

GUJARAT TECHNOLOGICAL UNIVERSITY
MASTERS IN COMPUTER APPLICATION
Year –1(Semester–II) (W.E.F. Dec 2017)

Subject Name: Object-Oriented Unified Modelling

Subject Code: 3620004

Learning Objectives:

- UML is rapidly accepted throughout the software industry for modelling of software requirement and design.
- To understand what the Unified Modeling Language (UML) is, and why it is relevant to the development of software-intensive systems.
- To learn how to apply the UML.
- To learn design patterns and solve problems with the design patterns.
- Recognize and define design and enterprise integration patterns in current common use.

Prerequisites:

- There are no formal prerequisites for this course. An exposure to Object-Oriented Programming Language would be helpful, but it is not mandatory.

Outcomes:

- Student will be able to do requirements elicitation, requirements analysis, and system design and document those in Unified Modeling Language (UML).

Contents:

Unit No.	Title	Number of Lectures
I	Basics of UML Why We Model, Introduction to UML, Classes, Relationships, Common Mechanisms, Diagrams and Class Diagrams.	10
II	Advanced Structural Modeling Advanced Classes, Advanced Relationships, Interfaces, Types, and Roles, Packages, Instances, Object Diagrams.	10
III	Basic Behavioral Modeling Interactions, Use Cases, Use Case Diagrams, Interaction Diagrams, Activity Diagrams.	10
IV	Architecture Modeling Components, Collaborations, Pattern and Framework	8
V	Component Diagrams, Deployment Diagrams and Systems and Models.	4

Text Books:

1. “The Unified Modeling Language User Guide”, Grady Booch, James Rumbaugh, Ivar Jacobson, ISBN: 9788177583724, Pearson Education

Also Book Available online:

https://books.google.co.in/books?id=a5J49FoFKq8C&printsec=frontcover&source=gs_ge_summary_r&cad=0#v=onepage&q&f=false

Reference Books:

1. The Unified Modeling Language User Guide, Booch, Rumbaugh, Jacobson, Addison Wesley, 1999.
2. Object Oriented Modeling and Design, James Rumbaugh, et al, Prentice Hall, 1991.
3. Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and the Unified Process, Craig Larman, Prentice-Hall, 2000.
4. The Unified Modeling Language Reference Manual, Second Edition, Rumbaugh, Jacobson and Booch, Addison-Wesley, 2004.
5. UML Distilled: A Brief Guide to the Standard Object Modeling Language, Third Edition, Addison-Wesley Object Technology Series by Martin Fowler .
6. Learning UML 2.0, Russ Miles, Kim Hamilton, O'Reilly Media
7. Visual Modeling with Rational Rose and UML; Terry Quatrani, Addison Wesley, 1998
8. Internet material (e.g., <http://www.ambysoft.com/books/agileModeling.html> - Agile Modeling Effective Practices for Extreme Programming and the Unified Process)

Chapter Wise Coverage from Text Book:

Unit No.	Text Books	Topics/Subtopics	No. of Lectures
I	Book-1	Chapter 1, Chapter 2, Chapter 3, Chapter 4, Chapter 5, Chapter 6, Chapter 7 and Chapter 8. 109 Pages	10
II	Book-1	Chapter 9, Chapter 10, Chapter 11, Chapter 12, Chapter 13 and Chapter 14 81 Pages	10
III	Book-1	Chapter 15, Chapter 16, Chapter 17, Chapter 18 and Chapter	10

		19. 67 Pages	
IV	Book-1	Chapter 25, Chapter 26, Chapter 27 and Chapter 28 48 Pages	8
V	Book-1	Chapter 29, Chapter 30 and Chapter 31 33 Pages	4
		Total Number of Lectures	42