

Lesson Plan

Program: BCA Semester: IV Course Code: BCA-403 Course Name: Software Engineering

Course Objectives

- CO 1. To introduce students with the concept of Software Engineering and software process models.
- CO 2. To be able to know about the different types of requirements analysis and able to create software specification document.
- CO 3. To introduce students with the basic concepts of Procedural, Architectural and Object Oriented Design.
- CO 4. To be able to know about the different types of Software Implementation and should be aware of Coding Standards and guidelines.
- CO 5. To be able to know about the Software Maintenance and its types. Also should be able to know about the techniques for maintenance.
- CO 6. To familiarize the student about case tools.

Session Duration: 60 minutes

Participants: BCA Fourth Semester Students

Entry level knowledge and skills of students

- i. Computer Fundamentals
- ii.

Equipment required in Classroom/ Laboratory/ Workshop

- i. Projector
- ii. White Board & Marker

Assessment Schemes

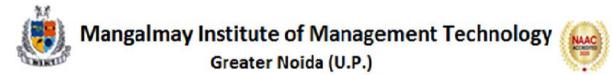
S. No.	Criteria	Marks (100)
1	CCSU End Term Examination	75
2	Internal Evaluation Scheme	25
2(a)	Teacher Assessment (Continuous Evaluation) (Assignment & attendance)	25
2(a)(i)	Assignment -1	10
2(a)(ii)	Assignment -2	10
2(a)(iii)	Attendance (compulsory)	5

Course Outcomes

(CO1): Able to understand the concept of Software Engineering and software process models for

developing software.

Understanding (K2)



(CO2): Able to understand the various types of requirements analysis, able to implement software specification document and also able to know about the software cost estimation.

Understanding (K2), Applying (K3)

(CO3): Able to understand the basic concepts of Procedural, Architectural and Object Oriented Design.

Understanding (K2) , Applying (K3)

(CO4): Able to understand the different types of Software Implementation and Coding Standards and guidelines. Understanding (K2)

(CO5): Able to understand the Software Maintenance and its types and able to understand the techniques for maintenance. Understanding (K2)

(CO6): To understand the student about case tools. Understanding (K2)

HoD's Date of CO-Remark L. Faculty Topics **Sub Topics** implementa Pedagogy No. Covered Sign with tion Date Unit - 1 Discussion about the Subject **Course Objective CO-1 TO** 1. Syllabus and & Course Outcome CO-6 Learning outcomes Definition and CO-1 Paradigm, 2. Software Crisis Lecture Software Engineering: CO-1 Software Lecture 3. Engineering • Brainstorming CO-1 Documentation in • Lecture 4. system process • Buzz Grouping Software • Lecture CO-1 5. characteristics • Brainstorming Generic View of CO-1 Generic View of SE 6. • Lecture SE Generic View of SE CO-1 7. • Lecture contd Waterfall & • Lecture CO-1 8. Prototype Model • Brainstorming CO-1 RAID and Spiral • Lecture 9. Model • Brainstorming CO-1 Discussion 10. Revision of Unit-1 • Brainstorming



20.

Model, uses

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Buzz Grouping

CO-2

		1		1		-	
11.		Discussed		Brainstorming			
		University		• Buzz Grouping			
		questions					
	1		Unit - 2	1	1		
	Requirement Analysis:	Introduction and		•Lecture			
12.		Statement of			CO-2		
		system scope					
13.	SRS	Analyzing a		 Lecture 	CO-2	60 3	
15.	585	problem,		 Brainstorming 	CO-2		
		creating a software					
14.		specification		 Lecture 	CO-2		
		document					
15.		Feasibility Study		 Lecture 	CO-2		
15.		T cusionity Study		Brainstorming			
		Requirement		•Lecture			
16.		Engineering		Buzz Grouping	CO-2		
		Process					
				 Lecture 	CO-2		
17.		Data Flow Diagram		 Brainstorming 			
				Buzz Grouping			
18.				 Lecture 			
		ER-Diagram		 Buzz Grouping 	CO-2		
				Brainstorming			
19.	Software Cost	Introduction		•Lecture	CO-2		
	Estimation						

21.		COCOMO Model	Discussion Brainstorming	CO-2			
22.		Revision of COCOMO Model	Brainstorming Buzz Grouping				
23.		Discussed University Questions	Brainstorming Buzz Grouping				
Unit - 3							
24.	Designing Software Solutions : Refining the software specification;	Design Guidelines	LectureBrainstorming	СО-3			
25.		Design Principles	•Lecture	CO-3			

 Lecture Lecture



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		 Brainstorming 		
26.	Class Test-2		CO-3	

				•Lecture	
27.		Design Concepts		Brainstorming	CO-3
				Brainstorming	
28.		Revision		Buzz Grouping	
	Architectural			•Lecture	
29.	Design	Introduction		Brainstorming	CO-3
				•Lecture	
30.		Intro contd		Brainstorming	CO-3
				•Lecture	
31.	Procedural Design	Modularization		Brainstorming	CO-3
				Buzz Grouping	
				•Lecture	
32.		Modularization		Brainstorming	CO-3
		cont		Buzz Grouping	
22		Calvad		•Lecture	
33.		Cohesion		 Brainstorming 	CO-3
24		Courding		•Lecture	
34.		Coupling		 Brainstorming 	CO-3
25		OOD Mathadalas		•Lecture	60 3
35.		OOD Methodology		• Buzz Grouping	CO-3
36.		Discussed Univ		Buzz Grouping	
50.		questions		 Brainstorming 	
			Unit – 4		
37.	Software	Introduction		•Lecture	CO-4
57.	Implementation			Buzz Grouping	
		Relationship			
		between design &			
38.		implementation		 Lecture 	CO-4
		and		 Brainstorming 	
		Implementation			
		issues		a La atturc	
39.		Type of Software		•Lecture	CO-4
		Implementation		Brainstorming	
40.		Types Cont		•Lecture	CO-4
41		Stratogy & Cading		Brainstorming	
41.		Strategy & Coding		Lecture	CO-4
42.		Coding Standards		•Lecture	CO-4
		and guidelines		 Brainstorming 	
43.		Discussed university		• Buzz Grouping	
43.		questions		 Brainstorming 	
		questions			





			Unit – 5	
44.	Software Maintenance	Maintenance as part of software evaluation	LectureBrainstorming	CO-5
45.		Cost & reasons for maintenance,	Lecture Brainstorming	CO-5
46.		types of maintenance (Perceptive, adoptive, corrective)	LectureBrainstorming	CO-5
47.		Software Re- engineering	Lecture Brainstorming	CO-5
48.		Discussed Univ ques	Buzz Grouping Brainstorming	
49.		ClassTest		
			Unit-6	
50.	Comprehensive examples using available software platforms	Agile Methodology	LectureBrainstorming	CO-6
51.		contd	Lecture Brainstorming	CO-6
52.		Case Tools	Lecture Brainstorming	CO-6
53.		Configuration Management	• Lecture	CO-6
54.		Discussed Univ ques	Buzz Grouping Brainstorming	
55.		Revision of Unit-VI	Buzz Grouping Brainstorming	

Text Books:

- 1. Software Engineering: A practitioner's Approach(McGraw Hill) : R.S.Pressman
- 2. Software Engineering (New Age International)

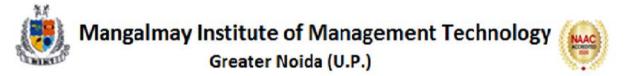
Reference Books:

- 1. Fundamentals of Software Engineering(PHI Learning)
- : Rajib Mall

: K.K.Aggarwal

2. Software Engineering(Springer)

: Pankaj Jalote



3. Software Engineering (Addison Wisley)

: Sommer Ville