FACULTY OF COMPUTER SCIENCE
Master of Computer Application (Sem-III)
In Effect from Academic Year 2017-18

Subject Code : 1CS2010301	**Subject Title: STRUCTURED & OBJECT ORIENTED ANALYSIS & DESIGN METHODOLOGY**
Pre-requisite :	Fundamentals of Structured Programming and Fundamentals of Object Oriented Programming

Course Objective:
The objectives of the course are to:

- Systems development focusing on analysis and design.
- Able to teach the students tried-and-tested techniques widely embraced by experienced analysts plus new and emerging tools and techniques.
- Get a good balanced exposure to both traditional and object oriented approaches to system analysis & design.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory		Practical		
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total
3	1	--	4	60	40	--	--	100

Subject Contents			
Sr. No	**Topic**	**Total Hours**	**Weight (%)**
1	**System Analysis Fundamentals** Types of Systems, Role of the System Analyst, Systems Development Life Cycle **Information gathering Methods:** Interviewing, Questionnaires	5	10
2	**The Analysis Process** **Data Flow Diagram** Data Flow Approach, Developing Data Flow Diagrams, Logical and Physical Data Flow Diagrams **Data Dictionary** Introduction, Data Repository, Creating Data Dictionary, Using Data Dictionary **Process Specifications and Structured Decisions** Overview of Process Specification, Structured English, Decision Tables, Decision Tree	12	25
3	**System Design** **Designing Effective Output** Output design objectives, Output content, Output technologies, Designing output for Display, Designing Web site **Designing Effective Input** Form Design, Display and Web Forms Design	8	15
4	**Introduction to Object Oriented Analysis and Design** Overview of UML, Conceptual Model of UML, Architecture, Software development life cycle **Basic Structural Modeling** Classes, Relationships, Class Diagrams	11	25
5	**Behavioral Modeling** Interactions, Use Cases, Use Case Diagrams, Interaction Diagrams, Activity Diagrams Events and Signals, State Machines, State chart Diagram	12	25

Course Outcome:

At the end of this course, the student would be able

- Learn Key modeling concepts that apply to both the traditional structured approach and the newer object-oriented approach
- Analyst feasibility of various problems pertaining to information systems development
- Identify and analyze the system requirements using various system analysis techniques
- Design information system using structured and object oriented techniques
- Model different views of information systems using object oriented design patterns
- Recognize current and future trends of system analysis and design

List of References

1. Systems Analysis and Design by Kendall & Kendall, PHI Publication, 7th Edition
2. The Unified Modeling Language - User Guide by Grady Booch, James Rumbaugh, Ivar Jacobson, Pearson Education Publication, 2009 Reprint
3. Object-Oriented Modeling and Design with UML by Michael Blaha, James Rumbaugh, Pearson Education Publication, 2nd Edition, 2007 Reprint
4. Object Oriented Analysis and Design Using UML by Mahesh P. Matha, PHI Publication
5. James Senn, Analysis and Design of Information system, Mc Graw Hill