

Higher National Unit Specification

General information for centres

Unit title: Multimedia Computing: Animation 1

Unit code: DF64 34

Unit purpose: This Unit is designed to introduce candidates to industry standard animation file formats and the production of multimedia-rich animation suitable for use in web pages and disk-based multimedia applications.

On completion of the Unit the candidate should be able to:

1. Describe industry standard animation file formats.
2. Create an animated presentation incorporating sound and interaction.
3. Publish an animated presentation in various industry standard file formats.

Credit value: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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.*

Recommended prior knowledge and skills: Access to this unit will be at the discretion of the Centre. However, it is recommended that candidates should have some prior knowledge and skills in Computing/IT. In addition, knowledge of scripting, Computer Graphics, and electronic image generation packages would be advantageous. This may be evidenced by the possession of relevant National Units, HN units or experience.

Core skills: There may be opportunities to gather evidence towards core skills in this Unit, although there is no automatic certification of core skills or core skill components.

Context for delivery: If this Unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

Assessment: When assessing this Unit, it should be borne in mind that many of the concepts are related and advantage should be taken of this fact for the purposes of assessment. Outcome 1 covers underpinning knowledge and should be conducted as a closed book objective assessment under supervised conditions. Outcomes 2 and 3 should be open book assessments that may be integrated into one holistic, practical assessment.

Higher National Unit specification: statement of standards

Unit title: Multimedia Computing: Animation 1

Unit code: DF64 34

The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Describe industry standard animation file formats

Knowledge and/or skills

- ◆ Industry standard animation file formats
- ◆ Uses of industry standard animation file formats
- ◆ Advantages and disadvantages of industry standard animation file formats in different applications.

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ Describe the standard animation file formats used in industry
- ◆ Describe the uses of industry standard animation file formats
- ◆ Identify the advantages and disadvantages of industry standard animation file formats in different applications

This assessment will be in the form of 20 short response questions. Each of the knowledge and/or skills must be covered in the assessment and the questions allocated on an equal basis. The assessment will be carried out in a supervised environment, will be closed book and is to be completed in 1 hour. Candidates must answer 12 out of the 20 (60%) questions correctly in order to obtain a pass in this outcome.

Assessment guidelines

Where Outcome 1 is not achieved on the first attempt, the candidate should be given an alternative objective assessment.

Higher National Unit specification: statement of standards (cont)

Unit title: Multimedia Computing: Animation 1

Outcome 2

Create an animated presentation incorporating sound and interaction.

Knowledge and/or skills

- ◆ How to prepare a storyboard
- ◆ How to create composite images from the painting or drawing tools of an appropriate application package
- ◆ How to create motion and apply to objects
- ◆ How to add sound and interaction to an animation
- ◆ How to incorporate elements into a cohesive presentation based on storyboard

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can use the features of an industry standard animation package to create a cohesive animated presentation based on the storyboard they have developed.

The storyboard must either be hand or digitally drawn. The storyboard must include placeholders for main objects such as text, graphics, buttons and so forth. Annotations should be included in the storyboard explaining the main purpose and content of each screen, as well as detailing events including, at least, motion, sound, interaction and animation. Screen prints of the finished presentation will not be accepted as a storyboard, as the storyboard should be completed prior to implementation. Hard copy of the storyboard must be produced.

A composite image must be either drawn or painted and included in the presentation. At least 2 shapes and colour flood-fill must be incorporated in the image. At least one type of motion, sound and interaction must be included in the composite image. Evidence of achievement will be by observation checklist, prints of each of the screens and the finished presentation being submitted on disk in the application packages native file format.

Assessment guidelines

The assessment of this Outcome could be combined with Outcome 3 as one integrated practical exercise.

Higher National Unit specification: statement of standards (cont)

Unit title: Multimedia Computing: Animation 1

Outcome 3

Publish an animated presentation in various industry standard file formats.

Knowledge and/or skills

- ◆ How to publish an animated presentation in various formats
- ◆ How to optimise files sizes for best performance
- ◆ How to analyse and compare various published formats for performance

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can publish the presentation created in Outcome 2 in at least three different industry standard animation file formats. At least one of the file formats must be web-compatible. File sizes must be as small as possible, compression techniques must be as current and effective as possible and the published file formats chosen must represent current technology. Evidence of achievement will be by observation checklist and the 3 published files being submitted on disk.

In addition, candidates will analyse and compare in report form the performance of the published formats. The report will be approximately 500 words. The analysis must include how the file sizes compare, and performance features including, at least, motion, sound, animation and interaction. Suitability of the utilisation of the formats used for various applications must be commented on in light of the content of Outcome 1.

Assessment guidelines

This Outcome is designed to be assessed along with Outcome 2 as part of one integrated practical exercise. Both Outcomes must be given equal weight in the assessment.

Administrative Information

Unit code: DF64 34
Unit title: Multimedia Computing: Animation 1
Superclass category: CE
Date of publication: December 2003
Source: SQA
Version: 02 (May 2006)

History of Changes:

Version	Description of change	Date
2	Statement added to 'Support Notes' to identify Outcome(s) that can be assessed using the SQA electronic assessment system.	15/05/06

Source: SQA

© Scottish Qualifications Authority 2003, 2006

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Customer Contact Centre for further details, telephone 0845 279 1000.

Higher National Unit specification: support notes

Unit title: Multimedia Computing: Animation 1

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 Unit has been designed to flow smoothly from a research-based theoretical examination of animation technologies and file formats in Outcome 1 to construction of an animated presentation (Outcome 2) to publishing the presentation (Outcome 3) in some of the very formats examined in Outcome 1. The goal is to have the candidate gain experience by experimentation of the actual performance of the chosen file formats, thereby confirming and reinforcing the underpinning knowledge of the first Outcome. The candidate should, therefore, gain valuable first-hand knowledge of the various technologies that will assist them in future choices of which animation formats are appropriate for various contexts.

At the time of writing the common animation formats are Flash, Shockwave, Quicktime, AVI, MPEG and animated GIF. These may be used for this unit or substituted with any new ones that have emerged. For the context of Outcome 1, uses, disadvantages and advantages of various file formats should be discussed across a broad spectrum of multimedia applications, not just those that are web-based.

Candidates may either be given topics by their lecturer or choose their own. Although not required by the assessment, coverage should be given to the concepts of project brief, target audience and content to assist candidates in the preparation of storyboards. A strong emphasis should be placed on good visual design. The best-of-breed animation package is currently Macromedia Flash MX, but animations can be carried out using any suitable commercially available animation software package. Candidates should be encouraged to produce vector-based presentations (or suitably compressed bitmap presentations) because of their smaller file size. Other techniques to optimise file sizes for quick downloading might include; re-use of symbols for elements that occur more than once; use of tweening for animations, instead of numerous keyframes; limitations being placed on the number of fonts and font styles; use of MP3 compression to store sound; don't animate bitmap elements — use them only as backgrounds or static elements; group elements as much as possible; use colour gradients sparingly — solid colours take up less space.

The published file formats for Outcome 3 should be chosen from vector, bitmap, or streaming formats. Some packages will statistically compare download times as part of the publishing process. If this feature is not available, an estimate can be used based on file size. Interaction performance can be judged by running the published version with a web browser or some other platform.

Higher National Unit specification: support notes (cont)

Unit title: Multimedia Computing: Animation 1

Guidance on the delivery and assessment of this Unit

This Unit is designed to introduce candidates to the subject of animation. Although most animation these days is aimed at browser delivery across web pages, this is not exclusively so. The candidate should be exposed to animation delivery across a wide selection of applications.

Outcome 1 will be assessed in the form of 20 short response questions. Each of the knowledge and/or skills must be covered in the assessment and the questions allocated on an equal basis. The assessment will be carried out in a supervised environment, will be closed book and is to be completed in 1 hour. Candidates must answer 12 out of the 20 questions correctly in order to obtain a pass in this outcome.

It is recommended that Outcomes 2 and 3 are integrated into one assessment based on a practical exercise. The assessment should concentrate on examining the candidates skills in using the features of an industry standard animation package to create an animated presentation based on a storyboard they have previously developed. The candidates skills in developing a storyboard must also be assessed and show evidence of the inclusion of placeholders, annotations and events. Candidates must also show skills in drawing or painting composite images and in incorporating these into the native file formats of the application package used.

Where the candidate is unsuccessful in achieving an outcome, provision should be made for remediation and reassessment. Where Outcome 1 is not achieved on the first attempt, the candidate should be given an alternative objective assessment.

If a centre is delivering this unit they can deliver the number of questions identified for each outcome listed in each column by using the SQA electronic assessment system.

Unit No	Unit Name	O1	O2	O3	O4	O5
DF64 34	Multimedia Computing: Animation 1	20				

* The shaded outcomes column will be assessed in line with the method in the unit specification as previously published

Some of the evidence requirements may be produced using e-assessment. If you wish to use e-assessment using the SQA online assessment system for this purpose, there is no requirement for you to seek prior approval so long as the normal standards for validity and reliability are observed.

Please see the following SQA publications for further information on e-assessment:

- (1) 'SQA Guidelines on Online Assessment for Further Education' (March 2003)
- (2) 'Assessment & Quality Assurance in Open & Distance Learning' (Feb 2001).

Higher National Unit specification: support notes (cont)

Unit title: Multimedia Computing: Animation 1

If a centre is presenting this Unit involving the use of short answer or restricted response question types, these may be delivered within the SQA on-line assessment system using the following assessment methods, where appropriate:

- ◆ Multiple choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ Gap fill
- ◆ Re-order
- ◆ Hot spots

The complete assessment could be made up of any combination of the above. It is expected that the questions will be one of the available types defined in the SQA on-line assessment system.

Assessment must be undertaken in supervised conditions and is closed book. A candidate should complete this assessment within one hour. Candidates may not bring to the assessment event any notes, textbooks, handouts or other material. Candidates must answer at 60% of the questions correctly.

Open learning

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance. A combination of new and traditional authentication tools may have to be devised for assessment and re-assessment purposes. For further information and advice, please see *Assessment and Quality Assurance for Open and Distance Learning* (SQA, February 2001 — publication code A1030).

Special needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, 2001).

General information for candidates

Unit title: Multimedia Computing: Animation 1

This Unit will introduce you to the subject of computer animation. On completion of the Unit you should be able to understand industry standard animation file formats and to produce a multimedia-rich animation suitable for use in web pages or with disk-based multimedia applications. Specifically, you should be able to:

1. Describe industry standard animation file formats
2. Create an animated presentation incorporating sound and interaction.
3. Publish an animated presentation into various industry standard file formats.

The Unit has been designed to flow smoothly from a theoretical examination of animation technologies and file formats in Outcome 1 to construction of an animated presentation (Outcome 2) to publishing the presentation (Outcome 3) in some of the very formats you examined in Outcome 1. The goal is to have you gain skills by experimenting with the actual performance of the chosen file formats, thereby confirming and reinforcing the knowledge you gained in the first Outcome. You should, therefore, gain valuable first-hand knowledge of the various technologies that will assist you in future choices of which animation formats are appropriate for various contexts.

The assessment for Outcome 1 will be in the form of 20 short response questions. The assessment will be carried out in a supervised environment, will be closed book and is to be completed in 1 hour. You must answer 12 out of the 20 questions correctly in order to obtain a pass in this outcome.

For Outcomes 2 and 3, a single practical exercise will be given where you will be asked to construct an animated presentation and then publish it in various animated file formats. Some of the skills you will learn include:

1. Preparing a storyboard
2. Creating an image from the package's paint or drawing facilities
3. Applying motion to objects
4. Adding sound and interaction
5. Incorporating these elements into a cohesive presentation
6. Optimising animated file sizes
7. Publishing your completed presentation in various animation formats
8. Comparing the performance of your published files

You will be assessed on all of the above elements in Outcomes 2 and 3 and you will also be asked to produce a report of approximately 500 words in which you analyse and compare the performance of the published file formats.