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BCS Certificate in Modelling Business Processes Extended Syllabus

**Version 3.3
March 2015**

<http://certifications.bcs.org>

Change History

Any changes made to the syllabus shall be clearly documented with a change history log. This shall include the latest version number, date of the amendment and changes made. The purpose is to identify quickly what changes have been made.

Version Number	Changes Made
Version 3.3 March 2015	Updated language requirements for extra time and use of dictionaries. Standardised the trainer requirements
Version 3.2 May 2014	Added updated syllabus sections and related comment. Reading list updated. This extended Business Analysis Practice syllabus is designed to support the centralised Business Analysis Practice examination paper. A commentary has been added to aid candidates preparing for the centralised examination. There are numbers at the end of some bullet points which directly refer to points made in the commentary.
Version 3.1 August 2012	Added details of extra time for foreign language candidates.
Version 3.0 August 2011	Updated BCS logos and strapline. Standardised headings. Added table of contents, levels of knowledge, levels of skill and responsibility, format of examination, change history and definition terminology. Technical content: Removed Section 2.5 Importance of metrics and measurements

BCS Certificate in Modelling Business Processes Extended Syllabus

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Introduction

This certificate focuses on the investigation, modelling, analysis and improvement of business processes. The BCS publication, Business Analysis 3rd Edition, defines business processes as ‘the means by which an organisation carried out its internal operations and delivers its products and services to its customers’. Candidates are required to appreciate the hierarchy for business processes, and apply business process modelling techniques within a framework for business process improvement. A technique should be examined for each level of the hierarchy.

For each technique, the candidate should be able to:

- Explain the principles of the technique
- Document the process according to the correct use of the technique
- Interpret the documentation derived from the use of the technique
- Identify when the technique should be used

Candidates may be expected to apply any of the techniques defined in the syllabus in the examination for this certificate. Each examination must include a question requiring candidates to build a business process model showing actors, tasks and the flow of the work for a specific business process. In addition, each examination must cover at least three of the other five areas of the syllabus.

Please note that software engineering techniques for modelling activities or data flows, such as Data Flow Diagrams, are not acceptable for modelling business processes. It is essential that the technique chosen to model business processes shows the sequence and flow of the business process.

*This **extended** Modelling Business Processes syllabus is designed to support the centralised Modelling Business Processes examination paper. A commentary has been added to aid candidates preparing for the centralised examination. There are numbers at the end of some bullet points which directly refer to points made in the commentary.*

Objectives

Holders of the BCS Certificate in Modelling Business Processes should be able to:

- Identify and model core business processes at an organisational level
- Identify and model business processes at the process level
- Identify the events that trigger the business processes
- Identify the outcomes from the business processes
- Model the actors, tasks and process flows that comprise a business process
- Analyse the tasks within a business process
- Identify the business rules applied within tasks
- Analyse the performance issues of individual tasks
- Identify the performance measures applied within a business process
- Analyse and improve business processes

Duration and Format of the Course

Candidates can study for this certificate in two ways: by attending training courses provided by BCS Examination Providers or by self-study.

Training courses leading to the certificate should normally run for 14 hours delivered over a minimum of 2 days. The course can be delivered a number of different ways from traditional class-room based training to online e-learning.

Eligibility for the Examination

There are no specific pre-requisites for entry to the examination; however candidates should possess the appropriate level of knowledge to fulfil the objective shown above.

Duration and Format of the Examination

The format for the examination is a one hour written examination based on a business scenario preceded by 15 minutes reading time. The examination is open book (you can take written material into the examination room). Candidates need to achieve a minimum of 50% pass the examination.

Additional time for candidates requiring Reasonable Adjustments

Candidates may request additional time if they require reasonable adjustments in line with the BCS [reasonable adjustments policy](#). It will be the Examination Provider's responsibility to make a decision regarding candidate eligibility and keep a record of the decision. This is subject to audit by BCS.

Additional time for candidates whose language is not the language 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.

It will be the Examination Provider's responsibility to make the decision regarding candidate eligibility and keep a record of the additional time allowed. Candidates must request additional time in advance of the examination to allow the Examination Provider enough time to make suitable arrangements with the invigilator.

Syllabus

1. The context for business processing modelling (5%) (1)

- 1.1 What is business process modelling (2)
- 1.2 *Why model business processes? (3)*
 - *Benefits of carrying out process modelling (4)*
 - *Benefits of having a process model (5)*
- 1.3 *Increasing importance of modelling business processes (6)*
 - *Shift from the functional view of an organisation to a process view (7)*
 - *Need for business improvement and refinement (8)*
 - *Large-scale system changes such as ERP and system integration (9)*
- 1.4 *How to carry out process modelling (10)*
 - *Strategic analysis (11)*
 - *Detailed analysis and the as-is process model (12)*
 - *Identifying improvements and the to-be process model (13)*
 - *Implementation (14)*
- 1.5 *Who is involved with process modelling – the stakeholders (15)*
- 1.6 The hierarchy of business processes – organisation, process and task (16)
- 1.7 *Process modelling and Business Analysis (17)*
 - *Support for Requirements Engineering (18)*
 - *Support for the Business Case (19)*
 - *Support for Testing (20)*
 - *Relative emphasis on as-is and to-be process modelling (21)*

2. Organisational model for processes (20%) (1)

- 2.1 Strategic context for business processes (2)
- 2.2 Relationships between processes, including those at the same level (3) and between levels of hierarchy (4)
- 2.3 Building an organisational view of processes (5)
- 2.4 Delivering value to customers and the value proposition (6)

3. Modelling the business processes (30%) (1)

3.1 Selected business process modelling technique (2)

- Notation (3) – actors, *start point (the trigger)*, tasks, process flows, decisions, *end point*
- Rules (4)

3.2 Modelling as-is business processes (5) (6)

3.3 Events that trigger business processes (7)

- External business events
- Internal business events
- Time-based business events

3.4 The outcomes from business processes (8)

3.5 Timelines for business processes (9)

3.6 Business process measures (10)

- *Internal measures*
- *External measures*

4. Documenting tasks (15%) (1)

4.1 Identifying tasks – one person, one place, one time (2)

4.2 Documenting steps to complete the tasks (3)

4.3 Documenting business rules (4)

- *“If ... then ... else” statements*
- *Decision tables*
- *Decision trees*

4.4 Task performance measures (5)

5. Evaluating and improving business processes (20%) (1)

5.1 Identifying problems with the as-is business processes (2)

- *Performance issues concerning time, quality and resource usage/cost (3)*
 - *Difficulties in determining target and actual values*
- *Alignment with corporate strategy and tactics (4)*
- *Alignment with customer needs (5)*
- *Duplication, redundancy, over-complexity and inconsistency*
- *Completeness*
- *Challenging business rules and assumptions that underpin the as-is process*
- *Business process management (6)*
- *Root cause analysis (7)*

5.2 Improve the process

- *Procedural and/or system changes*
- *Simplification*
- *Refinement, extension, cooperation along the supply chain*
- *Automation*
- *Minimisation of rework (8)*
- *Appropriate business process management (9)*

5.3 Modelling the improved process

- *Same techniques as for as-is process modelling*
- *Facilitated by the business analyst (10)*
- *Quality and completeness checking using business scenarios (11)*
- *Supporting the development of the Requirements Catalogue (12)*

6. Transition (10%)

6.1 *Implementation strategies*

- *Pilot*
- *Phased*
- *Direct changeover*
- *Parallel run*

6.2 *Planning the transition (1)*

- *Simulating and refining the to-be process (2)*
- *Estimating resource usage (3)*
- *Organisational redesign (4)*
- *Staff roles and skill profiles*
- *Staff redundancy, recruitment, training and development*
- *Benefits realisation – targets, measures and performance reporting (5)*
- *Decommissioning the as-is process (6)*

6.3 *Supporting the transition (7)*

- *Culture change and change agents*
- *Individual's reactions to change and their need of support*
- *Continuous improvement*
- *Conflicts between process and functional management (8)*

Commentary

1. The context for business processing modelling

- (1) The candidate must be able to understand and explain the need for process modelling and why organisations are seeing this as a key skill of the business analyst.
- (2) A basic introduction to process modelling that will be expanded throughout the syllabus.
- (3) The candidate needs to be able to justify the time and effort spent on process modelling.
- (4) The process modelling activity allows the business analyst to develop both an understanding of and rapport with the business.
- (5) The process model itself is useful to both the analyst and the business.
- (6) Both business and technical factors have combined to increase the importance and popularity of process modelling.
- (7) Organisations are commonly defining themselves in terms of the processes they carry out, particularly those processes that affect their customers' perceptions.
- (8) Reorganisations, mergers and acquisitions, partnerships and collaborations along the supply chain require flexibility and hence adaptable processes.
- (9) Many technical initiatives such as ERP and systems integration have significant implications on the organisations processes.
- (10) This is an overview of the other sections of the syllabus.
- (11) See Section 2 of the syllabus.
- (12) See Sections 3 and 4 of the syllabus.
- (13) See Section 5 of the syllabus.
- (14) See Section 6 of the syllabus.
- (15) For a general coverage of stakeholders, see BCS Business Analysis publication 3rd Edition; here specific mention needs to be made to the roles of process owner, business architect and the business analyst. The latter functions as a facilitator to support the business during the process modelling work.
- (16) See Section 2.2 of the syllabus.
- (17) The candidate needs to appreciate that process modelling is a key skill of the business analyst and be able to identify how it supports other major aspects of the analyst's work.
- (18) The candidate should be aware that the process model is a major source of requirements and that the requirements catalogue needs to be cross-referenced with the process models.
- (19) Many benefits in the business case will result from process improvements but there will also be costs involved in designing and implementing process changes.
- (20) The candidate needs to understand the purpose of UAT in proving the quality of the end-to-end business process.

- (21) The candidate needs to understand that the relative emphasis on the as-is and to-be modelling depends on the likelihood and extent of the changes required to improve the as-is process.

2. Organisational model for processes

- (1) The intention here is to determine that the candidate can identify and display on a diagram the key high-level (or organisational-level) processes. Although support processes (for example, paying the staff) and management processes (for example, producing routine management reports) are important, the main focus should be on those processes that support the main business customers of the organisation (for example, selling goods and obtaining those goods from suppliers).
- (2) This is discussed in the BCS Business Analysis publication The important point here is the difference between the functional view of the organisation and the process view of the organisation.
- (3) The candidate should be able to identify the dependencies between organisational-level processes.
- (4) The candidate should be able to recognise and explain that organisational-level processes may be decomposed into processes, which may, in turn, be decomposed into tasks.
- (5) This could be in the form of a process map as shown in the BCS Business Analysis publication and in BCS Business Analysis Techniques: 72 Essential Tools for Success, Publication, p92-98.
- (6) Delivering value to customers and the value proposition are discussed BCS Business Analysis publication and in Figures 4.4 and 4.5 in BCS Business Analysis Techniques: 72 Essential Tools for Success, Publication, p97-98. Please note that Michael Porter's value chain is no longer explicitly mentioned in the formal syllabus but both it and the concept of the value proposition provide valuable approaches to understanding the delivery of value to the customer. The candidate should be aware that making a process more efficient from the point of view of the organisation can sometimes deliver a poorer service to the customer.

3. Modelling the business processes

- (1) The emphasis here is modelling processes so as to expose the tasks within the processes. However, identifying the events that trigger business processes (item 3.3), identifying the outcomes from business processes (item 3.4) and identifying the business process measures (item 3.6) are applicable to process at all levels in the hierarchy. Organisation-level processes, processes and tasks must all be triggered by an event (or, exceptionally, several events), must all have a defined outcome and all can have appropriate measures. It is, therefore, appropriate to ask candidates to identify triggers, outcomes and measures at any level in the hierarchy.
- (2) Candidates are only expected to know one notation. There is no requirement for candidates to be able to compare and contrast different notations.
- (3) There are many notations that are in use for modelling business processes but this syllabus item states the **minimum** set of notational artefacts that should be examined. These can be seen diagrammatically in Figure 4.9 in BCS Business Analysis Techniques: 72 Essential Tools for Success, Publication, p106. Although more complex notations can be used to model business processes, such as BPMN and UML Activity Diagrams, some of these are associated with understanding processes with a view to developing an IT solution. The techniques that are the subject of this syllabus are mainly applicable in those areas of the Business Analyst's role that are to do with activities that are carried out before the decision to employ IT in the solution (although the as-is process model could include "system" actors). Emphasis should be given, therefore, to those notations that are amenable to understanding by business users with little or no prior experience of business process modelling. Candidates should normally be told which notation is to be used in the examination. If no notation is specified candidates can use any industry-standard notation.
- (4) These are the rules, if any that are associated with the selected notation, such as the rules associated with the representation of decision/routing logic. See BCS Business Analysis publications, for a discussion on the naming of processes and tasks.
- (5) As we are modelling the processes of the business in an attempt to analyse a business problem it is assumed that the as-is process will be a flawed process.
- (6) This is the main technique in this syllabus and candidates can expect that this will be reflected in the mark allocation.
- (7) See BCS Business Analysis publication for a discussion of events. There is a fuller discussion of events in BCS Business Analysis Techniques: 72 Essential Tools for Success, Publication, pp101-105.
- (8) The desired outcomes of a business process should be the focus of that process. For example, the major outcome of the Deliver Order process could be that the order is in the delivered state within the specified time. There can, however, be less desirable outcomes, such as, for the Deliver Order process, the rejection of the order by the customer on delivery, rejection because of invalid order details, or delay of the order because of stock is unavailable. Each of these outcomes will represent a single, defined end-state of the process which should be explicitly shown on the process model.
- (9) Adding timelines to a business process model is an optional technique. There are some situations where this can be extremely useful. See BCS Business Analysis publication for an example of a timeline.
- (10) Business process measures are restricted to those things that can be measured that are not dependent upon actions outside the **sole control** of the organisation whose processes are being analysed and modelled. It is inappropriate, therefore, to include

anything that relies on some action by an external body over which the organisation has no control, such as the rate of return of acceptances of premium renewal notices for an insurance company. It is appropriate, however, to include measures made by an external body that relate to the work carried out within the organisation during the process, such as a measure of customer satisfaction.

4. Documenting tasks

- (1) There is no prescribed method of documenting tasks, although there is a discussion of the requirements in BCS Business Analysis Publication. A suitable format for documenting a task is shown in Figure 10.2 of Harmon, P; Business Process Change (Second Edition), Morgan Kaufman p260. Note that Harmon uses the term 'activity' for the same level within the hierarchy of processes that we call 'task'. As a minimum, task documentation should include the trigger or business event that initiates the task, any inputs to the task, any information that is needed to carry out the task, the outputs from the task, any costs associated with the task, any measures that are applicable to the task, any standards that constrain the task, a detailed breakdown of the steps within the task, and any business rules that are to be followed in performing the task.
- (2) A task normally equates to a single 'box' on a process model. Each task should involve one person (or another form of actor) at one place at one time (sometimes abbreviated to OPOPOT).
- (3) Each step is a discrete piece of work that contributes to the task.
- (4) See BCS Business Analysis Techniques: 72 Essential Tools for Success, Publication, p112-118 for a comprehensive discussion of decision tables and decision trees.
- (5) The same comments apply to task performance measures as apply to business process measures (see above) although, since a task is carried out by one person (or another form of actor) at one place at one time, it is unlikely that candidates would include something that is outside the control of the organisation.

5. Evaluating and improving business processes

- (1) See BCS Business Analysis Publication.
- (2) A problem is often discovered when processes fail to meet their performance targets. The business analyst may find difficulty in identifying both the target and the actual performance of as-is processes. See BCS Business Analysis Publication for an approach to problem analysis.
- (3) See BCS Business Analysis Publication for a description of Critical Success Factors and Key Performance Indicators.
- (4) See BCS Business Analysis Publication for strategy analysis.
- (5) See BCS Business Analysis Publication for a description of the value proposition.
- (6) A major aspect of this syllabus leads to the design of effective business processes. If a new process is designed very well, however, this does not guarantee its successful operation. The candidate needs to understand that other aspects, such as adequate resources, skilled and motivated staff and appropriate monitoring and control, are also essential for success.
- (7) See BCS Business Analysis Publication and Note 2 above.
- (8) See BCS Business Analysis Publication.
- (9) As well as “right first time”, the candidate should be aware of the need for the to-be process to identify and correct errors as soon as practicably possible.
- (10) The business analyst's role is to facilitate the design of the to-be process. The work should be done by the business itself.
- (11) As part of the facilitation, the business analyst should help the business to identify all the combination of conditions that the to-be process has to handle. The development of business scenarios will support test planning.
- (12) The development of the as-is and to-be process models allow the business analyst to identify what the business wants to do. Almost as a by-product of this exercise, the business is uncovering its requirements and documenting them on the to-be process model. These requirements need to be captured in the entries in the Requirements Catalogue, each of which should be cross-referenced back to the model. The models themselves should be included in the Requirements Document.

6. Transition

- (1) See BCS Business Analysis Publication and Harmon; Business Process Change, Morgan Kaufman p228-233.
- (2) See Harmon; Business Process Change, Morgan Kaufman p438-439.
- (3) Resources include, as well as staff numbers, equipment, workspace and communication facilities.
- (4) For example, this could be either centralisation or decentralisation.
- (5) Information on process performance will indicate the success of the design and implementation of the new process as well as being a key element of the Benefits Realisation report.
- (6) With any change, there is a danger that staff may switch back to their old ways of working once management's attention turns to other things. Decommissioning of the as-is process and its supporting systems, documents and procedures will guard against this possibility.
- (7) See BCS Business Analysis publication.
- (8) See Harmon; Business Process Change, Morgan Kaufman p165-172.

Levels of Knowledge / SFIA Levels

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 at www.bcs.org/levels

Level	Levels of Knowledge	Levels of Skill and Responsibility (SFIA)
7		Set strategy, inspire and mobilise
6	Evaluate	Initiate and influence
5	Synthesise	Ensure and advise
4	Analyse	Enable
3	Apply	Apply
2	Understand	Assist
1	Remember	Follow

Format of Examination

This syllabus has an accompanying examination at which the candidate must achieve a pass score to gain the BCS Certificate in Modelling Business Processes.

Type	Written examination based on a business scenario
Duration	1 hour preceded by 15 minutes reading time. Candidates are entitled to an additional 15 minutes if they are sitting the examination in a language that is not their native/official language.
Pre-requisites	None, although accredited training is strongly recommended
Supervised	Yes
Open Book	Yes
Pass Mark	25 out of 50 marks (50%)
Calculators	Calculators cannot be used during this examination
Distinction Mark	None
Delivery	Paper based examination

Trainer Criteria

Trainer Criteria	<ul style="list-style-type: none">• Hold the BCS Certificate in Benefits Management• Have 10 days training experience or a train the trainer qualification• Have a minimum of 3 years practical experience in modelling business processes
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Classroom Size

Trainer to candidate ratio	1:16
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Recommended Reading List

Publications referenced in this syllabus:

Title: Business Analysis (3rd Edition)
Author: Debbie Paul, James Cadle and Don Yeates
Publisher: BCS Learning and Development
Publication Date: October 2014
ISBN: Paperback: ISBN 13: 978 1 78017 277 4
PDF: ISBN-13 978 1 780 17 278 1
EPUB: ISBN-13 978 1 780 17 279 8
Kindle: ISBN-13 978 1 780 17 280 4

Title: Business Analysis Techniques: 72 Essential Tools for Success
Author: James Cadle, Debbie Paul and Paul Turner
Publisher: BCS
Publication Date: February 2010
ISBN: 9781906124236
URL: <http://shop.bcs.org>

Title: Business Process Change (2nd Edition)
Author: Paul Harmon
Publisher: Morgan Kaufman
Publication Date: August 2007
ISBN: 0123741521

Further reading:

Title: Improving Performance: How to manage the white space on the organisation chart
Author: Geary A. Rummler and Alan P. Brache
Publisher: Jossey Bass
Publication Date: May 1995
ISBN: 0787900907

Title: Workflow Modeling (2nd Edition)
Author: Alec Sharpe And P McDermott
Publisher: Artech House
Publication Date: November 2008
ISBN: 1596931922

Title: The Fifth Discipline: The Art and Practice of the Learning Organisation (2nd Edition)
Author: Peter Senge
Publisher: Random House Business
Publication Date: April 2006
ISBN: 1905211201

Title: Competitive Advantage
Author: Michael Porter
Publisher: The Free Press
Publication Date: January 2004
ISBN: 0743260872

Title: The Six Sigma Way Team Fieldbook: An Implementation Guide for Process Improvement Teams
Author: Peter S. Pande, Robert P. Neuman and Roland R. Cavanagh
Publisher: McGraw-Hill Professional
Publication Date: January 2002
ISBN: 9780071373142