



# OBJECT ORIENTED SYSTEM DEVELOPMENT USING UML, JAVA AND PATTERNS

**PROF. RAJIB MALL**

Department of Computer Science and Engineering  
IIT Kharagpur

**TYPE OF COURSE** : Rerun | Elective | PG

**COURSE DURATION** : 12 weeks (24 Jan' 22 - 15 Apr' 22)

**EXAM DATE** : 23 Apr 2022

**PRE-REQUISITES** : Programming Using Java, Software Engineering

**INTENDED AUDIENCE** : CSE, IT

**COURSE OUTLINE :**

Object-oriented software development has become very popular. Also, UML has been accepted as the standard design language. We discuss use of UML to arrive at a design solution. Skeletal java code generation from UML diagrams will be discussed. Design patterns are reusable solutions. These are good solutions to typical programming problems, that can be understood and applied in a specific design situation to improve the overall design and reduce design iterations.

**ABOUT INSTRUCTOR :**

Prof. Rajib Mall is Professor, Department of Computer Science and Engineering, Indian Institute of Technology Kharagpur, West Bengal. He has more than a two decades of teaching experience in the areas of real-time systems, program analysis and testing. He has written five text books and over 150 refereed research papers.

**COURSE PLAN :**

**Week 1:** Introduction

**Week 2:** Life Cycle Models for OO Development

**Week 3:** Use Case Diagram

**Week 4:** Class Diagram I

**Week 5:** Class Diagram II

**Week 6:** Sequence Diagram

**Week 7:** State chart diagram

**Week 8:** Design process

**Week 9:** Introduction to design patterns

**Week 10:** GRASP patterns

**Week 11:** GoF pattern I

**Week 12:** GoF Pattern II