



Higher National Unit specification

General information for centres

Unit title: Environmental Management Systems

Unit code: F6D0 35

Unit purpose: This Unit provides candidates with an up-to-date overview of the Environmental Management System (EMS) framework from both European and non European perspectives and provides practical tools to assist in the development, maintenance, day-to-day running and continual improvement of Environmental Management Systems.

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

- 1 Explain the operational features of an Environmental Management System.
- 2 Explain the role and scope of Environmental Management Systems.
- 3 Describe methods and techniques used to achieve the aims of an environmental management system.

Credit points and level: 1 HN credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

**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: Access to this Unit is at the discretion of the centre. There are no specific prerequisite courses; however it is recommended that candidates have a general understanding of the foundations of the environment and management.

Core Skills: There are opportunities to develop the component *Critical Thinking* of the Core Skill *Problem Solving*, and the Core Skill *Communication*, both 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: All Outcomes for this Unit could be assessed by means of an extended response report.

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 operational features of an Environmental Management System

Knowledge and/or Skills

- ◆ Environmental legislation register
- ◆ Environmental review procedures
- ◆ Environmental audit procedures
- ◆ Staff training in an EMS
- ◆ Environmental policy
- ◆ EMS audit contracting

Evidence Requirements

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

- ◆ explain the purpose and describe the content of an environmental legislation register
- ◆ explain the role of review in environmental management systems
- ◆ identify the role of staff training in an environmental management system
- ◆ explain the environmental audit process
- ◆ identify the role and scope of an environmental policy
- ◆ explain how an organisation may go about contracting an environmental audit

Assessment Guidelines

This Outcome could be assessed by a report addressing all Outcomes holistically. Further details may be found under Assessment Guidelines for Outcome 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Environmental Management Systems

Outcome 2

Explain the role and scope of Environmental Management Systems

Knowledge and/or Skills

- ◆ Relationship between environmental impacts and business
- ◆ Business value of EMS
- ◆ Role of EMS in achieving sustainable development

Evidence Requirements

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

- ◆ explain the relationship between environmental impacts and business
- ◆ identify three possible business reasons for the adoption of an EMS
- ◆ describe how EMS can contribute to sustainable development

Assessment Guidelines

This Outcome could be assessed by a report addressing all Outcomes holistically. Further details may be found under Assessment Guidelines for Outcome 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Environmental Management Systems

Outcome 3

Describe methods and techniques used to achieve the aims of an environmental management system

Knowledge and/or Skills

- ◆ Environmental management tools
- ◆ Data sources for environmental audit
- ◆ Measurement methods

Evidence Requirements

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

- ◆ describe at least three environmental management tools
- ◆ identify data suitable for use in environmental management
- ◆ identify measurement methods for environmental management

Assessment Guidelines

All Outcomes for this Unit could be assessed by means of a report. The report could involve responses to extended response questions and discussion of a particular case study. The report could also include discussion on the efficiency of environmental management systems.

Administrative Information

Unit code: F6D0 35
Unit title: Environmental Management Systems
Superclass category: QA
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Environmental Management Systems

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 provides candidates with an overview of the Environmental Management System (EMS) framework from both European and non-European perspectives and provides practical tools to assist in the development, maintenance, day-to-day running and continual improvement of Environmental Management Systems.

Although there are a number of environmental management systems in common use they share common features. These include a register of legislation relevant to the organisation, an environmental audit of the activities and environmental impacts of the organisation, the development of an organisation's environmental policy, goals and targets, the training of staff at all levels within the organisation and the review of progress towards those goals. Not all organisations are suitable subjects for EMS and some would not benefit from the process, but candidates could be informed as to the possible financial benefits of improved reputation and efficiency to businesses. Competitive tendering in many industries has led to the possession of EMS becoming a pre-requisite for sub-contractors if the main contractor has EMS accreditation.

The principle of sustainable development is at the heart of local and international policy and successful environmental management systems in organisations can be invaluable in the delivery of national targets and the avoidance of environmental damage.

Environmental management systems may incorporate a number of different instruments. Life cycle analysis, where the environmental impact of a product or system is analysed over the whole life of that item – often referred to as cradle to grave impact analysis. Best Available Techniques (BAT) is a policy where only efficient and up-to-date methods, equipment and management systems are used in production systems or product designs leading to clearer production. Some organisations may stipulate water use to be a major environmental impact of their activities. They may choose to embark on measurement and analysis of their water use and this could represent one of the targets in their EMS. Other organisations might choose process waste reduction, energy efficiency, transport, air emissions or any one of a number of parameters and embark on changes to reduce these impacts. Candidates could be introduced to methodologies for measurement and reduction of these impacts and the methods of measurement required to inform this process.

Government can intervene in some instances by reducing emission targets through legislation or tax and businesses that are aware of their performance can target capital investment to minimise the negative effects on profitability.

Higher National Unit specification: support notes (cont)

Unit title: Environmental Management Systems

Guidance on the delivery and assessment of this Unit

Candidates could be given information on how business and the environment interact. The efficiency of energy and other resource use is of vital importance both for keeping operational costs down and reducing waste production and emissions from industrial and commercial activity. The impacts of businesses on the environment could be explained using examples from various industries. Case studies would be appropriate providing variety and context. To some extent the changing environmental and resource conditions will have an impact on business activity in increased costs for materials and energy. Climate change and the need to cut back carbon emissions could be used as an illustration of a win-win situation as reduced resource use leads to reduced costs, and reduced carbon emissions. Diagrams and procedural guidance could be provided to candidates as to the sequence of various stages in EMS, and the cyclic nature of the process. The need for commitment and communication at all levels within the organisation and the importance of EMS as a platform for discussion between functional departments and levels of management could be emphasised.

The business sector has an important role to play in terms of environmental protection. Business is motivated by economics so candidates could be aware of the value an environmental management system can contribute to an organisation and the costs of implementing such a system.

Life cycle analysis can be introduced but candidates could be informed of the advantages and complicated nature of LCA as a tool. Best Available Technology (BAT) is a very important policy tool in pollution control from the EU. There are a number of documents available identifying BAT for specific industries which can be used as illustrations. These can be accessed through the SEPA website under Pollution Prevention and Control legislation.

Opportunities for developing Core Skills

There are opportunities to develop the component Critical Thinking of the Core Skill of *Problem Solving* and the Core Skill of *Communication*, both at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Open learning

Parts of this Unit are suited to delivery by distance/open learning as some underpinning knowledge could be conveyed using a VLE platform and blended learning techniques. However, due to the benefits of on-site visits and group/lecturer interaction, it is advisable that time is built into the delivery to allow candidates to benefit from this type of activity.

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

General information for candidates

Unit title: Environmental Management Systems

Companies all over the world are becoming concerned about the environmental aspects of their activities, for reasons of efficiency, tendering for contracts, public image and genuine concern to limit their impact on the environment. To inform this process organisations employ environmental management systems which can be broadly described as techniques for the management of environmental issues.

This Unit provides you with an up-to-date overview of the Environmental Management System (EMS) framework from both European and non European perspectives and provides practical tools to assist in the development, maintenance, day-to-day running and continual improvement of Environmental Management Systems. You will be introduced to various auditing techniques for monitoring, assessing and comparing environmental performance within specific companies and with industry benchmarks.

There are opportunities to develop the component Critical Thinking of the Core Skill of *Problem Solving* and the Core Skill of *Communication*, both at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.