

**Object oriented software Engineering
Object oriented software Engineering
[CORE COURSE]**

Semester: V	Credits: 3	Subject Code: BC52202	Lectures: 48
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Course Outcomes:

At the end of this course, the learner will be able to:

- Recognize the fundamentals of object modeling
- Relate and Differentiate Unified process from other approaches
- Design static and dynamic UML diagrams
- Test the software against its requirement specification
- Acquire Project management skills

Unit 1: Introduction and basics of Software Modeling and UML.

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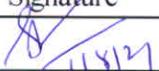
- Software Life Cycle Models (Revision of SE)
- System Concepts
- Project Organization
- Communication in Project Management
- Risk management in Project Management
- SRS Specification
- Requirement Elicitation
- Business Engineering
- Concept of UML
- Advantages of UML

Unit 2: Object Oriented Principles and Structural Modeling

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- What is Object Orientation? - Introduction , Object ,Classes and Instance , Polymorphism, Inheritance
- Object Oriented System Development- Introduction, Function/Data Methods (With Visibility), Object Oriented Analysis, Object Oriented Construction.
- Identifying the Elements of an Object Model.
- Identifying Classes and Objects.
- Specifying the Attributes (with visibility).
- Defining operations.
- Finalizing the Object Definition.
 - Classes
 - Relationship
 - Common mechanism
 - Class diagram (Minimum three examples should be covered)
 - Advanced classes



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- Advanced Relationship
- Interface
- Types and Roles
- Packages
- Object Diagram (Minimum three examples should be covered)
- Documentation covering class and Object diagram.

Unit 3: Behavioral and Architectural Modeling

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- Interactions
- Use cases and Use Case Diagram with stereotypes (Minimum three examples should be covered)
- Interaction diagram (Minimum two examples should be covered)
- Sequence Diagram (Minimum two examples should be covered)
- Activity Diagram (Minimum two examples should be covered)
- State Chart Diagram (Minimum two examples should be covered)
- Component Diagram (Minimum two examples should be covered)
- Deployment Diagram (Minimum two examples should be covered)
- Collaboration Diagram (Minimum two examples should be covered)
- Documentation covering all the UML Diagrams

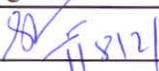
Unit 4: Object Oriented Analysis and Design

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- Iterative Development and the Rational Unified Process
- Inception
- Understanding requirements
- Use Case Model From Inception to Elaboration
- Elaboration
- The Coad and Yourdon Method and Jacobson Method.
- Generic components of OO Design model
- System Design process
 - Partitioning the analysis model
 - Concurrency and subsystem allocation
 - Task Management component
 - Data Management component
 - Resource Management component
 - Inter sub-system communication

#12 hours for Library work, assignments, practical or field work



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Recommended Text Books:

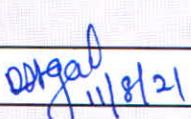
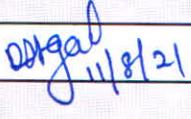
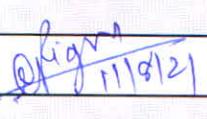
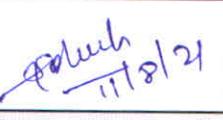
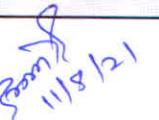
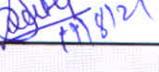
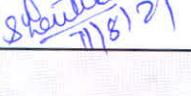
- Grady Booch, James Raumbaugh, , *The Unified Modeling Language User Guide/ Reference Guide*. Pearson Education Inc.

Reference Books:

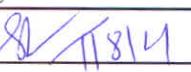
- Alistair Cockbair, Agile Software Development, Pearson Education
- Grady Booch, James Raumbaugh, , *The Unified Modeling Language User Guide/ Reference Guide*. Pearson Education Inc.
- Ivar Jacobson, Grady Booch, James Raumbaugh, *The Unified software development process*, Pearson Education.

Websites:

- www.w3cschool.com

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Faculty*	Prof Monika Rajguru	 11/8/21
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VC Nominee	Prof Anjum Patel	 11/8/21
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