

Higher National Unit Specification

General information for centres

Unit title: Environmental Issues for Quality Managers

Unit code: DW8X 34

Unit purpose: This Unit is intended to enable the candidate to identify and explain the impact upon organisations of current environmental issues:

- ◆ current environmental legislation
- ◆ current environmental issues
- ◆ responsibilities of organisations to identify and manage their impact upon the environment
- ◆ responsibilities of organisations to contribute towards the eco-friendliness of materials/products/services

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

- 1 Explain the impact of current environmental legislation on a range of industries.
- 2 Identify and describe the current environmental issues organisations have to consider.
- 3 Describe the need for Environmental Management Systems within organisations.

Credit points and level: 1 HN Credit at SCQF level 7: (8 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.*

Recommended prior knowledge and skills: It is recommended that candidates undertaking this Unit possess good written and verbal communication skills.

Core Skills: There are opportunities to develop the Core Skills of Communication specifically reading and writing at SCQF level 6, in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

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.

Assessment: The assessment can take form of both closed-book and open-book assessments with structured questions.

General information for centres (cont)

A holistic approach may be taken to the assessment of all or a selection of the three Outcomes. A single instrument of assessment based on a case study of a real or fictitious organisation can be used. Candidates should be provided with, or directed to, information relating to the organisation and its environment. If the candidate is directed to gather information, the case study should ideally be based on an organisation that the candidate is familiar with, or one about which the candidate can easily gather data. Candidates who have current or past work experience may be able to base their assignment on an organisation in which they have previously worked.

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

Explain the impact of current environmental legislation on a range of industries

Knowledge and/or skills

- ◆ Sources of legislation
- ◆ Role of EU
- ◆ Role of Environment Agencies
- ◆ Environmental legislation

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ explain three main sources of environmental legislation
- ◆ explain the role of the EU and Environmental Agencies in enforcing environmental legislation
- ◆ explain the effects of environmental legislation on organisations from at least three different industries

Assessment guidelines

This Outcome could be assessed by a series of structured questions under closed-book conditions.

OR

This Outcome can be assessed as part of an integrated assessment of all or a selection of the three Outcomes, based on the activities, products and/or services of a real organisation or case study.

Higher National Unit specification: statement of standards (cont)

Unit title: Environmental Issues for Quality Managers

Outcome 2

Identify and describe current environmental issues of concern to organisations

Knowledge and/or skills

- ◆ Main pollutants produced
- ◆ Concept of sustainability
- ◆ Sustainability: key terms and definitions
- ◆ Green Consumerism
- ◆ Eco-friendliness of product/materials/services

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills items by showing that they can:

- ◆ identify the main pollutants produced by industries from two industrial sectors and discuss their environmental impact
- ◆ identify and describe the main factors relating to sustainability
- ◆ describe the key terms and definitions relating to sustainability:- Sustainable development; Polluter Pays Principle; Voluntary Principle; Environmental Justice; Life Cycle Analysis
- ◆ identify and describe the main impacts of green consumerism
- ◆ identify and describe the main responsibilities of an organisation in contributing towards the eco-friendliness of their product/materials/services

Assessment guidelines

This Outcome could be assessed by a series of structured questions under closed-book conditions.

OR

This Outcome can be assessed as part of an integrated assessment of all or a selection of the three Outcomes, based on the activities, products and/or services of a real organisation or case study.

Higher National Unit specification: statement of standards (cont)

Unit title: Environmental Issues for Quality Managers

Outcome 3

Describe the need for Environmental Management Systems within organisations

Knowledge and/or skills

- ◆ The need for an environmental management system
- ◆ The main benefits and effectiveness of environmental management systems
- ◆ Requirements of current standards
- ◆ Organisational functions and responsibilities in relation to the management of environmental impact

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills items by showing that they can:

- ◆ identify the main features of the current environmental management system standard
- ◆ identify and describe the main functions and responsibilities of an organisation in managing the impact of their activities upon the environment
- ◆ discuss the effectiveness of an Environmental Management System within an organisation

Assessment guidelines

This Outcome could be assessed by a series of structured questions under closed-book conditions.

OR

This Outcome can be assessed as part of an integrated assessment of all or a selection of the three Outcomes, based on the activities, products and/or services of a real organisation or case study.

Administrative Information

Unit code:	DW8X 34
Unit title:	Environmental Issues for Quality Managers
Superclass category:	QA
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Higher National Unit specification: support notes

Unit title: Environmental Issues for Quality Managers

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 40 hours.

Guidance on the content and context for this Unit

This Unit is an optional Unit for the group award HNC Quality and is designed to enable the candidate to identify and explain the impact upon organisations of current environmental issues.

The Unit addresses current environmental legislation and related issues, the identification of roles and responsibilities in the management of environmental impact related to activities, product and/or services of the organisation, and the organisations contributions towards eco-friendliness of materials/products/services.

This Unit covers environmental issues specifically for Quality Managers and on completion of the Unit the candidate should be able to:

- ◆ explain the impact of current environmental legislation on a range of industries
- ◆ identify and describe the current environmental issues organisations have to consider
- ◆ describe the need for Environmental Management Systems within organisations

The following gives some guidance on the content for each individual Outcome, it is neither exhaustive nor prescriptive:

Outcome 1

Key principles for organisations aiming to implement or further develop the management of environmental issues are numerous and this Unit aims to cover these principles.

One of the main principles of environmental management relates to the understanding and determination of the legislative requirements and environmental aspects associated with their activities, products and services, at local and global level. This Outcome should consider the impact of environmental legislation on organisations from at least three different industries, eg Manufacturing, Pharmaceutical, Service, etc.

The main sources of legislation are:

- ◆ International Protocols, such as The Montreal Protocol 1987; The Geneva Convention on Long-Range Trans-Boundary Air Pollution 1979; Helsinki Protocol 1985; Sofia Protocol 1988; The Earth Summit (Rio) 1992; The Kyoto Summit (Japan) 1997.
- ◆ EU legislation, focusing on issues such as integrated management and natural resources, resultant EU directives, Groundwater Directive, Drinking Water Directive, Bathing Water Directive, Water Supply (Water Quality) Regulations/Private Water Supplies Regulations.
- ◆ National legislation, where there is a number of pieces of legislation which have been enacted recently; landfill tax, landfill directive, packaging directive, energy tax, ozone depleting substances, electronic waste.

Higher National Unit specification: support notes (cont)

Unit title: Environmental Issues for Quality Managers

From the National, EU and International legislation there has been a number of regulations merging to promote the management of environmental related issues, such as:

Control of Substances Hazardous to Health Regulations (COSHH) 2002
Genetically Modified Organisms Regulations 2002

The main legislation that has emerged from the general increase in awareness of environmental issues is the Environmental Act 1995 and it's associated nine parts, which has superseded the Environmental Protection Act 1990. The Environment Agency (EA) materialised from this act to enforce the requirements of the act. An agreement also exists between the EA and HSE to manage overlapping responsibilities and avoid duplication.

The Scottish Environment Protection Agency (SEPA) has comparable duties to the EA, but notably is responsible for both Part A (Integrated Pollution Control) and Part B (Air Pollution Control) processes of the Environment Protection Act 1990.

Useful websites for further information:

www.environment-agency.gov.uk
www.sepa.org.uk

The powers held by Environment Agency Inspectors are analogous to those of the HSE and local authority and include Enforcement and Prohibition, if required.

The law is powerful in respect of environmental issues, compliance through the jurisdiction of the High Court.

Legislative effects have meant that organisations have raised their importance in raising environmental awareness. There has also been an increase in external factors which are driving organisations and individuals to address environmental issues; such as avoidance of accidents; increase efficiencies; rise in liability and compensation claims.

Outcome 2

The main pollutants identified within the Environmental Act are classified under the following;-
Waste on land; Statutory Nuisance & Clean Air; Litter; Nuclear; Biological; Nature (Conservation);
Others.

Concept of Sustainability should include the key terms and definitions relating to Sustainable Development; Polluter Pays Principle; Voluntary Principle; Environmental Justice and Life Cycle Analysis.

Life Cycle Analysis not a requirement of current Environmental Management Standards (EMAS or ISO 14001). It is a method to identify material, energy and waste flows associated with a product over it's entire life cycle so that the environmental impacts can be determined through the following elements:

Higher National Unit specification: support notes (cont)

Unit title: Environmental Issues for Quality Managers

- ◆ Goal and scope definition
- ◆ Inventory analysis
- ◆ Impact assessment
- ◆ Interpretation

There are several variations relating to the concept of 'Green Consumerism', the following guidelines identify the main impacts of this concept for both internal and external stakeholders:

- ◆ Green Marketing Mix:
 - satisfaction of customer needs
 - safety of product and production for consumers, workers, society and the environment
 - social acceptability of a product, its production and the other activities of the company
 - sustainability of the product, their production and other activities of the company.
- ◆ Internal Green 'Ps' are: Product; Promotion; Place; Price; Providing Information; Processes; Policies; People.
- ◆ External Green 'Ps' are categorised: Paying Customers; Providers; Politicians; Pressure Groups; Problems; Predictions; Partners.

Outcome 3

An EMS provides a company with an integrated approach to managing and monitoring the environmental impact of its activities, products and/or services in complying with environmental regulations. It also provides a practical framework within which environmental issues can be managed.

Key terms and definitions, policies and documentation, roles and responsibilities are identified in the current management standards of ISO 14001 and The Eco-Management and Audit Scheme (EMAS).

The main features of a EMS Model are clearly identified within the current standard ISO 14001, and categorised as:

- ◆ Environmental Policy
- ◆ Planning
- ◆ Implementation and Operation
- ◆ Checking and corrective action
- ◆ Management review
- ◆ Continual Improvement

ISO 14004 provides details in relation to the main benefits associated with the implementation of an effective Environmental Management System, and reference to this section of the standard is recommended. It also provides a summary of the main differences between ISO 14001 and EMAS.

Preparatory Environmental Reviews (PER) are not required by ISO 14001, it is recommended as a suitable approach in addressing key aspect of both ISO 14001 and EMAS as both require an organisation to conduct an initial review.

Higher National Unit specification: support notes (cont)

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Guidance on the delivery and assessment of this Unit

It is envisaged that this Unit will be delivered through lecturer/learner discussion and reference to appropriate text, support material, experience and case study. Also the employment of appropriate guidance and coaching to develop the candidates practical skills and knowledge of Environmental Management issues. The appropriate use of examples and case study can help keep the Unit relevant to the candidates own organisation or which they are familiar with.

Candidates should be encouraged to relate theory and practice within their discussions and analysis. Candidates should also be encouraged to apply models and philosophies of environmental management related issues to real and/or fictitious organisations, and draw conclusions that relate to the concepts of environmental legislation, current issues and management standards.

The Unit aims to integrate both theory and practice and the focus should be on both the theoretical and practical aspects of environmental legislation, current issues and management standards employed within an organisation and their effectiveness.

Summative assessment should focus on the candidates understanding of the selection and application of environmental legislation, current issues and management standards within the organisation.

The assessment can take form of either closed-book or open-book assessments with structured questions.

A holistic approach may be taken to the assessment of all or a selection of the three Outcomes. A single instrument of assessment based on a case study of a real or fictitious organisation can be used. Candidates should be provided with, or directed to, information relating to the organisation and its environment. If the candidate is directed to gather information, the case study should ideally be based on an organisation that the candidate is familiar with, or one about which the candidate can easily gather data. Candidates who have current or past work experience may be able to base their assignment on an organisation in which they have previously worked.

This approach to generation of evidence will inevitably mean that sampling of knowledge and skills will be employed.

The following overview can be used as an exemplar of how this approach can be employed, word counts are to be used for guidance only.

Outcome 1:

- ◆ Identify the environmental legislation pertaining to the selected organisation (a simple list will suffice).
- ◆ Prepare a brief summary of the sources of relevant environmental legislation (250 words).
- ◆ Describe the role of the EU in forming legislation for a selected example eg Packaging Waste Directive (200 words).
- ◆ Role of SEPA (or Environment Agency) as regulators in enforcing the requirements of a selected example of environmental legislation (200 words).
- ◆ Discuss the impact of environmental legislation on the activities of the case study organisation (400 words).

Higher National Unit specification: support notes (cont)

Unit title: Environmental Issues for Quality Managers

Outcome 2:

- ◆ Identify the main environmental impacts both positive and negative of an organisation (a simple list will suffice).
- ◆ Define sustainable development and discuss the contribution of the organisation towards achieving this (200 words).
- ◆ Identify and discuss the impact of green consumerism (consumer choice) on the organisation (200 words).
- ◆ Identify and discuss steps taken by an organisation to contribute to the eco-friendliness of their products and services, eg life cycle analysis (400 words).

Outcome 3:

- ◆ Identify an environmental management system (ISO 14001 or EMAS) suitable to meet the needs of an organisation. Justify your selection. Describe the main features of the chosen system (200 words).
- ◆ Prepare an environmental policy (mission statement) in order to manage the impacts of an organisation on the environment (200 words).
- ◆ Discuss the effectiveness of an Environmental Management System within an organisation — if the organisation already has accreditation — or discuss the potential effectiveness and identify the benefits to an organisation which is not yet accredited to a formal EMS (500 words).

Opportunities for developing Core Skills

The delivery and assessment of this Unit may contribute towards the ‘Reading’ and ‘Writing’ components of the Core Skill of Communication at SCQF level 6 because of the requirement to read textbooks, standards and various Management System documentation. The formative and summative assessments for Outcomes 1, 2 and 3 requires candidates to provide written responses which contribute towards the ‘writing’ component.

Open learning

This Unit is suitable for open or distance learning methods, and if it is decided to deliver the Unit through any of these methods, additional resources for candidate support, assessment and quality assurance will be required. For further information and advice please refer to the SQA guide: *Assessment and Quality Assurance for Open and Distance Learning (A1030, February 2001)*.

Candidates with additional support needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA’s website: www.sqa.org.uk.

General information for candidates

Unit title: Environmental Issues for Quality Managers

This Unit is a 1 credit mandatory Unit at SCQF level 7. It is recommended that candidates undertaking this Unit possess good written and/or verbal communication skills, together with a knowledge of the fundamentals of quality and quality management. This may be evidenced with the possession of the HN Unit Fundamentals of Quality (DV9T 34) or an equivalent Unit covering these knowledge and skills areas.

The Unit addresses current environmental legislation and related issues, the identification of roles and responsibilities in the management of environmental impact related to activities, product and/or services of the organisation, and the organisations contributions towards eco-friendliness of materials/products/services.

This Unit covers environmental issues specifically for Quality Managers and on completion of the Unit the candidate should be able to:

- ◆ explain the impact of current environmental legislation on a range of industries
- ◆ identify and describe the current environmental issues organisations have to consider
- ◆ describe the need for Environmental Management Systems within organisations

The Unit has three Outcomes. The first Outcome addresses the impact of current environmental legislation on a range of industries. The second Outcome identifies and describes the current environmental issues organisations have to consider. The third Outcome addresses the need for Environmental Management Systems within organisations.

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 the flexibility required to study, as appropriate, organisations of different sizes, public and private organisations, and organisations operating in different markets.

For a successful completion of this Unit, you will be required to achieve a satisfactory level of performance on the assessment work.

The assessment can take form of either closed-book or open-book assessments with structured questions.

A holistic approach may be taken to the assessment of all or a selection of the three Outcomes. A single instrument of assessment based on a case study of a real or fictitious organisation can be used. Candidates should be provided with, or directed to, information relating to the organisation and its environment. If the candidate is directed to gather information, the case study should ideally be based on an organisation that the candidate is familiar with, or one about which the candidate can easily gather data. Candidates who have current or past work experience may be able to base their assignment on an organisation in which they have previously worked.