

Object Oriented Modelling and Design (Honors)

Course Code		Year	II	Semester	II
Course Category	HONORS	Branch	IT	Course Type	Theory
Credits	4	L-T-P	4-0-0	Prerequisites	Object Oriented Programming
Continuous Internal Evaluation :	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes		
Upon Successful completion of course, the student will be able to		
CO1	Understand the basic concepts in modeling ,analysis and design of a system using Unified modeling language	L2
CO2	Identify different modeling elements for a given application using Unified Modeling language.	L3
CO3	Identify different techniques to analyze requirements of a given system using Unified Modeling language.	L3
CO4	Design or Model a system for any given application	L3

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												3	3
CO2		3											3	3
CO3		3											3	3
CO4			3										3	3

Syllabus		
Unit No	Contents	Mapped CO
I	Introduction, Modeling Concepts, Class Modeling: What is Object Orientation? What is OO development? OO themes, Evidence for usefulness of OO development, Modeling as Design Technique: Modeling, Abstraction, The three models. Class Modeling: Object and class concepts, Link and associations concepts, Generalization and inheritance, A sample class model, Navigation of class models.	CO1,CO2
II	Advanced Class Modeling, State Modeling: Advanced object and class concepts, Association ends, N-ary associations, Aggregation, Abstract classes; Multiple inheritance, Metadata, Reification, Constraints, Derived data, Packages, Practical tips. State Modeling: Events,	CO1,CO2

	States, Transitions and Conditions, State diagrams, State diagram behaviour.	
III	Advanced State Modeling, Interaction Modeling: Advanced State Modeling: Nested state diagrams, Nested states, Signal generalization, A sample state model; Relation of class and state models. Interaction Modeling: Use case models, Sequence models, Activity models.	CO1,CO2
IV	Process Overview, System Conception, Domain Analysis, Application Analysis: Process Overview: Development stages, Development life cycle. System Conception: Devising a system concept, Preparing a problem statement. Domain Analysis: Overview of analysis, Domain class model; Domain state model, Domain interaction model. Application Analysis: Application interaction model, Application class model, Application state model	CO1,CO3
V	System Design, Implementation Modeling: Overview of system design, Breaking a system in to subsystems, Allocation of subsystems, Implementation Modeling: Overview of implementation, Fine-tuning classes, Fine-tuning generalizations, Realizing associations, Testing.	CO1,CO2,CO3,CO4

Learning Resources

Text Books

1. "Object-Oriented Modeling and Design with UML" Michael Blaha, James Rumbaugh Second Edition Pearson Education 2005

References

1. Project Management for Business, Engineering and Technology Nicholas, J. and Steyn Second Edition H., ELSEVIER. 2004
2. Project Planning, Analysis, Selection, Implementation and Review Prasanna Chandra Ninth Edition New Delhi, Tata McGraw Hill Publications 2000

E-Recourses and other Digital Material

1. [file:///C:/Users/ide%2063/Downloads/Object%20Oriented%20Modeling%20&%20Design%20Using%20UML%20\(%20PDFDrive%20\).pdf](file:///C:/Users/ide%2063/Downloads/Object%20Oriented%20Modeling%20&%20Design%20Using%20UML%20(%20PDFDrive%20).pdf)
2. <https://link.springer.com/book/10.1007/978-3-319-24280-4>
3. <https://nptel.ac.in/courses/106105153>
4. <https://edutechlearners.com/download/books/OOSE/OOAD.pdf>