

# Course Outline

## The Unified Modeling Language (UML) for Business Analysts (BAs)

### Course BA31: 4 days Instructor Led

#### About this course

This course will provide Business Analysts with new capabilities to improve their skills with using visual modeling techniques to document requirements. The use of the Unified Modeling Language will significantly improve the way that requirements are elicited, analyzed, documented, and verified. This course is based upon not only the latest OMG standards related to UML, but also it's application on projects in various commercial and government domains. The course is designed for Business Analysts who need a practical, applied, and comprehensive understanding of using visual modeling techniques for capturing requirements. It is targeted for those who contribute to the development of requirements using UML, but is also appropriate for anyone wanting a basic understanding of the primary techniques which use graphical modeling as a way of analyzing and documenting requirements.

#### Audience profile

This course is expressly designed for the Business Analyst professional who is involved in eliciting, analyzing, documenting, and validating requirements using the Unified Modeling Language for visually capturing requirements

#### At course completion

After completing this course, students will be able to:

- Leverage critical modeling techniques
- Define the scope, process, tools and deliverables for UML modeling
- Model core workflows & crucial processes with Business Process Modeling Notation (BPMN)
- Apply Unified Modeling Language (UML) diagrams to analyze the enterprise structure
- Build accurately-scoped business models

#### Course Outline

##### Day 1

##### #1 – Course Introduction

- Administration and Introductions
- **Workshop:** Ball Toss Challenge

##### #2 – The Unified Modeling Language (UML)

- What is the UML?
- Why are modeling languages important?
- Overview of UML diagrams

##### #3 – Object-Oriented (OO) Principles

- Abstraction
- Classification
- Generalization
- Aggregation
- Encapsulation
- Information Hiding

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### #4 – Development Approaches

- What is an SDLC?
- Different SDLC approaches (Waterfall, Iterative, Agile, etc.)
- Model Driven Architecture (MDA)
- UML Tool Review
- **Workshop:** Demo of a UML CASE tool

### #5 – Overview of Use Cases

- Describe the purpose and value of use cases
- Demystify use case terminology
- Introduce a use case approach to requirement definition

### Day 2

#### #6 - Enterprise Analysis

- Understand the business context
- Describe the key elements of Enterprise Analysis
- Explain the steps for conducting enterprise analysis
- Identifying business stakeholders, actors, and key information
- **Workshop:** Identify the Business Stakeholders using a RACI Matrix
- Brief overview of business process models and diagramming

#### #7 - Using BPMN to describe Business Processes

- Overview of BPMN techniques
- Describe a simple BPMN diagram to graphically describe the business process
- Adding gateways, events, messages, swimlanes, pools, and notes
- Using a facilitated session to develop process models
- **Workshop:** Draw a Business Process Model

### Day 2 (cont'd)

#### #8 - Defining System Scope

- Utilize a context diagram to define the system scope
- Identify system actors and distinguish between primary and secondary actors
- Analyze the system context diagram for key data and candidate use cases
- **Workshop:** Draw a System Context Diagram
- Develop a system use case diagram
- **Workshop:** Draw a System Use Case Diagram
- Describe the intent of a use case
- **Workshop:** Write a Use Case Brief Description

#### #9 - Evaluating, Prioritizing, and Packaging Use Cases

- Reviewing requirements for priority, risk, complexity, and dependency
- **Workshop:** Evaluate and prioritize Use Cases using a Use Case Evaluation Matrix

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- Grouping use cases that are inter-dependent
- Defining, drawing, and organizing use case packages

### Day 3

#### #10 - Writing the Main Success Scenario

- Review the Use Case template
- Describe the “scenario” concept
- Best practices in writing use cases
- **Workshop:** Write a main success scenario

#### #11 - Writing the Other Scenarios (Alternate and Exception Flows)

- Understand the different types of scenarios
- Describe the purpose and difference between alternate and exception scenarios
- **Workshop:** Write alternate and exception scenarios

#### #12 - Advanced Use Case Diagramming Techniques

- Explain when and how to use «include» and «extend» associations
- Use case generalization/specialization
- **Workshop:** Identify opportunities for include and extend associations

#### #13 - Developing a Requirements Specification

- Use cases as a context for requirements
- Common approaches to documentation
- Quality of Service (non-functional) Requirements
- User Interface Requirements
- **Workshop:** Draw a UI prototype
- Business Rule Analysis using Decision Tables
- Reporting and Data Requirements
- Tracing Requirements using an RTM

### Day 4

#### #14 - Supporting Quality Assurance

- Ensure quality use cases
- Leverage best practices to develop use cases that meet quality objectives
- Verification & validation: reviews & inspections
- Quality attributes for use cases
- Testing starts with use cases

#### #15 – Objects and Classes

- Definition of objects and classes
- How to define objects, attributes, and operations

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- Links, associations, and multiplicity
- Generalization and polymorphism
- Aggregation and composition
- **Workshop:** Draw a Class Diagram

### #16 – UML Sequence Diagramming

- Introduction to interaction modeling
- Using scenarios from Use Cases
- Objects, events, sequence, and messages
- Synchronous vs. asynchronous behavior
- Sequence diagramming notation
- **Workshop:** Draw a Sequence Diagram