BCS PRACTITIONER CERTIFICATE IN REQUIREMENTS ENGINEERING

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BCS Practitioner Certificate in Requirements Engineering

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Introduction

The BCS Practitioner Certificate in Requirements Engineering is for candidates who want to develop or further their skills in the understanding and application of elicitation, analysis and management of requirements. As the traditional Business Analyst role develops and grows into other areas, the need for Requirements Engineering skills has opened up into the wider business and is now necessary in a variety of roles and teams.

The learning in this certificate is shaped to place emphasis on valuable business analysis skills rather than the Business Analyst role. Focusing on these skills should ensure alignment with business objectives and a fit-for-purpose solution.

Assessment Objectives

Upon achievement of the certificate, candidates will be able to demonstrate a practical understanding of how to:

- Collaborate with stakeholders to ensure requirements align with business objectives
- Elicit different types of requirements and the associated documentation
- Analyse and validate requirements
- Ensure and manage requirement quality and change

Target Audience

This qualification has been designed to provide valuable learning for those in roles such as business analyst, business architect, business systems analyst, data analyst, enterprise analyst, management consultant, process analyst, product manager, product owner, project manager, and systems analyst. This certificate provides value for candidates in entry-level, associate and management level roles.

Eligibility for the Examination

There are no pre-requisites for entry to the examination, although candidates should be prepared to be assessed in line with the objectives listed in the previous section. Candidates can study for the certificate by:

- Using our self-study material (approximately 20 hours)
- Attending our instructor-led BCS accredited training course (3-days)

Duration and Format of the Examination

The format for the examination is a supervised 60-minute multiple choice assessment. The examination is closed book i.e. no materials can be taken into the examination room. The pass mark is 26/40 (65%).

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Additional time for Candidates Requiring Reasonable Adjustments

Candidates may request additional time if they require reasonable adjustments. Please refer to the reasonable adjustments policy for detailed information on how and when to apply.

Additional time for Candidates Whose Native Language is not that of the Examination

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to 25% extra time.

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to use their own paper language dictionary (whose purpose is translation between the examination language and another national language) during the examination. Electronic versions of dictionaries will not be allowed into the examination room.

Syllabus

For each top-level area of the syllabus a percentage and K level is identified. The percentage is the exam coverage of that area, and the K level identifies the maximum level of knowledge that may be examined for that area.

1. Define Requirements Approach and Project Scope (5%) (K3)

- Define the term "Requirements
- Describe the Requirements Engineering Framework
- Explain factors to be considered in adapting the approach to requirements engineering:
  - Organisational standards
  - Project approach
  - Types of requirement
  - Nature of the solution
- Describe the contents of a project initiation document (PID)/terms of reference (ToR):
  - OSCAR (Objectives, Scope, Constraints, Authority, Resources)
  - Rationale for aligning requirements with a business case and the objectives of the organisation

2. Elicit Requirements (15%) (K3)

- Explain different knowledge types:
  - Tacit/non-tacit (explicit)
  - Individual/Corporate
- Identify a technique to articulate tacit knowledge:
  - Observe: observation, shadowing
  - Recount: storytelling, scenario analysis
  - Enact: prototyping, scenario role-play
- Explain the use, advantages and disadvantages of the following elicitation techniques:
  - Interviews
  - Workshops
  - Observation
  - Shadowing
  - Story-telling
  - Scenario analysis
  - Scenario role-play
  - Prototyping
  - Document analysis
- Identify an appropriate technique to elicit requirements
- Explain the suitability of elicitation techniques for Agile and linear development approaches:
  - Iterative development and linear development

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3. Record Requirements (Documentation) (10%) (K3)

- Identify and describe the categories of requirement:
  - Business:
    - General requirements
    - Technical requirements
  - Solution:
    - Functional requirements
    - Non-functional requirements
- Explain the importance of documentation:
  - Ensures consistency
  - Enables communication
  - Provides a basis for validation
  - Supports product evelopment
- Identify the key documentation styles:
  - Text based
  - Diagrammatic
- Explain the characteristics documented for requirements in a requirements catalogue
- Explain the key underlying principles and standard format of a user story:
  - Who? What? Why?
  - "As a {user role} I want {feature} so that I can {reason}"

4. Build Models and Prototypes to Represent the Requirements (20%) (K3)

- Explain the rationale for modelling the functional requirements (processing and data) of an information system:
  - Conceptualises the solution in its entirety
  - Helps to confirm requirements are in scope
  - Provides clarity
- Describe the purpose of modelling in requirements engineering:
  - Generate questions in order to clarify a requirement and remove ambiguity
  - Define business rules
  - Cross-check requirements for consistency and completeness
- Prepare a UML use case diagram
- Prepare a UML Class diagram
- Explain the use of a CRUD matrix:
  - Create, Read, Update, Delete
  - Comparing a Function or Event against data
  - Benefits to be derived from cross-referencing models
- Explain the use of prototyping to elaborate requirements:
  - Visualisation of requirements
  - Increase stakeholder understanding
  - Analysis and confirmation of requirements

5. Collaborate and Communicate with Stakeholders to Clarify Requirements (7.5%) (K3)

- Describe the responsibilities of the actors (stakeholder roles) in Requirements Engineering
  - Actors – "Usually user roles [that] show the individual or group of individuals responsible for carrying out the work or interacting with a system. An actor may also be an IT system or time"
  - Stakeholders – "An individual, group of individuals or organisation with an interest in the change"
- Describe the purpose of requirements validation
- Describe the rationale for various approaches to requirements validation, informal and formal review
- Demonstrate how Agile requirements are validated:
  - Initiating the backlog
  - Maintaining the backlog
  - Prioritisation
  - Defining acceptance criteria
- Demonstrate how formal requirements are validated

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6. Analyse, Prioritise and Assure the Quality of Requirements (20%) (K3)

- Explain the purpose of analysing requirements:
  - Ensure they are developed clearly
  - Well organised
  - Appropriately documented
- Apply the MoSCoW technique to prioritise requirements:
  - Must have; Should have; Could have; Want to have (but won't have this time)
- Interpret individual requirements; applying filters and quality criteria:
  - INVEST
  - Quality Criteria including: clear, concise, consistent, relevant
  - Filters including: checking for duplication, unravelling multiple requirements, evaluating feasibility
- Identify the purposes of Slicing Requirements (Agile/ Linear):
  - Allowing work to commence and/or progress
  - Elaborating only as required
  - Incremental development. Linear development
- Identify techniques used to analyse Business Rules:
  - Constraints
    - Action governance
    - Data constraints
  - Operational Guidance:
    - Decision conditions
    - Calculations
  - Data models
  - CRUD matrices
  - Activity diagrams
  - Business process models
- Explain the importance of testability:
  - "Has the requirement been delivered as intended?"
  - Functional requirements and related non-functional requirements

7. Conduct User analysis and Profiling (7.5%) (K3)

- Describe techniques used to analyse roles:
  - User role analysis
  - Personas
- Explain the purpose of a Customer Journey Map:
  - How to use a Customer Journey Map
  - Elements to be considered in its creation

8. Requirements Management and Traceability (15%) (K3)

- Explain the rationale and the approach to achieving requirements traceability
- Explain the rationale for requirements management
- Define the elements of requirements management and the links between them
- Explain the use of a change control process
- Describe the elements of a version control process:
  - Allocate an identifier
  - Allocate a version number
  - Version number updated to reflect changes
- Explain the use and advantages of different forms of traceability:
  - Horizontal: forwards and backwards
  - Vertical

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Levels of Knowledge / SFIA Levels / Blooms

This course will provide candidates with the levels of difficulty / knowledge skill highlighted within the following table, enabling them to develop the skills to operate at the levels of responsibility indicated. The levels of knowledge and SFIA levels are explained in on the website www.bcs.org/levels. The levels of knowledge above will enable candidates to develop the following levels of skill to be able to operate at the following levels of responsibility (as defined within the SFIA framework) within their workplace:

Levels	Levels of Knowledge	Levels of Skill and Responsibility (SFIA)
K7		Set strategy, inspire and mobilise
K6	Evaluate	Initiate and influence
K5	Synthesise	Ensure and advise
K4	Analyse	Enable
K3	Apply	Apply
K2	Understand	Assist
K1	Remember	Follow

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Question Weighting

Syllabus Area	Target number of questions (weighting)
1 – Define Requirements Approach and Project Scope	2 (5%)
2 – Elicit Requirements	6 (15%)
3 – Record Requirements	4 (10%)
4 – Build Models and Prototypes to Represent the Requirements	8 (20%)
5 – Collaborate & Communicate with Stakeholders to Clarify Requirements	3 (7.5%)
6 – Analyse, Prioritise and Assure the Quality of Requirements	8 (20%)
7 – Conduct User Analysis and Profiling	3 (7.5%)
8 – Requirements Management and Traceability	6 (15%)
Total	**40 (100%)**

Why choose Amatis Training?

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- Unique to market:
  - Access course material online using the Amatis Academy
  - The same case study is used throughout all practitioner and professional courses so that candidates can see how different tools & techniques are applied to business situations in the same organisation
  - All Diploma courses have TWO full BCS 40 question sample exam papers
  - All Diploma courses have ONE full 40 question mock exam paper
  - All Advanced Diploma courses have ONE full 40 question mock exam paper
  - All graphics are professionally designed and suitable for anyone who is colour blind
  - All courses are professionally narrated – invaluable for auditory learners and anyone with dyslexia
- All courses are academically excellent – authored by BCS oral examiners/practitioners with decades of experience
- Engaging content – includes examples, games, exercises, multiple choice questions and case studies
- BCS accredited partner
- ISO9001:2015 certified
- Cyber Essentials certified
- Near zero carbon footprint
- What our customers say:
  - YouTube
  - Google

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