Access 3 Biology

Draft National Course Specification

Valid from August 2013

This edition: October 2011, draft version 1.0

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 Biology

SCQF: level 3 (18 SCQF credit points)

Course code: to be advised

Mandatory Units

Cell Biology (Access 3)	6 SCQF credit points
Biology: Multicellular Organisms (Access 3)	6 SCQF credit points
Biology: Life on Earth (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 Biology, Environmental Science, Science, 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 biology, learners are given opportunities to develop an interest in the biology of the world in an interesting and enjoyable way. They engage in a wide range of investigative tasks, which allows them to develop important skills in biology which will be useful across all sectors of society.

Biology should encourage resourcefulness, which leads to becoming a confident individual. Successful learners in biology think creatively, analyse and solve problems. Biology can produce responsible citizens through studying areas such as health, environment and sustainability.

The Access 3 Biology Course allows learners to understand and investigate the living world in an engaging and enjoyable way. 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 and develop an informed and ethical view of topical issues. Learners will be able to develop their communication and collaborative working skills and be able to apply thinking in familiar contexts to solve problems.

Purpose and aims of the Course

The Course is practical and experiential, and develops scientific awareness of issues relating to chemistry. Biology at Access 3 may be delivered using contexts to develop concepts within an application-led or investigative approach. It is important that everyone has an informed view of science.

Access 3 Biology is a practical-based Course, which develops learners' skills through the study of the applications of biology in an everyday context. By using a skills-based approach to developing knowledge of some basic biology concepts, learners will become scientifically literate citizens, able to review the science-based claims which they will come across in a rapidly developing society.

The Course is an up-to-date selection of ideas relevant to the central position of life science within our society. The Course develops learners' curiosity, interest and enthusiasm and covers some major areas of biology and allows learners to develop an understanding of the underlying themes while developing scientific skills, such as investigative and experimental skills, in a biological context.

The Course allows flexibility and personalisation by offering choice in the contexts studied. It provides opportunities for learners to develop scientific literacy, numeracy, and literacy skills. In addition, learners will recognise the impact biology makes on their lives, on the lives of others, on the environment and on society. Through this Course, they can develop relevant skills for learning, for use in everyday life and in employment.

The aims of the Course are to enable learners to:

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

Information about typical learners who might do the Course

The Course may be suitable for those wishing to study biology 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.

Biology Courses are offered from SCQF level 3 to SCQF level 7. 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 biology 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.

Cell Biology (Access 3)
In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to investigation of the cell, including ethical and topical issues. This develops the concept of the cell as the basic unit of life and investigates topics such as cell uses, micro-organisms and the biological basis of inheritance.

Biology: Multicellular Organisms (Access 3)
In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to investigation of multicellular plants and animals. Learners will investigate systems in organisms through biological processes, defence mechanisms and reproduction. Learners will consider ethical and topical issues.

Biology: Life on Earth (Access 3)
In this Unit, learners will develop their scientific skills and carry out practical and other learning activities related to investigation of ecosystems and biodiversity. While investigating the interdependence of organisms through adaptations for survival, factors affecting population growth, biodiversity, learned behaviour, energy and nutrient cycles, there will be consideration of ethical, topical and environmental issues.

Conditions of award

To achieve the Access 3 Biology 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, biology 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:

Cell Biology (Access 3)
Learners who complete this Unit will be able to:

- draw on knowledge, understanding and skills to investigate, through experimentation, an area of cell biology
- explore the environmental/sustainability/ethical issues related to cell biology

Biology: Multicellular Organisms (Access 3)
Learners who complete this Unit will be able to:

- draw on knowledge, understanding and skills to investigate, through experimentation, an area of multicellular organisms
- explore the environmental/sustainability/ethical issues related to multicellular organisms

Biology: Life on Earth (Access 3)
Learners who complete this Unit will be able to:

- draw on knowledge, understanding and skills to investigate, through experimentation, an area of life on Earth
- explore the environmental/sustainability/ethical issues related to life on Earth

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

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: Month and year (version 0)

Superclass:

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.