

**Active Learning**

Unit 810 Medical Plaza Ortigas Bldg.  
San Miguel Avenue. Ortigas Center  
Pasig City, Philippines  
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## Object-Oriented Analysis and Design

Duration: 4 days

### You Will Learn How To

- Capture user requirements in use cases and transform them into detailed designs
- Exploit the rich object-oriented modeling provided by Unified Modeling Language (UML)
- Adapt to changing requirements with iterative techniques and component-based design
- Design solutions optimized for modern object-oriented languages and platforms
- Apply proven design patterns to refine analysis and design models
- Construct unit and system tests to verify your implemented designs

### Course Benefits

Object-oriented Analysis and Design (OOAD) is the principal industry-proven method for developing reliable, modular, testable programs and systems. This course provides practical skills in the latest OO requirements gathering, analysis, design, and testing methods. Intensive hands-on exercises offer you a working knowledge that turns concepts into practice. From requirements gathering to actually mapping the diagrams to code, concepts in this course are illustrated using a single case study – a POS system.

### Who Should Attend

Anyone involved in developing systems on modern object-oriented platforms. Project teams benefit greatly by sharing the same methodology with co-developers or with supportive management. Familiarity with an object-oriented language is assumed.

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## Course Content

### Introduction

- Object-Oriented Analysis and Design
- Iterative, Evolutionary, and Agile Development
- Introduction to the Case Study

### Inception

- Evolutionary Requirements
- Use Cases
- Other Requirements

### Elaboration Iteration 1

- Domain Models
- System Sequence Diagrams
- Operation Contracts
- Logical Architecture and UML Package Diagram
- Object Design
- UML Interaction Diagrams
- UML Class Diagrams
- Design Patterns
  - Creator
  - Expert
  - Low Coupling
  - High Cohesion
- Object Design Examples Using Design Patterns
- Designing for Visibility
- Mapping Designs to Code

### Elaboration Iteration 2

- Re-visiting the Case Study for Iteration 2
- More Design Patterns
  - Polymorphism
  - Pure Fabrication
  - Indirection
  - Adapter
  - Factory
  - Singleton
  - Strategy
  - Façade



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- Observer/Publish-Subscribe/Delegation

**Elaboration Iteration 3**

- Re-visiting the Case Study for Iteration 3
- UML Activity Diagrams and Modeling
- UML State Machine Diagrams and Modeling
- Relating Use Cases
- More SSDs and Contracts
- Domain Model Refinement
- Architectural Layers
- Model View Separation
- Package Organization
- UML Deployment and Component Diagrams