

©2016 Capgemini. All rights reserved.  
The information contained in this document is proprietary

|  
and confidential. For Capgemini only.

## Course Goals and Non Goals



### Course Goals

- At the end of this training, participants would be able to understand Architecture, High Level Design and few Design patterns

### Course Non Goals

- Technology Specific Designs
- All Design Patterns

## Pre-requisites



Fair knowledge of

- Object Oriented Concepts
- Unified Modeling Language
- Database Design

Intended Audience



Employees in Level 6 and above who are expected to play the role of a Designer (or those who have recently taken on the Designer role)

## Day Wise Schedule



### Day 1

- Lesson 1: Methodology Overview
- Lesson 2: Requirements – An Overview
- Lesson 3: Architecture and Design Discipline
- Lesson 4: Concepts of Object Orientation and UML – Co-relating to A&D contd

### Day 2

- Lesson 5: Architecture
- Lesson 6: High Level Design
- Lesson 6: High Level Design continued

### Day 3

- Lesson 7 – Class Design
- Lesson 08: Introduction to GOF Design Patterns
- Lesson 09: Introduction to Fundamental Design Patterns

## Table of Contents



### Lesson 1: Methodology Overview

- 1.1: Introducing Qzen
- 1.2: Introducing Concepts of Unified Process
- 1.3: Exploring Unified Process Development Methodology

### Lesson 2: Requirements – An Overview

- 2.1. Introduction to Requirements Discipline
- 2.2. Use Case Model
- 2.3. Supplementary Specifications

## Table of Contents



### Lesson 3: Architecture and Design Discipline

- 3.1: Architecture and Design: Key Principles and Concepts
- 3.2: Introducing the Architecture and Design Discipline

### Lesson 4: Concepts of Object Orientation and UML – Co-relating with A & D

- 4.1: Object-Oriented and UML Concepts
- 4.2: Objects and Classes
- 4.3: Object-Oriented Principles
- 4.4: Some More Object-Oriented Concepts
- 4.5: UML Relationships
- 4.6: More about UML Relationships
- 4.7: UML Mechanisms



## Table of Contents



### Lesson 5: Architecture

- 5.1: Introducing Activity – Architecture
- 5.2: Architecture Steps – Understand Architecture Requirements
- 5.3: Architecture Steps – Create Architecture POC
- 5.4: Architecture Steps – Define Architecture
- 5.5: Architecture Steps – Define Reuse Options

### Lesson 6: High Level Design

- 6.1: Introducing Activity: High Level Design
- 6.2: HLD Steps: Create Functional Design
- 6.3: HLD Steps: Create Logical Database Design
- 6.4: HLD Steps: Create Test Design
- 6.5: HLD Concluding Steps: Create High Level Design Document

## Table of Contents



### Lesson 07: Class Design

- 7.1: Introducing Class Design
- 7.2: Class Design Steps – Refine Design Classes
- 7.3: Class Design Steps – Refine Class Relationships
- 7.4: Handshake with Implementation

### Lesson 08: Introduction to GOF Design Patterns

- 8.1: What is a design pattern?
- 8.2: Why design patterns?
- 8.3: History of design patterns
- 8.4: Classification of Design Patterns
- 8.5: Drawbacks of Design Patterns

## Table of Contents



### Lesson 09: Introduction to Fundamental Design Patterns

- 9.1: Introduction to Fundamental Patterns
- 9.2: Delegation Pattern
- 9.3: Interface Pattern
- 9.4: Abstract Pattern
- 9.5: Interface and Abstract Class
- 9.6: Introduction to Creational Patterns
- 9.7: Factory Method Pattern
- 9.8: Singleton Pattern

## References



### UML User Guide

- By Grady Booch, James Rumbaugh, and Ivar Jacobson

### Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and the Unified Process

- By Craig Larman

### Writing Effective Use Cases

- By Alistair Cockburn

### Software Architecture in Practice

- By Len Bass, Paul Clements, and Rick Kazman

## References



The Rational Unified Process, An Introduction

- By Philippe Kruchten

Object Oriented Design Heuristics

- Arthur J. Riel

Rational Unified Process

Qzen Development Methodology


## Next Step Courses



GoF Design Patterns (Covered as part of Designer Certification Level 1)

Technology Specific Designing and Technology Specific Design Patterns (Covered as part of Designer Certification Level 2)

Other Parallel Technology Areas



Alternate design approaches (for example: Using RUP for designing)

Presentation Title | Author | Date

© 2017 Capgemini. All rights reserved.

14