Access 3 Science

Draft National Course Specification

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).

Contents

Course outline

Course title: Access 3 Science

SCQF: level 3 (18 SCQF credit points)

Course code: to be advised

Mandatory Units

Science: Fragile Earth (Access 3)	6 SCQF credit points
Science: Human Health (Access 3)	6 SCQF credit points
Science: Applications of Science (Access 3)	6 SCQF credit points

Recommended entry

Entry to this Course 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:

- Access 2 Science in the Environment

In terms of prior learning and experience, relevant experiences and outcomes may also provide an appropriate basis for doing this Course. Further information on relevant experiences and outcomes will be given in the *Course Support Notes*.

Progression

This Course or its components may provide progression to:

- other qualifications in science, biology, chemistry, physics or 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

Science is vital to everyday life and allows us to understand and shape the world in which we live and influence its future. Scientists play a key role in meeting society's needs in areas such as medicine, energy, industry, material development, the environment and sustainability. It is important that everyone has an informed view of science.

Through learning in science, learners are given opportunities to develop an interest in the science of the world in an engaging and enjoyable way. They participate in a wide range of investigative tasks which allow them to develop important skills across all sectors of society.

The Science Course should encourage resourcefulness, which leads to becoming a confident individual. Successful learners in science think analytically, independently and solve problems. Science can produce responsible citizens by allowing learners to study areas such as health, environment and sustainability and the impact it makes on their lives and on the environment and on society. It develops learners' ability to think analytically and independently and to make basic evaluations.

The Course provides opportunities for learners to acquire and apply knowledge in order to evaluate environmental and scientific issues and assess risk. This enables learners to develop an informed and ethical view of topical issues. Learners will develop their communication, collaborative working and leadership skills and apply thinking in familiar contexts to solve problems.

Purpose and aims of the Course

The Course is an up-to-date selection of ideas relevant to the central position of science within our society. It is practical and experiential, and develops scientific awareness of issues relating to science. Science is vital to everyday life and allows us to understand and shape the world in which we live and influence its future. Scientists play a key role in meeting society's needs in areas such as medicine, energy, industry, material development, the environment and sustainability. It is important that everyone has an informed view of science.

The Course offers a broad, general approach to science and how it relates to the important issues of society.

The Course aims to develop scientific attitudes and knowledge along with a learner's curiosity, interest and enthusiasm for all of the sciences. It aims to equip learners with the knowledge to review the scientific issues and claims which they will meet in a rapidly developing society. The Course covers major issues, where science impacts on society, by looking at the fragile Earth, human health, and applications of science, through an extensive variety of relevant contexts. It provides a skills set for progressing to the science Courses at National 4.

The main aims of the Course are for learners to:

- acquire and apply knowledge and understanding of basic science concepts
- develop an understanding of science 's role in scientific issues and relevant applications of science in society
- develop scientific inquiry and investigative skills
- develop scientific analytical thinking skills in a science context
- use technology, equipment and materials safely in practical scientific activities
- develop problem solving skills in a science context
- establish the foundation for more advanced learning in the sciences

The Course provides opportunities for learners to improve their scientific literacy, numeracy, and literacy skills. In addition, learners will recognise the impact science makes on developing sustainability, and its effects on the environment, on society and on the lives of themselves and others.

Learners will develop relevant skills for learning, for use in everyday life and employment.

Information about typical learners who might do the Course

The Course is suitable for learners who have experienced learning across the science experiences and outcomes. The Course may be suitable for those wishing to study 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.

Science Courses are offered from SCQF levels 3 to SCQF level 4. 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

Learners will gain knowledge and understanding of science and develop this through a variety of approaches, including practical activities.

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. Each of the component Units is designed to provide progression to the related Unit at National 4.

Science: Fragile Earth (Access 3)
In this Unit, learners will focus on two of energy, food, metals, or water resources. They will investigate these through activities related to their source or origin, production and/or extraction, use, conflicts, benefits, and issues and possible solutions, including one local, national, or global issue. Learners will gain knowledge of how basic science is involved in the cause, effect and resolution of environmental issues.

Science: Human Health (Access 3)
In this Unit, learners will focus on how science helps us to maintain a healthy body. They will investigate what health is, including social, physical, and mental health, threats to health, and health issues such as cancer, diabetes, obesity, alcoholism, and allergies. They will also carry out scientific analysis of basic health claims, and consider moral and ethical issues.

Science: Applications of Science (Access 3)
In this Unit, learners will investigate the applications of telecommunications technology, and the source, production, use, and issues of materials, such as plastics, fibres, smart materials, alloys, and cosmetics. Learners will also investigate how science is used to reduce risk and to increase safety in everyday life.

Conditions of award

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

Access 3 Courses are not graded.

Skills, knowledge and understanding

Full skills, knowledge and understanding for the Course will be 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:

- applying, with guidance, science knowledge and understanding
- solving simple problems and making decisions
- applying, with guidance, experimental/investigative skills, including planning, carrying out and evaluating
- applying, with guidance, information handling skills, including collecting, presenting and processing information
- making basic generalisations from evidence/information
- drawing valid conclusions and communicating findings

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).

Assessment

Further information about assessment for the Course will be 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 a Unit-by-Unit basis or by combined assessment.

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:

Science: Fragile Earth: (Access 3)
Learners who complete the Unit will be able to:

- draw on knowledge, understanding and skills to investigate, through experimentation, the science relating to the fragile Earth
- explore the environmental/sustainability/ethical issues related to the fragile Earth

Science: Human Health (Access 3)
Learners who complete the Unit will be able to:

- draw on knowledge, understanding and skills to investigate the science related to human health
- explore the environmental/sustainability/ethical issues related to social, physical and mental health

Science: Applications of Science (Access 3)
Learners who complete the Unit will be able to:

- draw on knowledge, understanding and skills to investigate, through experimentation an application of science
- explore the environmental/sustainability/ethical issues related to the applications of science

Exemplification of possible assessment approaches for these Units will be provided in the *National Assessment Resource.*

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

(Note: The information given below reflects the initial thinking on significant opportunities for development of skills for learning, skills for life and skills for work. These may be subject to change as the development process progresses.)

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

Published: October 2011 (version 1.0)

Superclass: to be advised

History of changes to National Course Specification

Course details	Version	Description of change	Authorised by	Date

Note: You are advised to check SQA's website (**www.sqa.org.uk**) to ensure you are using the most up-to-date version of the Course Specification.