

SQA Advanced Unit Specification

General information for centres

Unit title: Environmental Awareness

Unit code: HV4M 47

Unit purpose: This unit introduces candidates to the main environmental effects of the use of the earth's resources by an increasing human population. Emphasis will be placed on identifying ways in which the sustainable use of resources can be achieved through action plans ranging from the international to individual scale.

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

- 1 explain how the use of the earth's finite resources affects the environment
- 2 describe how human activity impacts on the environment
- 3 explain sustainable development at the global, national and individual level

Credit points and level: 1 SQA 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 National 1 to Doctorates.*

Recommended prior knowledge and skills: Access to this unit is at the discretion of the centre. This unit is intended to be presented to a range of group awards to recognise the importance of environmental matters to all professional disciplines.

Core skills: There are opportunities to develop aspects of the core skills of *Communication* 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: Outcomes 1 and 2 could be assessed by means of a series of structured questions based around a case study(ies) extended response report in which candidates provide evidence that they understand the specified environmental issues. Outcome 3 could be assessed by a report and a personal action plan. Assessment for all three outcomes could be combined onto one report.

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SQA Advanced 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 how the use of the earth's finite resources affects the environment

Knowledge and/or skills

- ◆ Impact of use of finite resources on the environment
- ◆ Impact of direct and indirect energy use on the environment
- ◆ Sources of common pollutants
- ◆ Concept of sustainability

Evidence requirements

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

- ◆ explain the impact of finite resource use on the environment
- ◆ explain the direct and indirect effects of energy use on the environment
- ◆ identify the sources of common pollutants and describe their effect on the environment
- ◆ identify the key principles of sustainability

Assessment guidelines

This outcome may be assessed by a structured report guided by set questions based on a case study. Alternatively the assessment for this outcome could be combined with Outcomes 2 and 3 in the form of a single report.

Outcome 2

Describe how human activity impacts on the environment

Knowledge and/or skills

- ◆ Key factors in human population growth
- ◆ Interaction between developed and developing regions
- ◆ Quality of life indicators
- ◆ Cultural and social norms
- ◆ Global economic systems
- ◆ Sustainability

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Evidence requirements

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

- ◆ factors affecting human population growth
- ◆ key features of interaction between developed and developing regions
- ◆ quality of life indicators and explain the impact of human population growth on the quality of life
- ◆ the effect of global economic systems on sustainability

Assessment guidelines

This outcome may be assessed by a structured report guided by set questions based on a case study. Alternatively the assessment for this outcome could be combined with Outcomes 1 and 3 in the form of a single report.

Outcome 3

Explain sustainable development at the global, national and individual level

Knowledge and/or skills

- ◆ Sustainability
- ◆ Global action
- ◆ National action
- ◆ Personal action planning
- ◆ Personal environmental impact

Evidence requirements

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

- ◆ explain the importance of a sustainable environment
- ◆ explain the benefits of global, national, local and personal action
- ◆ describe the personal environmental impact resulting from recreation, employment and domestic activities and how it may be reduced

Assessment guidelines

This outcome could be assessed by means of an extended response report in which candidates provide evidence that they have an understanding of the specified environmental issues. The report could include a personal action plan in which candidates demonstrate that they can make a connection between their own actions at work, leisure and home and environmental impacts. The report may concentrate on one of these areas provided it covers the full range of environmental impacts.

Alternatively the assessment for this outcome could be combined with Outcomes 1 and 2 in the form of a single report.

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Administrative information

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Version	Description of change	Date

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SQA Advanced Unit Specification: support notes

Unit title: Environmental Awareness

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

Candidates may come from a wide range of backgrounds so it is important that environmental issues are put in the context of as many occupations and industries as possible to underpin the relevance of the unit. The identification of a range of pollutants and impacts is necessary, as many candidates will not have practical examples to relate to. As a guide, the sources and impacts of at least six common pollutants of air and/ or water should be covered. Pollutants of relevance would include nitrates, carbon dioxide, phosphate, sulphur dioxide, nitrous oxide, sediment, heavy metals, hydrocarbons, silage effluent, organic materials, noise, plastics, particulates, ammonia and any other reasonable suggestion which could cause environmental problems. Effects could include, amongst others, acid rain, global warming, asbestos, poor air quality, eutrophication, domestic nuisance, oxygen depletion from rivers, plant damage, building erosion, siltation of watercourses, pollution of drinking-water supplies, toxic effects, hormonal and other health problem.

Resource use is an ever important issue in contemporary society and discussion of the implications of over exploitation of materials and energy sources should be encouraged. The contrast between renewable and non-renewable resources should be explained. The relationship between developed, developing and underdeveloped countries should be discussed, both in social and economic terms. Examples of environmental footprints can give candidates a basic understanding of global inequalities in resource use. Providing data on carbon emissions can illustrate the uneven distribution of energy use. Candidates should be made aware of the direct and indirect impacts of energy use. For example the impacts of fossil fuel extraction, processing and transport and an understanding of the impacts of constructing renewable energy facilities. International treaties and conventions and the political context in which they came about should be highlighted.

Examples should be provided on how resource use can contribute to environmental problems. The use of finite resources contributes greatly to climate change and acid rain due to the subsequent carbon dioxide, nitrogen and sulphur emissions. Finite resources include oil, gas, ground water, metal ores, biodiversity, soils and ecological systems. This is particularly true when considering energy use. Agricultural systems reliant on irrigation can lead to water shortages and salination of soils. Deforestation, intensive cultivation systems and mining activities can facilitate erosion and contribute to local and regional flooding and pollution. Candidates should identify activities and resource use related to these problems and be able to explain links between actions and impacts in their personal action plan. For example, candidates who drive can then provide information on carbon dioxide and other air pollutants related to car use in their action plan; candidates who do not recycle can provide information on how they might contribute to landfill diversion and resource issues if they did; candidates who cultivate land susceptible to flooding can discuss the environmental problems which could be avoided by timing cultivation to avoid high rainfall periods.

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Candidates should be made aware of the economic and social linkages to environmental problems. Some understanding of the reasons behind seemingly irresponsible behaviour towards the environment by developing countries should be covered. Outcome two addresses a variety of social issues such as quality of life. This can be supported by presenting and discussing information on key indicators such as death rates, life expectancy and access to clean water supplies. The way in which developing nations utilise labour from and in developing countries for goods and service provision should be discussed. Candidates should be given an understanding of global economic systems and the burden of debt carried by some developing nations to banking organisations and developed nations.

Population growth and the impact on health and infrastructure is another important aspect of resource provision. Encouraging candidates to discuss these issues and identify future problems with food and water provision is useful. In developing nations with restricted resources, population growth can be related to reduced infant mortality rates and improved life expectancy and it is important that the relationship between quality of life and infrastructure such as sewerage and housing is explored.

The main factors in climate change and acid rain should be identified and the activities and resource use related to these problems explained and related to the personal action plan. For example, candidates who drive can then provide information on carbon dioxide and other air pollutants related to car use in their action plan; candidates who do not recycle can provide information on how they might contribute to landfill diversion and resource issues if they did.

The personal action plan should be individual to each candidate. Group discussion on the impacts of particular work practices can help individuals see the environment in the context of their studies, and their preferred career path. Candidates should be able to gather information for their action plan as the unit progresses.

Guidance on the delivery and assessment of this unit

The unit is likely to form part of a group award designed to provide candidates with knowledge and skills of the importance that environmental issues have with the context of their occupation and the industry they operate within.

This unit could be delivered as a series of learning sessions addressing various aspects of the environment. Candidates should be encouraged to make links between social and economic systems and issues and the physical environment.

Assessment for this unit could be assessed by means of an extended response report in which candidates provide evidence that they have an understanding of the specified environmental issues. The report should include a personal action plan in which candidates demonstrate that they can make a connection between their own actions at work, leisure and home and environmental impacts. The report may concentrate on one of these areas provided it covers the full range of environmental impacts. The personal action plan should be individual to each candidate. Group discussion on the impacts of particular work practices can help individuals see the environment in the context of their studies, and their preferred career path. Candidates should be able to gather information for their action plan as the unit progresses.

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Opportunities for developing core skills

There is no automatic certification of core skills in this unit. However, there are clear opportunities to develop aspects of the core skill of *Communication*. There are opportunities for the candidate to develop Written Communication at SCQF level 6 in the assessment of all outcomes. If candidates complete written work for each outcome they will have an opportunity to develop the general skill 'produce well-structured written communication on complex topics'. Candidates when completing their responses to outcomes will have to present essential ideas/information and supporting detail in a logical and effective order.

There are opportunities for the candidate to develop Oral Communication at SCQF level 6 in the assessment of this unit. When candidates may be involved in group presentations they will have an opportunity to develop the general skill 'produce and respond to oral communication on a complex topic'. Candidates will have to convey essential information or ideas and respond to questions which ask them to expand on key environmental concepts. Candidates will, also, have an opportunity to evaluate and present a substantial body of information on environmental principles.

Open learning

This unit could be delivered by open learning. It is recommended that a single assessment is used for open and distance learning candidates.

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.

General information for candidates

Unit title: Environmental Awareness

In this unit you will examine the main environmental effects of the use of the earth's resources by an increasing human population. It develops your knowledge of the effects on the environment of using a range of resources such as energy and minerals. The unit also introduces you to the concept that the environment is about physical, social and economic issues.

On completion of this unit you should be able to:

- 1 explain how the use of the earth's finite resources affects the environment
- 2 describe how human activity impacts of the environment
- 3 explain sustainable development at the global, national and individual level

There are three assessments for this unit which could be combined into one overall report which assesses all outcomes of this unit. Wherever possible you should relate the outcomes to your own experience. Your ability to recognise and reduce negative influences on the environment, particularly through your own actions, will be assessed by means of a report and a personal action plan. The plan requires you to identify the individual impact your actions related to leisure, study and home have on the environment. This takes the form of recording actions, impacts and effects and suggesting what you might do as an individual to reduce your impact on the environment.