Higher National Unit specification: general information

Unit title: Manage Operational Resources

Unit code: H1F5 34

Superclass:	AG
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Source:	Scottish Qualifications Authority
Version:	01

Unit purpose

The purpose of this Unit is to enable candidates to analyse the management of operational resources in an organisation. It enables candidates to recognise the key role of the transformation process and how all aspects of operational management are built around it. The Unit focuses on key areas of operations management: quality, the impact of technology, health and safety and budgetary control.

The Unit is aimed at candidates who have current experience of working in a position with management responsibilities or who are returning to management after a break. It is also suitable for those who do not presently have current management experience but have aspirations of taking up a management role in the future. Successful completion of this Unit will provide a foundation for further management Units at more advanced SCQF levels.

On completion of the Unit the candidate should be able to:

1 Analyse the management of operations.
2 Utilise financial data in operations management.

Recommended prior knowledge and skills

It is recommended that candidates undertaking this Unit possess good communication skills to a level equivalent to at least SCQF level 6. It would be beneficial also if candidates are able to work with numerical data and have some knowledge of management and business principles particularly of how organisations are controlled. Additionally, it would be beneficial if candidates had achieved or were working towards the HN Unit *Management: Developing Self Management Skills* and/or the HN Unit *Managing and Working with People.*

General information (cont)

Credit points and level

2 Higher National Unit credits at SCQF level 7: (16 SCQF credit points at SCQF level 7*)

SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

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 exemplar for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable instrument of assessment. Centres wishing to develop their own assessments should refer to the assessment exemplar to ensure a comparable standard. Assessment exemplars are available on SQA's secure website.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

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. Candidates 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

Analyse the management of operations.

Knowledge and/or Skills

♦ Transformation Process
♦ Quality management — quality control, quality assurance, quality improvement
♦ Application and impact of the use of technology
♦ Safe working environment — health and safety, risk assessment

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that, with reference to a particular aspect of an organisation, they can analyse:

♦ the different components [input, output and transformation method] of the transformation process.
♦ the effectiveness of **three** different methods of controlling quality of a product or service.
♦ how currently recognised international QMS standard can be used to assure quality.
♦ how quality can be improved through the use of **one** recognised quality technique.
♦ the impact [in terms of actual and potential benefits and costs] of **one** key technological advance on management of the transformation process.
♦ the significance and impact of Health and Safety procedures, including legislative requirements on the transformation process.
♦ the conduct and impact [in terms of actual and potential benefits and costs] of risk assessment.

Candidates should refer to relevant concepts from operations management and justify their analysis with valid reasons.

Higher National Unit specification: statement of standards (cont)

Unit title: Manage Operational Resources

Outcome 2

Utilise financial data in operations management.

Knowledge and/or Skills

♦ Analysis of variances
♦ Corrective action

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can, using budget information covering **two** consecutive accounting periods for one part of an organisation:

♦ Identify and give reasons to explain significant variances.
♦ Propose and justify suitable corrective action.
♦ Evaluate the costs and benefits of **two** possible corrective actions.

Higher National Unit specification: support notes

Unit title: Manage Operational Resources

This part of the Unit specification is offered as guidance. The support notes 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

The Unit may be part of a Group Award such as HNC Management, designed to provide candidates with knowledge and understanding of management concepts, principles and practice.

It is suitable for candidates who wish to develop their management capabilities or prepare themselves for a managerial role. It may, therefore, be undertaken on a stand-alone basis or in combination with other Units as part of a management development programme designed for a particular situation.

Where candidates are employed, they will be able to apply their analysis to real work situations. However, they may not yet be in occupational roles which include permanent management responsibilities. If this is the case, they may well expect to assume such responsibilities in the near future.

Managing resources to ensure that operational activities are carried out effectively and efficiently is a major part of management in organisations. This Unit enables candidates to recognise the place of operations management in an organisation and the role that managing operational resources can play in sustaining a competitive advantage for organisations and/or ensuring that key performance indicators are met. The Unit centres on the transformation process of converting inputs into output and considers key aspects of managing operations — quality, technology, health and safety and finance – in the context of this transformation process. The Unit is applicable, therefore, to all managers and does not relate solely to working in the functional area of operations management.

The Unit recognises also that the ability to review and understand the implications of financial data is essential to the effective management of operational resources. It looks specifically at budgets and budgetary control as this is the area of finance with which those managing operational resources are most likely to be involved.

The Unit covers operations management in all types of organisations and thus includes organisations of different size, public and private organisations, and organisations operating in different markets.

Throughout the Unit the emphasis should be on the practical implication and introduction of ideas and theories into the workplace.

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

Outcome 1

This Outcome focuses on the transformation process and candidates should be familiar with all aspects of it:

♦ Materials processing
♦ Information processing
♦ Customer processing
♦ Outputs — products and services
♦ Business processes

Candidates should also gain a clear understanding of the storage and accumulation of material resources in transformation systems, including four aspects of management:

♦ Volume
♦ Variety
♦ Variation
♦ Visibility

The remainder of this Outcome looks at three specific aspects of operations management – quality, technology and health and safety. All should be considered within the framework of the transformation process.

For quality management, candidates should have an overview of:

♦ Quality theorists (eg Deming, Juran, Ishikawa, Crosby etc)
♦ Quality planning, control and assurance systems
♦ Quality improvement (eg Baldridge, Deming, TQM, EFQM)
♦ Quality standards (ISO9001 etc)
♦ Monitoring and implementation of quality initiatives

For technology, candidates should be aware of 'sustaining' and 'disruptive' technologies and be able to argue the benefits and costs which can be derived for the given organisation by the implementation of the suggested technological innovation. Key technological advances can be explored from a number of different perspectives such as:

♦ Virtual Prototyping
♦ Virtual and Rapid Product/service design
♦ Hot-Desking
♦ Network design
♦ Layout of facilities
♦ Communications technology
♦ Planning and control systems (project, capacity, inventory, supply chain quality)
♦ Failure prevention and recovery

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

For health and safety, candidates should have an understanding of what constitutes a safe working environment. They should consider both health and safety procedures and relevant legislative requirements. This can include how information is disseminated to employees, together with the strategies used to involve them in meeting organisational and legal responsibilities. They should also examine how risk assessment is undertaken and how risks are identified, measured and evaluated.

Outcome 2

This Outcome is intended to provide candidates with the foundation and background knowledge to be able to analyse, report and provide recommendations with regard to the effective use of operational resources. Candidates should be aware of how budgets are planned and how they can be used to monitor and control the use of resources. They should be able to use variance analysis and have an understanding of the various types of corrective action available to managers if required.

Guidance on the delivery of this Unit

This Unit can be delivered through lecturer-mediated discussion. This may be in a traditional face-to-face environment or using a virtual learning environment or by various combinations of the two such as classroom interaction augmented by an on-line forum.

The choice of delivery methods for the Unit is particularly important as the Unit lends itself to learning and teaching approaches which make it possible for candidates to produce suitable assessment evidence as they work through the Unit. Candidates could, for example, be encouraged to write a blog or maintain a learning diary. They could, as an integral part of the learning and teaching process, be given guidance on how to structure and organise their material so that it is in a form which can easily be presented for assessment purposes.

Hence, in devising suitable delivery methods, it may be helpful to bear in mind that evidence for assessment can be generated in many different ways, including:

♦ Presentations and other non-written assessments, eg group presentation; individual presentation; production of artefact, eg poster, video, audio; role play; debate and discussion; residential periods.
♦ Assignments, eg e-portfolios; learning journals; project documentation; diaries; reading logs; blogs and reflexive notebooks.
♦ Collaborative work, eg projects; posters; events; work experiences; residential exercises and field events.
♦ Making use of technology, eg blogs; wikis; social media tools; VLE, e portfolios.

Methods such as those above link learning and teaching methods directly with the generation of assessment evidence so that they become part and parcel of the same thing. The categories are not mutually exclusive, eg a VLE may be used as a vehicle for debate and discussion.

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

Delivery should enable candidates to become familiar with the work of key writers on operational management and can make use of examples and case studies from UK and international organisations. Candidate input can help to develop analytical skills and should be encouraged. Discussion can be based on candidates' own workplace, for example candidates can draw on their own experiences of health and safety and quality management within organisations as well as the impact that changing technology has had on them personally as well as on organisations with which they are familiar. Candidates may also develop insights by sharing information perhaps by responding to a stimulus posted on an on-line forum or making short presentations to their class group.

Candidates could do exercises to build up their knowledge and understanding of budgets and budgetary control. Again there may be opportunities for them to exchange experiences particularly in terms of how budgets are prepared and the impact that they can have on the way operational resources are managed. Ideally, delivery should integrate Outcomes 1 and 2 so that candidates are aware that financial data is a key part of managing operational resources and something which they, as managers, must take carefully into account when making managerial decisions about the way resources are used during operational activities.

Throughout delivery can aim to merge theory and practice with the focus being on the practical aspects of managing operational resources within a modern organisation to achieve sustained competitive advantage. This should be backed up with a broad understanding of the management theory in these areas.

Guidance on the assessment of this Unit

It is possible to combine the two Outcomes in this Unit into a single assessment, perhaps by using a case study. They could also be combined by using a common instrument of assessment such as a portfolio in which candidates can present evidence for both Outcomes. However, although they are closely connected, the two Outcomes are sufficiently different so that, if desired, separate assessments could be devised for each of the two Outcomes.

Whatever assessment approach is adopted, there are a number of different ways by which candidates may generate evidence for this Unit. If at all possible, candidates should be encouraged to provide evidence in a format which suits their particular situation.

Candidates could generate evidence during the delivery of the Unit and gather it together in a portfolio which, providing they have access to suitable systems, they could manage electronically. Sources of suitable evidence for portfolios could include:

♦ Personal statements by candidates in response to learning and teaching exercises.
♦ Contributions by candidates to discussion forums and/or to social networking sites.
♦ Wikis developed by candidates.
♦ Extracts from a blog or blogs produced by candidates.

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

The above apply particularly to Outcome 1 and could stem directly from activities which form part of a learning and teaching programme. However, evidence may also be available from a candidate's place of work or from other sources. Alternatively candidates could work with case study material. This could refer to one or more organisations which may be real or hypothetical. It might be possible also to generate evidence through residential periods or 'away days'. A viva or mini-viva could be used to supplement and/or augment portfolio evidence which could also incorporate peer assessment and evidence generated through collaborative work, eg a poster display of health and safety.

A portfolio based approach can make it easier for candidates to make use of the same item of evidence in different contexts. For example, a candidate with operational experience in customer service or with good knowledge of how customer service works in an organisation may be able to use the same evidence for part of this Unit and part of the Unit *Creating a Culture of Customer Care.*

Outcome 2 can be assessed by means of a case study which provides candidates with information on **two** consecutive budget periods, although in a few cases, it may be possible for candidates to make use of information from their place of work. Candidates can be given questions to guide their responses, which they could incorporate into their portfolio(s) and present all their evidence for the Unit together.

If desired, it would be possible to assess this Unit by generating assessment towards the end of the Unit or towards the end of each Outcome depending on the order of delivery. For Outcome 1, this could be achieved by a narrative report on managing operational resources. This could be in a traditional report format but this not required. The report could, if wished, be based on a case study linked to a hypothetical or an actual situation. Alternatively, it may well be possible for candidates to base it on an organisation with which they are familiar even if they do not currently hold a managerial post within the organisation. Candidates could be given a set of questions or headings to assist them in structuring their response. This could help them to ensure that their work generated sufficient and suitable evidence to meet the Evidence Requirements.

It would be possible to tailor the report for a specific audience such as readers of a business magazine which would enable candidates to practise writing for different purposes. Alternatively, evidence could be presented through a poster presentation or an electronic slide presentation which could include video and audio.

For Outcome 2, candidates could, as described, undertake an assessment exercise in which they respond to questions on a case study containing suitable budgetary information.

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

Online and Distance Learning

The above guidance on delivery and assessment indicates there are considerable opportunities for Online and Distance Learning and Assessment in this Unit. In addition material prepared by the SQA to support this Unit is available in electronic format.
It is possible, therefore, to co-ordinate a learning and teaching/assessment programme through a VLE which would, if desired, also allow geographically dispersed candidates to initiate, develop and maintain contact with each other. The SQA support material also allows for a more traditional distance learning approach for candidates who prefer to learn in this way.

Opportunities for the use of e-assessment

As noted above, e-assessment may be particularly appropriate for 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 candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003).*

Opportunities for developing Core Skills

Depending on the learning and teaching/assessment approaches adopted, both Outcomes of this Unit provide opportunities for developing the three components of the Core Skill of *Communication* at SCQF level 6 and one component of *Problem Solving* at SCQF level 6.

Communication: Oral Communication at SCQF level 6

Candidates may be asked to give a presentation on any aspect of managing operations, including budgetary control, to other members of the group in a manner which conveys essential information and ideas. These can be complex topics and candidates may also respond to questions or queries from others. Candidates may also contribute to debates and discussions or participate in a viva, all of which will require them to use vocabulary, register and sentence structure appropriate to the audience involved.

Communication: Written Communication (Reading) at SCQF level 6

In order to complete the Unit, candidates will have to become familiar with current managerial thinking on managing operations and operations management in general. This will require them to read written text which explores different aspects of operations management and which is likely to draw attention to different approaches and place different emphases on different aspects. Texts are also likely to present structured, detailed explanations and arguments. Candidates may well summarise their understanding by posting messages to others through a VLE or in a blog or in a written report produced for assessment purposes.

Higher National Unit specification: support notes (cont)

Unit title: Manage Operational Resources

Communication: **Written Communication (Writing) at SCQF level 6**

In order to complete Outcome 1, candidates could provide evidence in the form of a management report in which they would be expected to present their analysis in a suitable manner using a recognised format. There are alternative ways to present written evidence such as by personal reports, an article for a business magazine or by contributions to an online forum. Whatever approach is adopted, candidates will be required to organise a substantial body of material and make use of complex language and specialist vocabulary.

Problem Solving: **Critical Thinking at SCQF level 6**

In order to complete the Unit, candidates will have to analyse the key aspects of operations management in a specific part of an organisation. They will have to identify the main factors involved in the situation from an operational management perspective and assess their significance and relevance. They will be required to refer to appropriate theoretical ideas in order to make this assessment and justify the approach to operational management which they have identified.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**

History of changes to Unit

Version	Description of change	Date

General information for candidates

Unit title: Manage Operational Resources

This is a 2 credit Unit (16 SCQF credit points) at SCQF level 7 and is designed to enable you to analyse the management of operational resources in an organisation. Most, if not all, managers have to meet output targets and, as a result, making sure that resources such as materials and people are used effectively and efficiently is a major part of the responsibilities of any manager. This Unit enables you to understand what is called the transformation process which plays a key role in managing operations. This will help you to see how all aspects of operational management are built around it.

The Unit emphasises four key areas of operations management — **quality, the impact of technology, health and safety and budgetary control**. Throughout the Unit you will be encouraged to make use of your own experience and to apply the concepts in it to situations with which you are familiar.

The Unit will help contribute to your development as a manager. If you have current management experience it will help you to explore and reflect on a suitable approach to leading a team, perhaps the one for which you are currently responsible. If you have not yet worked as a manager but hope to do so in the future, the Unit will help you to prepare for your new role and to meet its challenges and demands. Also if you have worked as a manager in the past but have not done so for a little while, the Unit can help you review your experience and update it in the light of recent developments.

The Unit has two Outcomes:

♦   The first Outcome focuses on the analysis of managing operational resources and it is here that you will encounter the transformation process and examine quality, technology and health and safety.
♦   The second Outcome is about the financial factors which underpin all aspects of managing operational resources. It concentrates specifically on budgets and how managers can use them to monitor the use of operational resources and take steps to make changes if they are required.

The content of the Unit will be kept relevant through the appropriate use of examples and by focusing the areas of study on organisations that are relevant to you. This should provide you with the flexibility required to study, as appropriate, organisations of different size, public and private organisations, and organisations operating in different markets.

For successful completion of this Unit, you will be required to provide evidence that you can analyse the role of operations management and utilise financial data relating to budgets. You will be expected to apply the concepts you have learned during the Unit in your assessment evidence. For budgets you will be expected to work with financial data. You can present your evidence in a number of ways such as a personal blog, a management report or a poster presentation. You may well be able to generate suitable evidence from your learning as you work through the Unit. Your tutor will explain exactly what is expected of you.

You will complete the Unit if the evidence which you submit for assessment is considered satisfactory in terms of the standard set by the Unit.