



Object-Orientated Systems Analysis & Design using UML

4 Days

TARGET AUDIENCE

Analysts and designers new to O-O and UML, or anyone carrying out those roles. It is also applicable for team leaders and project managers.

COURSE CONTENT

Introduction

- Overview of OO development
- Evolution of OO and OO methods
- Introduction to the Unified Modelling Language

Object Technology Principles

- Abstraction
- Encapsulation
- Inheritance and polymorphism
- Classes
- Objects
- Attributes
- Associations
- Operations

Starting Analysis

- Importance of a clearly defined system scope
- Building a Use Case model
- Actors
- Activity diagrams

Specifying Detailed Requirements

- Exploring Use Cases
- Scenarios and sequence diagrams
- Message passing

The Class Diagram

- Modelling classes
- Operations and attributes
- Association and aggregation
- Multiplicity and roles
- Generalisation and specialisation
- Inheritance

Examining Object Behaviour

Collecting object behaviour from sequence diagrams
Behaviour of objects over time
States
Events and transitions
Object actions
Advanced state diagramming techniques

Analysis Deliverables

Analysis completeness and consistency
Transitioning to design
Design overview

The Unified Process

The four phases
Inception
Elaboration
Construction
Transition
The iterative and incremental lifecycle

Detailed Design

Revisiting the model with a software perspective
Producing a software view
Investigating object collaboration
Adding design detail: sequencing, iterations, collections.

Class and Association Design

Determining well-formed classes
Coupling and cohesion
Specifying association navigation
Specifying association implementation
Looking at aggregation: by-value and by-reference

Interface Design

Defining interfaces
Inheritance of interface and inheritance of implementation