

This Requirements Engineering training course presents a range of key techniques for discovering, analysing and documenting business and system requirements and places these within the context of our own ADAPT© framework for requirements engineering.

The emphasis of the training course is very much on providing participants with 'hands on' experience of actually using the techniques as they work through a realistic case study scenario. A comprehensive course manual supports the course and also provides a valuable 'how to' reference guide for participants to use in their day-to-day work.

## BCS Certification

This Requirements Engineering training course prepares participants to sit the one-hour, open book, examination leading to the certificate in Requirements Engineering offered by BCS, The Chartered Institute for IT. This certificate is a core module for the [Business Analysis Diploma](#). In addition to covering the full BCS syllabus, this course is approved as consistent with the IIBA BABoK version 2.0.

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## Course Objectives

At the end of this Requirements Engineering training course, participants will be able to:

- Recognise the role of requirements analysis in systems development
- Understand the Requirements Engineering approach
- Describe the technical and interpersonal skills required of an analyst
- Apply a range of requirements elicitation techniques, such as workshops, interviews, scenarios, observation, document analysis, prototyping and questionnaires
- Interpret a model of the system data
- Model requirements using Context and Use Case Diagrams
- Document requirements in a Requirements Catalogue
- Analyse, prioritise and validate requirements
- Understand the principles and techniques required for effective requirements management

## Rationale for requirements engineering

- Problems in developing IT systems
- The costs of errors
- Knowledge types – explicit and tacit
- Definition of a 'requirement'
- Hierarchy of requirements
- Characteristics of requirements engineering
- A framework for requirements engineering

## The role of the analyst

- Stakeholders in requirements engineering
- Roles and responsibilities
- User analysis

## Requirements planning and management

- The importance of planning
- Project initiation and the project initiation document
- Requirements management

## Requirements elicitation 1 – interviewing

- Introduction to elicitation techniques
- Interview preparation
- Structure of an interview
- Documenting the interview

## Requirements elicitation 2 – workshops

- What is a workshop?
- The benefits – and limitations – of a workshop
- Workshop roles and responsibilities
- Preparing for the workshop
- Techniques to elicit information
- Techniques for documenting workshop results

## Requirements elicitation 3 – supplementary techniques

- Observation, ethnographic studies and STROBE
- Quantitative techniques – activity sampling
- Document analysis
- Record searching
- Questionnaires
- Special purpose records

## Documenting requirements

- What should be documented?
- Contents of the requirements document
- The requirements catalogue

## Requirements analysis 1 – modelling the processes

- What are we analysing and why?
- Characteristics of good requirements
- Framework for requirements analysis
- Use case diagrams

- Scope definition/re-definition
- Checking use cases against requirements
- The use of a context diagram

## Requirements analysis 2 – modelling the data

- Objects and classes – concepts
- Classes and attributes
- Associations and multiplicity
- Building a class diagram
- Using class diagrams to confirm business rules and data requirements
- Checking models for consistency and completeness
- The CRUD matrix

## Requirements analysis 3 – categorisation and organisation

- Organising requirements into a hierarchy
- Categorising requirements – functional, nonfunctional, technical and general
- Structuring the requirements catalogue

## Requirements analysis 4 – necessity and feasibility checking

- Checking the relevance of requirements to business goals
- Assessing the feasibility (business, technical, financial) of requirements

## Requirements analysis 5 – quality control

- Checking requirements against quality criteria
- Identifying conflicting requirements
- Resolving requirements conflicts – negotiating skills

## Requirements analysis 6 – testability of requirements

- Identifying acceptance criteria
- The concept of business tolerances

## Scenarios and prototyping

- Purpose and use – for elicitation, clarification and validation
- Developing scenarios
- Diagrammatic approaches to scenario modelling
- Use case descriptions to document scenarios
- Rationale for prototyping
- Throwaway versus evolutionary prototyping
- The prototyping process
- Scope and fidelity of prototypes
- Dangers of prototyping

## Requirements management – recap

- Recap on features of requirements management
- Requirements traceability – importance and processes
- Baselining and version control
- The change control process
- Requirements re-use
- Support tools (Computer Aided Software Engineering)
- Requirements patterns

## Validating requirements

- The place of validation in the requirements engineering process
- Validation versus verification
- Issues that can arise at validation
- Requirements validation process and the review meeting
- Attributes to be checked by reviewers
- Use of prototyping to validate requirements
- The importance of sign-off

## Delivering the requirements

- The business case and the project lifecycle
- Approaches to solution delivery – build versus buy
- Development lifecycles
- From analysis to design
- Post-implementation review and benefits confirmation
- Use of requirements in system maintenance

Our Requirements Engineering course includes both practical and theoretical elements. Theoretical concepts are introduced and are then reinforced through practical exercises and a running case study where participants can apply the skills and techniques of analysis in a realistic project simulation.