rd			
	44th	**REVISION**		
12th	45th	**PTM**	12.	N/A
	46th	**2nd Sessional Test (Tentative)**		
	47th	Data base design		
	48th			
13th	49th	Introduction to Testing and Quality Assurance	13.	N/A
	50th			
	51st	Maintenance, unit and		

	52nd	integration testing techniques		
14th	53rd	Design objectives	14	N/A
	54th	Quality factors such as reliability etc.		
	55th			
	56th	Revision on Preliminary Investigations		
15th	57th		15.	N/A
	58th	Seminar on Project selection, scope definition and preliminary investigation		
	59th			
	60th	Revision Cost and benefit analysis		
16th	61st	Revision Fact finding techniques	16.	N/A
	62nd	**PTM**		
	63rd	**REVISION**		
	64th	**3rd Sessional Test (Tentative)**		