GUJARAT TECHNOLOGICALUNIVERSITY

MASTERS IN COMPUTERAPPLICATION

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, 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, Instances, Object Diagrams.	8
III	**Basic Behavioral Modeling** Interactions, Use Cases, Use Case Diagrams, Interaction Diagrams, Activity Diagrams.	10
IV	**Advanced Behavioral Modeling** Events and Signals, State Machines, Statechart Diagrams.	6
V	**Architectural Modeling** Components, Deployment, Component Diagrams, Deployment Diagrams.	8

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=gbs_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. Appying 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.	10
II	Book-1	Chapter 9, Chapter 10, Chapter 13 and Chapter 14	8
III	Book-1	Chapter 15, Chapter 16, Chapter 17, Chapter 18 and Chapter 19.	10
IV	Book-1	Chapter 20, Chapter 21, Chapter 24	6
V	Book-1	Chapter 25, Chapter 26, Chapter 29 and Chapter 30	8
		Total Number of Lectures	42