



Higher National Unit Specification

General information

Unit title: Business Process Management (SCQF level 8)

Unit code: HT9J 35

Superclass: CC

Publication date: November 2017

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Version: 02

Unit purpose

The purpose of this unit is to introduce the learner to the techniques and tools used to create Business Process Model Notation (BPMN) models. Learners will learn approaches to creating strategic process models from organisational documentation and subsequently derive operational process models based on the strategic models.

Learners will be introduced to the basic process modelling concepts including the creation of end to end private internal business processes and public processes. Concepts such as reusability will be introduced through business process activities such as sub-processes, tasks and call activities.

Choreography diagrams defining the sequence of interactions between participants will be introduced together with relationship to pools. Basic collaboration diagram concepts will be introduced specifying the message exchanges between participants.

Common BPMN elements such as message, message flows and sequence flows will be introduced. Learners will explore the features of software tools supporting the BPM (and enterprise architecture) framework and will use an appropriate tool to generate BPMN models and associated diagrams.

The unit offers learners the opportunity to develop their analytical skills by modelling the business processes comprising a given business activity.

Higher National Unit Specification: General information (cont)

Unit title: Business Process Management (SCQF level 8)

Outcomes

On successful completion of the unit the learner will be able to:

- 1 Derive a strategic process model from a business case.
- 2 Derive an operational model from a given strategic model.
- 3 Generate business process model diagrams using an appropriate tool.
- 4 Implement business rules and a Case Management Model and Notation model using complementary methods.

Credit points and level

2 Higher National unit credits at SCQF level 8: (16 SCQF credit points at SCQF level 8)

Recommended entry to the unit

Access to this unit will be at the discretion of the centre, however it is recommended that the learner has some prior business analysis experience in relation to business process modelling or has achieved the following HN Unit:

HT9K 34 Business Process Management: Introduction (SCQF level 7)

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Complete Core Skill	None
Core Skill component	Critical Thinking at SCQF level 6 Planning and Organising at SCQF level 6

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website <http://www.sqa.org.uk/sqa/46233.2769.html>

Higher National Unit Specification: General information (cont)

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Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Higher National Unit Specification: Statement of standards

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Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Where evidence for outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Derive a strategic process model from a business case.

Knowledge and/or skills

- ◆ Initial process discovery
- ◆ Identification of process customer and key process steps
- ◆ Identification of process resources
- ◆ Assignment of responsibilities
- ◆ Identification of performance characteristics where required
- ◆ Model simplification
- ◆ Model syntax verification

Outcome 2

Derive an operational model from a given strategic model.

Knowledge and/or skills

- ◆ Target state process review
- ◆ Resolution of lanes into separate pools
- ◆ Modelling of human flows
- ◆ Modelling of technical flows
- ◆ Documentation of templates, data and business rules

Outcome 3

Generate business process model diagrams using an appropriate tool.

Knowledge and/or skills

- ◆ Pool and swim lane creation
- ◆ Naming of process participants
- ◆ Essential start and end events
- ◆ Generation of activity flow objects
- ◆ Addition of catching and throwing events
- ◆ Addition of decision point gateways
- ◆ Embedded and reusable sub processes
- ◆ Use of appropriate connecting objects
- ◆ Use of data objects and artefacts

Higher National Unit Specification: Statement of standards (cont)

Unit title: Business Process Management (SCQF level 8)

Outcome 4

Implement business rules and a Case Management Model and Notation model using complementary methods.

Knowledge and/or skills

- ◆ Identification of business rules
- ◆ Implementation of business rules using decision tables
- ◆ Identification of activities dependant on conditions
- ◆ Implementation of case management model and notation model

Evidence requirements for this unit

Learners will need to provide evidence to demonstrate their knowledge and/or skills across all outcomes by showing that they can produce:

- ◆ product evidence (for Outcomes 1–4)

The product evidence will take the form of an assignment demonstrating the application of practical skills and related knowledge for all the outcomes, which must be described or recorded. Learners will be required to produce evidence that they can correctly analyse at least one real or fictitious scenario, model at least one target state using the BPM methodology, and use appropriate tools to develop and generate process diagrams, decision tables and implement at least one simple Case Management Model and Notation (CMMN) model.

Evidence covering all outcomes can be produced over an extended period of time under open-book conditions. Assessors must ensure the authenticity of learners' work especially where evidence has been produced unsupervised. The *Guide to Assessment* provides further advice on methods of authentication.

There are no time limitations on the production of evidence. The evidence may be produced at any time during the life of the unit. Learners may use reference materials when undertaking assessment.



Higher National Unit support notes

Unit title: Business Process Management (SCQF level 8)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this unit

This unit is intended to build upon the knowledge and skills acquired in the *Business Process Management: Introduction (SCQF level 7)* unit culminating in the creation of a BPM model from a business case study.

Learners shall be introduced initially to the purpose and benefits of the strategic process model which takes an overview of the process and is logically abstract. Its primary purpose is fast comprehension for the stakeholders involved. These could be process managers, analysts and all process participants including external partners where appropriate.

In Outcome 1 learners will identify situations where developing a strategic process model may be necessary, such as:

- ◆ clarifying what is and what is not part of a process.
- ◆ identification of process resources and responsibilities.
- ◆ identifying KPI's associated with processes.

Learners shall be introduced to the analysis methods for initial process discovery including reviewing organisational standard operating procedures and conducting one-to-one and group interviews with process participants and managers.

Emphasis should be placed on the focus and control of workshop management when conducting this process. Sample strategic process models should be introduced in the context of a practical example.

The use of choreography diagrams to represent the parties involved in a process and the order of communication should be introduced and explained.

In Outcomes 2 and 3 the learners should be introduced to the steps taken by a process analyst to derive an operational model, namely reviewing the target state process at the strategic level, resolving lanes into separate pools and modelling human flows from each participant's point of view.

The concept of deriving separate pools for each participant should be explained. The BPMN concept of a conductor for each pool who controls its processes, human or workflow engine, should be introduced and explained. The concept of process automation should be introduced.

Higher National Unit support notes (cont)

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Within this context the transfer from human flows to technical flows can be introduced and discussed. The function of workflow engines and their role in combining human workflow and service orchestration should be explained.

Creation of an operation model using a subset of BPMN notational elements should be demonstrated using appropriate tools.

In Outcome 4 the concept of business logic and rules should be introduced. The paradigm of Service Oriented Architecture (SOA) should be explained and the implementation of business logic through service calls made by a workflow engine introduced and discussed.

The separation of complex business decisions from routing decisions implemented by gateways should be explained. The introduction of the Decision Model and Notation (DMN) standard should be explained in the context of decision tables.

The linkage of decision tables to the process model by a special task and its attributes should be introduced.

Case management model and notation and its purpose should be discussed in general terms.

Examples where CMMN come into play, for example ad-hoc sub-processes which are state dependant, where control is exercised predominantly by people and where tasks can be carried out in any order, ie there is no sequenced process flow, should be explained. Linking a BPMN workflow and a CMNN case should be demonstrated.

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Guidance on approaches to delivery of this unit

It is recommended that the outcomes are taught in sequence. A suggested distribution of time across the outcomes is:

Outcome 1	25 hours
Outcomes 2 & 3	40 hours
Outcome 4	15 hours

There are significant resources, both in formal publications and general online resources, which can be utilised in the delivery of this unit.

At the time of writing, a specific publication *Real-Life BPMN* ISBN 9781541163447 could be used as a recommended textbook.

A large number of tools from fully integrated enterprise level vendor offerings to free limited feature cloud based tools are available. Examples of BPM and workflow tools should be utilised.

Use of white boards with BPMN symbols attached to the board via magnets which can be easily moved around are useful techniques for workgroup sessions with process participants.

Where possible, real life business scenarios should be considered as opposed to a simulated environment. The processes and systems within the teaching institutions themselves can provide a rich source of examples suitable for study and modelling.

Higher National Unit support notes (cont)

Unit title: Business Process Management (SCQF level 8)

A blend of tutor led exploration and learner centred research is recommended. Learners should be capable of demonstrating a basic understanding of the core activities undertaken by a process analyst and the associated tools utilised to generate the relevant models.

Group activity analysing existing processes are recommended.

It is recommended that summative assessment is carried out towards the end of the unit where learners should have accumulated understanding to successfully undertake assessments. There are opportunities to carry out formative assessment throughout the unit.

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

It is recommended that a single assignment involving the analysis and modelling of a real life business process could be used to cover all the learning outcomes.

An example could be the student recruiting process within an education environment.

Process discovery can be extracted via examination of in house organisational procedures and group workshops. A simple strategic process model could be developed containing no more than ten or fewer flow objects and no more than eight artefacts.

An operation process model can subsequently be developed revealing human and technical flows. The complexity of this model will be dependent on the specifics of the particular organisation but should not extend to significant layers of sub-processes and should by its nature utilise a restricted symbol set.

A more contemporary approach to assessment would involve the use of a web log (blog) to record learning (and the associated activities) throughout the life of the unit. The blog would provide evidence for underpinning knowledge (in the descriptions and explanations) and product evidence (using, for example, video recordings). The blog should be assessed using defined criteria to permit a correct judgement about the quality of the digital evidence. In this scenario, every knowledge and skill must be evidenced; sampling would not be appropriate.

Higher National Unit support notes (cont)

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Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

This Unit has the Critical Thinking and Planning and Organising components of Problem Solving embedded in it. This means that when learners achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 6, and Planning and Organising at SCQF level 6.

History of changes to unit

Version	Description of change	Date
02	Core Skills Component Critical Thinking at SCQF level 6 and Planning and Organising at SCQF level 6 embedded.	24/11/2017

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General information for learners

Unit title: Business Process Management (SCQF level 8)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

The purpose of this unit is to introduce you to the techniques and tools used to create business process model and notation models. You will learn approaches to creating strategic process models from organisational documentation and subsequently derive operational process models based on the strategic models.

You will be introduced to the basic process modelling concepts including the creation of end to end private internal business processes and public processes. Concepts such as reusability will be introduced through business process activities such as sub-processes, tasks and call activities.

Choreography diagrams defining the sequence of interactions between participants will be introduced together with relationship to pools. Basic collaboration diagram concepts will be introduced specifying the message exchanges between participants.

Common BPMN elements such as message, message flows and sequence flows will be introduced. Learners will explore the features of software tools supporting the BPM (and enterprise architecture) framework and will use an appropriate tool to generate BPMN models and associated diagrams.

You may be assessed through a single practical assignment involving the analysis and modelling of a real life business process to cover all the learning outcomes.

The unit offers you the opportunity to develop your analytical skills by modelling the business processes comprising a given business activity.

This Unit has the Critical Thinking and Planning and Organising components of Problem Solving embedded in it. This means that when you achieve the Unit, your Core Skills profile will also be updated to show you have achieved Critical Thinking at SCQF level 6 and Planning and Organising at SCQF level 6.