

National Unit Specification: general information

UNIT Computing: Animation Fundamentals (SCQF level 5)

CODE F1KB 11

SUMMARY

This Unit is designed to introduce candidates to the techniques and concepts involved in producing two-dimensional (2D) animation using software. The Unit is practical in nature and candidates will gain knowledge and understanding of the techniques and concepts used in the creation of computer animation. The Unit offers candidates the opportunity to develop basic skills in the use of drawing, painting text tools that are a feature of computer animation software and a range of methods for achieving motion using software.

Candidates will use the above skills to create a short animation sequence. This Unit is suitable for candidates who are undertaking the subject of animation for the first time or who wish to obtain a basic knowledge of animation using software for use in other areas such as web development or computer games.

OUTCOMES

- 1 Create two-dimensional graphics from artwork and images for a computer animation sequence.
- 2 Animate two-dimensional graphics using computer software animation techniques.
- 3 Plan, produce and package a short computer animation sequence to a given brief.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, it would be beneficial if candidates possessed basic IT skills. This may be evidenced by possession of:

D01D 10 *Information Technology (Intermediate 1)*

or equivalent qualifications or experience.

Administrative Information

Superclass: CE

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CREDIT VALUE

1 credit at Intermediate 2 (6 SCQF credit points at SCQF level 5*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

CORE SKILLS

While there is no automatic certification of Core Skills in this Unit there may be opportunities for Developing aspects of Core Skills.

National Unit Specification: statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

OUTCOME 1

Create two-dimensional graphics from artwork and images for a computer animation sequence.

Performance Criteria

- (a) Draw objects using a software graphics package.
- (b) Import digital images from legitimate external sources.
- (c) Manipulate graphics using a variety of software tools.

OUTCOME 2

Animate two-dimensional graphics using computer software animation techniques.

Performance Criteria

- (a) Create key frames from original and imported 2D graphics.
- (b) Create frame-by-frame motion animation using key frames.
- (c) Create tweened motion animation using key frames.

OUTCOME 3

Plan, produce and package a computer animation sequence to a specified brief.

Performance Criteria

- (a) Plan the production schedule for an animation sequence in accordance with the brief.
- (b) Produce an animation sequence in accordance with the brief.
- (c) Package the animation sequence for inclusion in a given presentation.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required that candidates have achieved all Outcomes and Performance Criteria.

Candidates are encouraged to use the Internet in any research etc, however, the evidence produced must be the candidate's own words. Assessors should assure themselves of the authenticity of candidate's evidence.

Written and/or oral recorded evidence is required which demonstrates that the candidate has achieved the requirements of all of the Outcomes and Performance Criteria to show that the candidate has appropriate knowledge and understanding of the content of this Unit.

National Unit Specification: statement of standards (cont)

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The evidence for all Outcomes should be obtained under controlled, supervised conditions. Candidates will have access to the Internet, notes and reference work for this assessment. The assessment can be completed over an extended period of time.

For Outcomes 1 and 2, performance evidence supplemented by an assessor observation checklist is required which demonstrates that the candidate can:

- ◆ Draw at least ten objects using a software graphics package, to include the use of line, rectangle, ellipse and fill tools
- ◆ Import at least five digital images from legitimate external sources
- ◆ Manipulate the graphics using at least two different software tools, to include grouping of graphics
- ◆ Create ten key frames from original and imported 2D graphics, to include layers and timelines
- ◆ Create frame-by-frame motion animation using at least ten key frames
- ◆ Create tweened motion animation using at least three key frames
- ◆ Create at least one button control within an animation

Product evidence in the form of a portfolio must be provided for Outcomes 2 and 3. The portfolio must include:

- ◆ Before and after printouts to show that at least two graphics have been manipulated
- ◆ Digital files containing at least ten objects and at least five imported images
- ◆ A production plan which must meet the requirements of the given brief and match the completed animation sequence
- ◆ A complete packaged animation sequence of at least 5 seconds duration. The animation will consist of computer software animation using key frames, layers and timelines, frame-by-frame, tweened motion and button control. The packaging will be appropriate to the given presentation.

The assessor observation checklist will be used to record that all the tasks have been undertaken correctly by the candidate. An assessor must endorse each checklist with the candidate's name, their name, signature and date.

The Assessment Support Pack (ASP) for this Unit provides sample assessment material including an instrument of assessment for the knowledge, and a sample activity log and an assessor checklist. Centres wishing to develop their own assessments should refer to Assessment Support Pack to ensure a comparable standard.

National Unit Specification: support notes

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This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The overall aim of this Unit is to supply the candidate with the knowledge and skills to produce a short animation sequence using computer animation software.

Candidates should be made aware that appropriate external graphical images can be imported and manipulated. These topics will be covered by a series of practical exercises. Outcome 1 introduces candidates to the creation of graphics which have been produced using drawing and painting tools, manipulated from another source or imported from elsewhere. It would be useful if the importance of grouping in creating drawing objects could be emphasised. It would also be useful if the candidate could be exposed to a number of different drawing and painting packages so that they appreciate the differences and limitations of particular packages which are commercially available.

Candidates should be made aware that appropriate external graphical images can be imported and manipulated. These topics will be covered by a series of practical exercises.

Candidates should be introduced to computer animation techniques and concepts. These techniques and concepts should include:

- ◆ The use of key frames and timelines to produce frame-by-frame animation
- ◆ Motion tweened animation
- ◆ Motion paths
- ◆ Using button controls

Candidates should be made aware of the various file formats that animations can be currently published in, eg Flash movie (swf), animated GIF, Quicktime (mov). They should be provided with a presentation into which their finished animation will be inserted.

Throughout this Unit candidates should be made aware of relevant legislation regarding copyright of images.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The Outcomes within this Unit should be delivered in sequence to enable the candidate to utilise the graphics created in Outcome 1 in later stages.

This Unit has been designed to provide practical experience of creating graphic images and then incorporating these images into an animation sequence using appropriate motion techniques. Centres may find that completion exercises are particularly useful in teaching the use of the various tools and techniques required — where candidates are given a number of tasks which require them to use the various tools listed such as line, ellipse and fill. Candidates could work together to investigate the function(s) of various software graphic packages.

National Unit Specification: support notes (cont)

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Outcome 2 introduces the candidate to computer animation techniques and concepts. These techniques and concepts will be taught using a series of practical exercises and will include: the use of key frames and timelines to produce frame-by-frame animation, motion tweened animation, motion paths and using button controls.

Outcomes 3 builds on the skills learned in Outcomes 1 and 2 to create the animation sequence. Outcome 3 involves the planning, production and packaging of an animation and consequently the use of storyboarding may be helpful in the planning stage. The publication of the animated sequence could be in presentation software or on a webpage, which will be given to the candidate.

Most of the learning and teaching will be concentrated in Outcomes 1 and 2. While the actual distribution of time is at the discretion of the centre, a suggested distribution might be:

Outcome 1 – 15 hours

Outcome 2 – 15 hours

Outcome 3 – 10 hours

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates are required to plan a production schedule for an animation sequence. This is a good opportunity for developing aspects of the Core Skill in Problem Solving. In addition, opportunities may arise for candidates to work together as part of the learning process as they explore different packages. These opportunities could allow candidates to develop aspects of the Core Skill of Working with Others.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

While Outcomes 1 and 2 could be assessed using different instruments of assessment, it is recommended that a single project be used. This should allow candidates to demonstrate the use of tools, manipulating graphics and creating frames from the graphics created in Outcome 1.

For Outcome 3, candidates should be given a brief for the production of an animation sequence. The assessor should review the production schedule with the candidate prior to the production of the actual animated sequence. The assessor should check the final sequence to ensure that it satisfies the brief and plays correctly using any button controls included in the sequence.

Candidates should be given the opportunity to improve work on an on-going basis following feedback from the assessor.

The Assessment Support Pack (ASP) for this Unit provides sample assessment material. Centres wishing to develop their own assessments should refer to the Assessment Support Pack to ensure a comparable standard.

National Unit Specification: support notes (cont)

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CANDIDATES WITH DISABILITIES AND/OR ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).