

Second Year B.C.A. (Science) Semester IV  
(To be implemented from Academic year 2017-18)

Course Code: BCA-404  
Total Contact Hours: 48hrs.  
Total Marks: 100

Course Title: OOSE  
Total Credits: 04  
Teaching Scheme: Theory- 05 Lect./Week

Unit No	Content	No. Of Lectures
1	<b>Review of Object Oriented Concepts</b> 1.1 System Concepts – Software Engineering Concepts 1.2 Review of object orientation: classes and objects, polymorphism ,inheritance 1.3 classes and relationship 1.4 Interfaces.	[4]
2	<b>Introduction to Modeling and UML</b> 2.1 Importance of Modeling 2.2 Principles of Modeling, Object Oriented Modeling. 2.3 Overview of UML 2.4 Conceptual Model of UML 2.5 Architecture.	[4]
3	<b>Structural Modeling</b> 3.1 Classes and Advance Classes 3.2 Relationships and Advance Relationships 3.3 Interfaces, Types and Roles. 3.4 Packages 3.5 Common Mechanisms 3.6 Diagrams	[8]
4	<b>Structural Diagrams</b> 1 ClassDiagrams4.2Instances 4.3 Object Diagrams 4.4 Case Study(Minimum Two)	[8]

5	<b>Behavioral Modeling</b> 5.1 Interactions 5.2 Use Cases 5.3 Events and Signals 5.4 Processes and Threads 5.5 Time and Space	[4]
6	<b>Behavioral Diagrams</b> 6.1 Use Case Diagrams 6.2 Interaction Diagrams 6.3 Activity Diagrams 6.4 State machines 6.5 State chart Diagrams 6.6 Case Study(Minimum Two)	[14]
7	<b>Architectural Modeling</b> 7.1 Components 7.2 Deployment 7.3 Collaborations 7.4 Pattern and framework 7.5 Component diagram 7.6 Deployment Diagram 7.7 Case Study(Minimum Two)	[8]
8	<b>Case Study</b> Detail Case Studies for practice including ( but not limited) following areas: ATM/Library Management/Hotel Management / Book Store / Document Editor/College Administration/ Railway Reservation/Vending Machine etc.	[6]

**Reference Books:-**

- 1) The Unified Modelling Language Reference Manual-James Rambaugh Ivar Jacobson, Grady Booch
- 2) Applying UML and Patterns :An Introduction to Object Oreinted Analysis and Design and Iterative Development –Craig Larman