

OBJECT ORIENTED ANALYSIS AND DESIGN

V Semester: CSE / IT																										
Course Code	Category	Hours / Week			Credits	Maximum Marks																				
ACSB10	Core	L	T	P	C	CIA	SEE	Total																		
		3	-	-	3	30	70	100																		
Contact Classes: 45	Tutorial Classes: Nil	Practical Classes: Nil			Total Classes: 45																					
<p>I. COURES OVERVIEW: This course emphasizes on the design and construction of software systems using Unified Modeling Language as a tool that view a system as a set of objects to realize the systems functionality. This course includes object oriented analysis and design techniques that impact the implementation of software systems. Learned skills will be applied to the development of project and the analysis of real-world object oriented systems.</p>																										
<p>II. OBJECTIVES: The course should enable the students to:</p> <ul style="list-style-type: none"> I Applying UML meta models in analysis and design of software. II Transformation of use cases into object oriented software realization through object oriented analysis and design using UML. III Constructing forward and reverse engineering using case tools. IV Developing application of OOAD practices from a software project management perspective. 																										
<p>III. COURSE OUTCOMES: After successful completion of the course, students should be able to:</p> <table border="0"> <tr> <td>CO 1</td> <td>Demonstrate basic principles, building blocks and different views for designing conceptual model and architectural views of the system.</td> <td>Understand</td> </tr> <tr> <td>CO 2</td> <td>Outline structural and behavioral design for visualizing the advanced relationships among components of a system.</td> <td>Understand</td> </tr> <tr> <td>CO 3</td> <td>Make use of architectural modeling diagrams for studying static aspects of the system</td> <td>Apply</td> </tr> <tr> <td>CO 4</td> <td>Construct behavioral modeling diagrams for studying dynamic aspects of the system</td> <td>Apply</td> </tr> <tr> <td>CO 5</td> <td>Model software application like Unified Library with the help of UML diagrams for documenting static and dynamic aspects of a system.</td> <td>Apply</td> </tr> <tr> <td>CO 6</td> <td>Categorize structural and behavioral modeling in analysis and design of real-time applications</td> <td>Analyze</td> </tr> </table>									CO 1	Demonstrate basic principles, building blocks and different views for designing conceptual model and architectural views of the system.	Understand	CO 2	Outline structural and behavioral design for visualizing the advanced relationships among components of a system.	Understand	CO 3	Make use of architectural modeling diagrams for studying static aspects of the system	Apply	CO 4	Construct behavioral modeling diagrams for studying dynamic aspects of the system	Apply	CO 5	Model software application like Unified Library with the help of UML diagrams for documenting static and dynamic aspects of a system.	Apply	CO 6	Categorize structural and behavioral modeling in analysis and design of real-time applications	Analyze
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IV. SYLLEBYS:																										
MODULE-I	INTRODUCTION TO UML						Classes: 10																			
Introduction to UML: Importance of modeling, principles of modeling, object oriented modeling, conceptual model of the UML, architecture, software development life cycle; Classes, relationships, common mechanisms and diagrams.																										
MODULE-II	ADVANCED BEHAVIORAL MODELING						Classes: 09																			
Advanced classes, advanced relationships, interfaces, types and roles, packages, terms, concepts; Class and Object Diagrams: Terms, concepts, common modeling techniques for class and object diagrams.																										
MODULE-III	ARCHITECTURAL MODELING						Classes: 08																			
Basic Behavioral Modeling - I: Interactions, Interaction diagrams.																										
Basic Behavioral Modeling-II: Use cases, Use case Diagrams, Activity Diagrams.																										

MODULE-IV	ADVANCED BEHAVIORAL MODELING	Classes: 09
Events and signals, state machines, processes and threads, time and space, state chart and state chart diagrams. Case study: The next gen POS system		
MODULE-V	ARCHITECTURAL MODELING	Classes: 09
Component, Component diagrams, Deployment, Deployment diagrams; Case Study: The Unified Library Application.		
Text Books:		
<ol style="list-style-type: none"> 1. Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education, 2nd Edition, 2004. 2. Craig Larman, "Applying UML and Patterns: An Introduction to Object Oriented Analysis and Design and Iterative Development", Pearson Education, 3rd Edition, 2005. 		
Reference Books:		
<ol style="list-style-type: none"> 1. MeilirPage-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education, 1st Edition, 2006. 2. Hans-Erik Eriksson, Magnus Penker, Brian Lyons, David Fado, "UML 2 Toolkit", WILEY-Dreamtech India Pvt. Ltd., Pearson Education, 3rd Edition, 2005. 		
Web References:		
<ol style="list-style-type: none"> 1. https://www.tutorialspoint.com/uml/uml_overview.html 2. https://www.utdallas.edu/~chung/OOAD/M03_1_StructuralDiagrams.ppt 3. https://onedrive.live.com/download?cid=99CBBF765926367 		
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<ol style="list-style-type: none"> 1. https://www.utdallas.edu/UML2.0/Rumbaugh 2. https://www.utdallas.edu/~chung/SP/applying-uml-and-patterns.pdf 		