



Access 3 Design and Technology — draft Course rationale and summary

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Course rationale

Background

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

This Course provides an engaging introduction to design and technology. It includes aspects of graphic communication, design, practical work, creativity and challenge.

The Course combines practical work and technological challenge with design creativity. It allows learners to explore options in design and in the practicalities of making things. It does so in a way that allows for personalisation and choice.

The Course is of broad educational benefit. It allows learners to develop skills in producing working drawings and diagrams. It allows them to develop practical skills in model making and in testing and evaluating these.

The Course provides opportunities for learners to work effectively alongside others in a shared workshop or similar environment. The skills that learners acquire by successfully completing this Course will be valuable for learning, for life and for the world of work.

The Course encourages learners to become successful, responsible and creative in their use of technologies. It allows them to continue to acquire and develop the attributes and capabilities of the four capacities, including: creativity, flexibility and adaptability; enthusiasm and a willingness to learn; perseverance, independence and resilience; responsibility and reliability; and confidence and enterprise.

The Course provides progression mainly from the experiences and outcomes in craft, design, engineering and graphics contexts.

Purpose and aims of the Course

The Course is practical and experiential in nature. It provides a broad practical introduction to design and to technology. It provides opportunities for learners to gain skills in both designing and in communicating design ideas. It allows learners to explore and amend design ideas via model making and testing. It does so in a product design context and also in an engineering context.

The Course allows learners to gain skills in reading drawings and interpreting diagrams. It allows them to follow a series of activities from design ideas through to the making and testing of models and the refinement of their designs and the making of prototypes.

The Course also allows learners to engage with technologies. It allows them to use tools, equipment, materials and/or software. It helps learners develop practical skills in numeracy.

The aims of the Course are to enable learners to develop:

- ◆ graphic communication skills
- ◆ skills in practical model making
- ◆ skills in testing and evaluating models
- ◆ safe working practices in workshop and similar environments
- ◆ knowledge of basic engineering facts and ideas

Information about typical learners who might do the Course

This Course is a broad-based qualification for learners with an interest in design and in technology. It is suitable for learners with an interest in developing their design skills. It is also suitable for learners with a practical inclination, who enjoy challenge and are interested in practical tasks including engineering.

The Course stresses the importance of function and performance in design. It is a Course for anyone wanting to progress to higher levels of study in graphic communication, crafts work, product design or engineering.

On completing the Course, learners will have gained skills in: safe and correct use of tools, equipment and materials in model making; creating drawings and diagrams; reading and interpreting drawings and diagrams; and working with others and collaborating in a workshop or similar environment.

The Course provides opportunities to develop and enhance practical creativity, practical problem solving skills, and an appreciation of safe working practices in a workshop or similar environment. Course activities also provide opportunities to build self-confidence and to enhance generic and transferable skills in numeracy, employability skills, thinking skills, planning and organising of work tasks, working independently and in collaboration with others, as well as skills in communication and skills in self- and peer-evaluation.

Course summary

Course title: Access 3 Design and Technology

SCQF level 3 (18 SCQF credit points)

Course outline

Mandatory Units

Design and Technology: Graphics (Access 3) (6 SCQF credit points)

Design and Technology: Designing and Modelling (Access 3) (6 SCQF credit points)

Design and Technology: Making and Testing (Access 3) (6 SCQF credit points)

Course structure and conditions of award

The Course is practical, exploratory and experiential in nature. It covers design skills including graphic communications. It stresses the importance of refining design ideas. It includes practical work in building and testing of items.

The Course also enables learners to develop knowledge and understanding of basic engineering facts and ideas, and the ability to apply this to solving problems and model making.

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

On completing the Course, learners will have developed skills in the correct use of graphic communication tools, equipment and/or software, as well as a range of practical model making tools and equipment.

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

Design and Technology: Graphics (Access 3)

This Unit helps learners develop skills in using manual graphic communication and/or computer-aided drawing and design (CADD) tools and equipment. It asks learners to produce sketches and working drawings. It requires them to enhance these by using basic rendering and similar techniques.

Design and Technology: Designing and Modelling (Access 3)

In this Unit, learners will develop basic skills in designing simple products. They will do so by following, with guidance, a simple design process. They will make models of their design ideas. They will refine their design ideas based on feedback from the models.

Design and Technology: Making and Testing (Access 3)

In this Unit, learners will develop their understanding of structures and mechanisms by solving simple engineering problems. They will do so by making, with guidance, simple models of their design ideas. The models will demonstrate strengthening, energy transfer and/or movement. Learners will draw conclusions based on their test results.

In each of the three Units above, learners will develop an appreciation of safe working practices in a workshop or similar environment.

In *Designing and Modelling* and *Making and Testing* learners will gain an appreciation of sustainability issues and recycling.

To achieve the Access 3 Design and Technology 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.

Assessment

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

They will be assessed pass/fail within centres.

SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgements are consistent and meet national standards.

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

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