

National Added Value Unit Specification



Unit title: Environmental Science Added Value Unit (National 4)

SCQF: level 4 (6 SCQF credit points)

Unit code: to be advised

Unit outline

This is the Added Value Unit in the Environmental Science (National 4) Course. The general aim of this Unit is to demonstrate challenge and application in skills of scientific inquiry, investigation, analytical thinking, and knowledge and understanding. Learners will investigate topical environmental science issues, using knowledge and skills drawn from *Living Environment*, *Earth's Resources* or *Sustainability* contexts. Learners will cover key concepts, including sustainability, Earth's materials and processes, biodiversity, and interdependence, using a variety of approaches. They will consider applications of environmental science on our lives, as responsible citizens. They will communicate information related to their method used or their record of process, findings and conclusion. They will also analyse scientific sources of evidence on an issue, which will allow demonstration of scientific literacy skills.

Learners who complete this Unit will be able to:

- 1 Investigate a topical issue in environmental science and how it affects society and/or the environment
- 2 Interpret a range of straightforward scientific evidence related to an environmental science issue

This Unit is a mandatory Unit of the Environmental Science (National 4) Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Course Support Notes* which provide advice and guidance on delivery and assessment approaches. Exemplification of the assessment in this Unit is given in the *National Assessment Resource*.

Recommended entry

Entry to this Unit is at the discretion of the centre. It is recommended that the learner should be in the process of completing, or have completed, the following Units in the Environmental Science (National 4) Course:

- ◆ Environmental Science: Living Environment (National 4)
- ◆ Environmental Science: Earth's Resources (National 4)
- ◆ Environmental Science: Sustainability (National 4)

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. For further information please refer to the *Course Support Notes*.

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Standards

Outcomes and assessment standards

Outcome 1

The learner will:

- 1 Investigate a topical issue in environmental science and how it affects society and/or the environment by:**
 - 1.1 Choosing, with support, a topical issue in environmental science
 - 1.2 Outlining key aspects of the issue
 - 1.3 Planning, with support, how to investigate the issue
 - 1.4 Carrying out the investigation
 - 1.5 Drawing straightforward, reasoned conclusions based on knowledge and understanding of the environmental science of the issue
 - 1.6 Describing how the issue affects the environment/society
 - 1.7 Communicating the findings of the investigation

Outcome 2

The learner will:

- 2 Interpret a range of straightforward scientific evidence related to an environmental science issue by:**
 - 2.1 Identifying the key points in at least two sources of evidence
 - 2.2 Providing a basic evaluation of the usefulness of the sources of evidence, drawing on knowledge and understanding of the environmental science of the issue
 - 2.3 Drawing straightforward, reasoned conclusions

Evidence Requirements for the Unit

This Added Value Unit is assessed internally by the teacher/lecturer.

Evidence is required to show that the learner has met the Outcomes and Assessment Standards.

Outcome 1

Evidence for this Outcome will be generated by an assignment on a topical issue, using skills and knowledge drawn from *Living Environment*, *Earth's Resources* or *Sustainability* contexts. The topical issue could have either a negative or positive impact on society/environment and could be from an unfamiliar context or from a familiar context investigated in greater depth, or from integrating aspects of one or more Units.

- ◆ The assignment topic will be agreed between the learner and the teacher/lecturer.
- ◆ The assignment should be carried out under open-book conditions.
- ◆ The teacher/lecturer will provide overall guidelines for the assignment, which will lead learners through the assignment in clear stages.
- ◆ The teacher/lecturer may also give learners support and guidance to help them progress through each stage of the assignment.

- ◆ Evidence should include:
 - the method used or a record of progress
 - the findings and conclusions
- ◆ Learners should have flexibility in how they communicate their method used or record of process, findings and conclusions. This can include one or more of the following:
 - a written report
 - oral presentation which may be supplemented by additional material
 - audio/visual or digital presentation using ICT
 - a learning log or journal which may be in electronic or digital form

Outcome 2

Evidence for this Outcome will be generated through a case study in which the learner will use skills, knowledge and understanding of *Living Environment*, *Earth's Resources*, and *Sustainability* contexts.

The learner will evaluate evidence on an environmental science issue. The learner will be presented with at least two sources of evidence. The sources might include extracts from specialist or mainstream media, graphs, or statistical tables. Sources of evidence can be paper-based, web-based, visual or oral.

- ◆ The case study will be provided by the teacher/lecturer.
- ◆ The case study should be carried out under open-book conditions.
- ◆ The teacher/lecturer will provide a series of instructions which prompt the learner to analyse the sources of evidence.
- ◆ Instructions will prompt the learner to draw on their environmental science knowledge to compare the sources by:
 - identifying essential relevant points from the sources of evidence
 - commenting on the relevance and usefulness of the information
 - commenting on information included or omitted
 - drawing straightforward conclusions, providing reasons for these. This might involve suggesting a course of action or expressing a personal point of view on the issue
- ◆ Learners should have flexibility in how they record their analysis and conclusions. This can be written, oral or in another appropriate form.

Further information is provided in the exemplification of assessment in the *National Assessment Resource*. Advice and guidance on possible approaches to assessment is provided in the *Course Support Notes*.

Development of skills for learning, skills for life and skills for work

Please refer to the Course Specification for information about skills for learning, skills for life and skills for work.

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Further mandatory information on Course coverage for the Environmental Science (National 4) Course

The following gives mandatory skills, knowledge and understanding for the Environmental Science (National 4) Course. Assessment of this Added Value Unit will involve selecting appropriate skills, knowledge and understanding from those listed below, in line with the Evidence Requirements above. This list of skills, knowledge and understanding also provides the basis for the assessment of all of the Units in the Course.

Environmental Science: Living Environment

- ◆ investigating ecosystems and biodiversity
- ◆ understanding of how species depend on one another and on the environment for survival
- ◆ understanding of the positive and negative impact of the human population on the environment, including human influences on biodiversity

Environmental Science: Earth's Resources

- ◆ understanding Earth's systems and their interactions, including the geosphere, the hydrosphere, the biosphere, and the atmosphere
- ◆ understanding of substances that make up the Earth's surface

Environmental Science: Sustainability

- ◆ understanding of sustainability issues in water use, food production, and energy use
- ◆ understanding of methods of conservation associated with water use, food production, and energy use
- ◆ understanding of issues in waste management, including minimising waste; recycling; responsible waste disposal, and methods of waste disposal which minimise the impact on the environment

Administrative information



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Superclass: to be advised

History of changes

Version	Description of change	Authorised by	Date

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