



National 3  
Course  
Specification



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# National 3 Environmental Science Course Specification (C726 73)

**Valid from August 2013**

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Please refer to the note of changes at the end of this Course Specification for details of changes from previous version (where applicable).

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## Course outline

**Course title:** National 3 Environmental Science

**SCQF:** level 3 (18 SCQF credit points)

**Course code:** C726 73

### Mandatory Units

The Course consists of three mandatory Units:

**H24P 73 Environmental Science: Living Environment  
(National 3) 6 SCQF credit points**

And either:

**H24R 73 Environmental Science: Earth's Resources  
(National 3) 6 SCQF credit points**

Or

**H6N7 73 Environmental Science: Earth's Resources  
with a Scottish Context (National 3)\* 6 SCQF credit points**

And either:

**H24S 73 Environmental Science: Sustainability  
(National 3) 6 SCQF credit points**

Or

**H6N8 73 Environmental Science: Sustainability  
with a Scottish Context (National 3)\* 6 SCQF credit points**

\*Scottish Studies Award contributing Unit: This Course Specification should be read in conjunction with the relevant Scottish Studies Unit Specification on the [Scottish Studies Award web page](#).

### Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:

- ◆ National 2 Science in the Environment Course

In terms of prior learning and experience, relevant experiences and outcomes may also provide an appropriate basis for doing this Course.

### Progression

This Course or its Units may provide progression to:

- ◆ other qualifications in Environmental Science, Biology, Science and related areas
- ◆ further study, employment and/or training

Further details are provided in the Rationale section.

## **Equality and inclusion**

This Course 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*.

## **Rationale**

All new and revised National Courses reflect Curriculum for Excellence values, purposes and principles. They offer flexibility, provide more time for learning, more focus on skills and applying learning, and scope for personalisation and choice.

In this Course, and its component Units, there will be an emphasis on skills development and the application of those skills. Assessment approaches will be proportionate, fit for purpose and will promote best practice, enabling learners to achieve the highest standards they can.

This Course provides learners with opportunities to continue to acquire and develop the attributes and capabilities of the four capacities as well as skills for learning, skills for life and skills for work.

All Courses provide opportunities for learners to develop breadth, challenge and application, but the focus and balance of the assessment will be appropriate for the subject area.

## **Relationship between the Course and Curriculum for Excellence values, purposes and principles**

The National 3 Environmental Science Course encourages the development of skills and resourcefulness, which lead to becoming a confident individual. Successful learners in environmental science think creatively, analyse and solve problems. Environmental Science aims to produce responsible citizens, through studying relevant areas of environmental science such as the living environment, the earth's resources and sustainability.

Environmental science is an inter-disciplinary subject, which draws from the sciences and social sciences. In this Course, a practical, experiential and investigative approach is used to develop knowledge and understanding of environmental science concepts and scientific awareness of environmental issues.

Environmental scientists are involved in tackling issues such as global climate change, pollution, use of land and water resources and changes in wildlife habitats.

## **Purpose and aims of the Course**

The purpose of the Course is to develop learners' interest and enthusiasm for environmental science in a range of contexts, as well as their investigative and experimental skills. Environmental science takes a problem solving approach to attempt to develop solutions that prevent or reverse environmental deterioration and aim for sustainable practices.

The Course aims to develop an understanding of environmental issues. It provides a range of up-to-date topics relevant to the role of environmental science in society. Through the Course, learners will investigate the key areas of the living environment, the Earth and its resources. It allows learners the opportunity to investigate sustainability and sustainable development. Learners will be able to consider the impact environmental science makes on their lives, on the lives of others, on the environment, and on society. This will enable learners to become scientifically literate citizens, able to review the science-based claims, which they will meet.

The Course allows flexibility and personalisation within each Unit by allowing choice in the topics studied. Throughout the Course, learners will be able to develop their communication and collaborative working skills and other relevant skills for everyday life and employment.

The aims of the Course are to enable learners to:

- ◆ develop basic knowledge and understanding of environmental science
- ◆ develop an understanding of environmental science's role in scientific issues and relevant applications of environmental science in society and the environment
- ◆ develop scientific inquiry and investigative skills
- ◆ develop scientific analytical thinking skills in an environmental science context
- ◆ develop the use of technology, equipment and materials, safely, in practical scientific activities
- ◆ develop problem solving skills in an environmental science context
- ◆ develop practical fieldwork skills in an environmental science context
- ◆ use scientific literacy in everyday contexts
- ◆ establish the foundation for more advanced learning in environmental science

## **Information about typical learners who might do the Course**

The Course is suitable for learners who have experienced learning across the sciences and/or people, place and environment experiences and outcomes.

The Course may be suitable for those wishing to study environmental science for the first time.

This Course has a skills-based approach to learning. It takes account of the needs of all learners and provides sufficient flexibility to enable learners to achieve in different ways.

Environmental Science Courses are offered from SCQF level 3 to SCQF level 6. Vertical progression is possible through these levels, while lateral progression is possible to other qualifications in the sciences. This Course can also assist entry to employment, training and further education.

# Course structure and conditions of award

## Course structure

The Course consists of three mandatory Units. Each of the component Units is designed to provide progression to the related Unit at National 4.

Units are statements of standards for assessment and not programmes of learning and teaching. They can be delivered in a number of ways.

Units can be taught sequentially or in parallel to each other. However, learning and teaching approaches should provide opportunities to integrate skills, where possible.

### **Environmental Science: Living Environment (National 3)**

In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to the investigation of the living environment, including ethical and topical issues. Learners will investigate the key areas of sampling and identifying living things, from different habitats, to compare their diversity; factors influencing the distribution of living things; the process of photosynthesis and why plants are vital to sustaining life on Earth; the use of different types of chemicals in agriculture and their alternatives; and the potential impact of chemicals and their alternatives on the world's food production.

### **Environmental Science: Earth's Resources (National 3)**

In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to the investigation of the Earth's resources, including ethical and topical issues. Learners will investigate the key areas of renewable energy sources including benefits and potential problems; formation, characteristics and uses of minerals; formation, characteristics and uses of common rocks; formation, characteristics and uses of soils; and useful substances which can be extracted from natural resources.

### **Environmental Science: Sustainability (National 3)**

In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to the investigation of sustainability, including ethical and topical issues. Learners will investigate the key areas of processes which may contribute to climate change; the possible impact of atmospheric change on the survival of living things; and the causes and possible consequences of an environmental issue, and ways to manage the impact.

## Conditions of award

To achieve the National 3 Environmental Science Course, learners must pass all of the required Units. The required Units are shown in the Course outline section.

National 3 Courses are not graded.

## Skills, knowledge and understanding

Full skills, knowledge and understanding for the Course are given in the *Course Support Notes*. A broad overview of the subject skills, knowledge and understanding that will be covered in the Course is given in this section.

This includes:

- ◆ using, with guidance, environmental science knowledge and understanding
- ◆ solving simple problems and making decisions
- ◆ carrying out experiments/practical investigations safely
- ◆ using, with guidance, information handling skills by selecting, presenting and processing information
- ◆ making basic generalisations from evidence/information
- ◆ drawing valid conclusions from evidence/information
- ◆ communicating findings/information

Skills, knowledge and understanding to be included in the Course will be appropriate to the SCQF level of the Course. The SCQF level descriptors give further information on characteristics and expected performance at each SCQF level ([www.sqa.org.uk/scqf](http://www.sqa.org.uk/scqf)).

# Assessment

Further information about assessment for the Course is included in the *Course Support Notes*.

## Unit assessment

All Units are internally assessed against the requirements shown in the *Unit Specification*.

They can be assessed on an individual Unit basis or by using other approaches which combine the assessment for more than one Unit.

They will be assessed on a pass/fail basis within centres. SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgments are consistent and meet national standards.

The assessment of the Units in this Course will be as follows.

### **Environmental Science: Living Environment (National 3)**

Learners who complete the Unit will be able to:

- ◆ apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation
- ◆ draw on knowledge and understanding of the key areas of this Unit and apply scientific skills

### **Environmental Science: Earth's Resources (National 3)**

Learners who complete the Unit will be able to:

- ◆ apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation
- ◆ draw on knowledge and understanding of the key areas of this Unit and apply scientific skills

### **Environmental Science: Sustainability (National 3)**

Learners who complete the Unit will be able to:

- ◆ apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation
- ◆ draw on knowledge and understanding of the key areas of this Unit and apply scientific skills



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

It is expected that learners will develop broad, generic skills through this Course. The skills that learners will be expected to improve on and develop through the Course are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Course where there are appropriate opportunities.

## **2 Numeracy**

- 2.1 Number processes
- 2.2 Money, time and measurement
- 2.3 Information handling

## **4 Employability, enterprise and citizenship**

- 4.6 Citizenship

## **5 Thinking skills**

- 5.2 Understanding
- 5.3 Applying

Amplification of these skills is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills will be appropriate to the level of the Course. Further information on building in skills for learning, skills for life and skills for work for the Course is given in the *Course Support Notes*.

# Administrative information

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**Published:** September 2014 (version 1.2)

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## History of changes to National Course Specification

Course details	Version	Description of change	Authorised by	Date
	1.1	Recommended entry section: deleted reference to relevant component Units. Skills, knowledge and understanding section: amendment to wording to clarify benchmarking. The word 'planning' has been deleted from the third bullet point.	Qualifications Development Manager	June 2013
	1.2	Scottish Studies Award Unit contributing information added. No other changes made to document content	Qualifications Manager	September 2014

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