SWARNANDHRA
COLLEGE OF ENGINEEERIN G AND TECHNOLGY
(AUTONOMOUS)

SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

TEACHING PLAN

Course Code	Course Title	Year / Sem.	Branch	Conta ct Hr./ week	Academic Year	Commencer ent of Class work
20MC2T04	Object Oriented Software Engineering	II/III	MCA	6	2023-24	27.03.2024

COURSE OUTCOMES: Upon the successful completion of this course the student will be able

	Course Outcomes	Knowledge Level (K)#
CO1	Analyze software application domains and process models used in software development.	K4
CO2	Explain the software requirements collection and develop specifications and evaluate them.	K2
CO3	Convert the requirements model into the design model and evaluate the complexity metrics.	K5
CO4	Compare various testing strategies and tactics and their applications with the supporting tools.	K4
CO5	Adopt the activities of Software Project Development principles in project development.	K3

Week . NO	OUTOCME	Blooms Level	TOPIC/ACTIVITY		Text Books	Contact HOURS	Delivery Method
			UNIT-I				
			1.1	Nature of the Software	T1	1	
			1.2	Types of Software	T1	1	
			1.3	Software Engineering Activities	T1	1	

				1.4	Software Quality	T1	1	
1 2 3	Analyze software application domains and process models used in software development	K4		1.5	Data Abstraction	T1	1	Chalk & Board, Case Study
				1.6	Inheritance & Polymorphism	T1	1	
				1.7	Reusability in Software Engineering	T1	1	
				1.8	**Case Study**: Postal Codes	T1	1	
				1.9	**Case study**: Geometric Points	T1	1	
				1.10	Domain Analysis, Problem Definition and Scope	T1	1	
				1.11	Types of Requirements	T1	1	
				1.12	Techniques for Gathering and Analyzing Requirements	T1	1	
				1.13	Requirement Documents & Reviewing Requirements	T1	1	
				1.14	**Case Study**: GPS based Automobile Navigation System	T1	1	
				1.15	**Case Study**: Simple Chat Instant Messaging System.	T1	1	
					UNIT – II			
5 6	Explain the software requirements collection and develop specifications and evaluate them.	K2		2.1	Introduction to UML	T1	1	Chalk & Board PPT, Case Study
				2.2	Modeling Concepts, Types of UML Diagrams	T1	1	
				2.3	User-Centred Design	T1	1	
				2.4	Characteristics of Users	T1	1	
				2.5	Developing Use Case Models Of Systems	T1	1	
				2.6	Use Case Diagram, Use Case Descriptions	T1	1	
				2.7	The Basics of User Interface Design	T1	1	
				2.8	Usability Principles	T1	1	
				2.9	Essentials of UML Class Diagrams	T1	1	
				2.10	Associations And Multiplicity, Generalization	T1	1	
				2.11	Instance Diagrams, Advanced Features of Class Diagrams	T1	1	

			2.12	Process of Developing Class Diagrams	T1	1	
			2.13	Interaction Diagrams	T1	1	
			2.14	State Diagrams	T1	1	
			2.15	Activity Diagrams			
			2.16	Component and Deployment Diagrams.			
7 8 9	Convert the requirements model into the design model and evaluate the complexity metrics.	K3	3.1	Design Process	T1	1	Chalk & Board Case Study Demonstration
			3.2	Principles Leading to Good Design	T1	1	
			3.3	Techniques for Making Good Design Decisions, Good Design Document	T1	1	
			3.4	Software Architecture	T1	1	
			3.5	The Multilayer, Client-Server	T1	1	
			3.6	Broker, Transaction Processing, Pipe & Filter And MVC Architectural Patterns.	T1	2	
			Mid I Exam				
			3.7	Abstraction-Occurrence	T1	2	
			3.8	General Hierarchical	T1	1	
			3.9	Play-Role, Singleton, Observer	T1	2	
			3.10	Delegation, Adaptor	T1	1	
			3.11	Facade, Immutable	T1	1	
			3.12	Read-Only Interface and Proxy Patterns			
			UNIT – IV				
10 11	Compare various testing strategies and tactics and their applications with the supporting tools.	K4	4.1	Effective and Efficient Testing	T1	1	Chalk & Board PPT, Demonstration
			4.2	Defects in Ordinary Algorithms	T1	2	
			4.3	Numerical Algorithms	T1	2	
			4.4	Timing and Co-ordination	T1	2	
			4.5	Stress and Unusual Situations	T1	2	
			4.6	Testing Strategies for Large Systems	T1	2	
			UNIT – V				Chalk

12 13 14	Adopt the principles in project development	K3	5.1	Introduction to Software Project Management	T1	1	&, Board PPT
			5.2	Activities of Software Project Management	T1	1	
			5.3	Software Engineering Teams	T1	1	
			5.4	Software Cost Estimation, Project Scheduling	T1	1	
			5.5	Tracking and Monitoring	T1	1	
			5.6	Waterfall Model	T1	1	
			5.7	The Phased Released Model	T1	1	
			5.8	The Spiral Model	T1	1	
			5.9	Evolutionary Model	T1	1	
			5.10	The Concurrent Engineering Model	T1	1	
18			5.11	Rational Unified Process			
				MID EXAM 2			
				TOTAL CLASSES		69	

Recommended Text Books for Reading:

1. Timothy C. Lethibridge and Robert Laganiere, Object Oriented Software Engineering Practical Software Development using UML and Java, Mc Graw Hill, Second Edition, 2004

2. Bernd Bruegge, Allen H. Dutoit, Object Oriented Software Engineering using UML, Patterns and Java, , Pearson, 3rd edition, 2009

3. R. S. Pressman, Software Engineering: A Practitioner's Approach by, McGraw Hill, 9th Edition, Sept 2019

Reference Text Books:

1. G. G. Schulmeyer, Zero Defect Software, Published by McGraw Hill, 1992

2. J. Rumbaugh Object Oriented Modeling and Design, , Published by Prentice Hall, 1991

3. K.K. Aggarwal, Yogesh Singh, Software Engineering, Published by New Age International Publishers, Third Edition, 2007

4. Ian Sommerville, Software Engineering, Published by Addison Welsley, 9th Edition, 2010.
5. Pankaj Jalote, An Integrated Approach to Software Engineering, Published by Narosa Publishing House, 3rd Edition, 2007

Software Links

1. https://www.youtube.com/playlist?list=PLrjkTql3jnm_kpRxNK6la_gHuK
2. http://cs-exhibitions.uni-klu.ac.at/index.php?id=448
3. https://pl.cs.jhu.edu/oose/index.shtml

Faculty   **Head of the Department**   **Principal**