

## National Unit Specification: general information

**UNIT** Applied Multimedia (Intermediate 2)

**NUMBER** DM4D 11

**COURSE** Information Systems (Intermediate 2)

### SUMMARY

This Unit is designed to develop knowledge and understanding of the principles of multimedia applications and practical skills related to the development of multimedia applications through the use of contemporary hardware and software. This knowledge, understanding and practical skills, may then be applied by the candidate to solve practical problems related to multimedia applications. It is designed as an option for candidates undertaking the Intermediate 2 Information Systems Course, but is also suitable for anyone wishing to develop a basic understanding of multimedia applications and design.

### OUTCOMES

1. Demonstrate knowledge and understanding of the principles, features and purposes of multimedia applications.
2. Demonstrate practical skills in the context of multimedia applications using contemporary hardware and software.

### RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following, or equivalent:

- ◆ Intermediate 1 Multimedia Applications Unit
- ◆ Intermediate 1 Computing Studies
- ◆ Standard Grade Computing Studies at General level

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### Administrative Information

**Superclass:** CE

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## National Unit Specification: general information (cont)

### 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

This Unit gives automatic certification of the following:

<b>Core Skill components for the Unit</b>	Critical Thinking	Int 2
	Planning and Organising	Int 2

## National Unit Specification: statement of standards

### UNIT Applied Multimedia (Intermediate 2)

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

Demonstrate knowledge and understanding of the principles, features and purposes of multimedia applications.

#### Performance Criteria

- a) Basic terminology related to multimedia applications is used appropriately.
- b) Simple descriptions and explanations are technically correct and concise.
- c) Simple conclusions, predictions and generalisations are made from knowledge and understanding.

#### Evidence Requirements

Written or oral evidence that the candidate can describe and explain the principles, features and purposes of multimedia applications accurately and concisely. Evidence should be obtained using questions in a closed book test, under supervision, lasting no more than 45 minutes. The test must sample content (see Information Systems (Intermediate 2) Course Content) in each of the following areas:

- ◆ contemporary uses and means of delivery
- ◆ stages of development
  - analysis
  - design of navigational features and HCI
  - design of screens and media elements
  - implementation (general)
  - implementation (media elements)
  - testing
  - documentation
  - evaluation

(The content statements are also reproduced for convenience as a table in the support notes for this Unit)

The standard to be applied is illustrated in the National Assessment Bank items available for this Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

## **National Unit Specification: statement of standards (cont)**

### **UNIT**      Applied Multimedia (Intermediate 2)

#### **OUTCOME 2**

Demonstrate practical skills in the context of multimedia applications using contemporary hardware and software.

#### **Performance Criteria**

- a) A range of appropriate hardware is used effectively.
- b) An appropriate range of features of software is used effectively.
- c) Practical tasks are planned and organised with detailed guidance.
- d) Practical tasks are undertaken in an appropriate range of simple contexts.

#### **Evidence Requirements**

Observation checklist showing that the candidate has demonstrated practical skills at an appropriate level in all of the following contexts:

- ◆ analysis of a project brief
- ◆ design of a navigation map and series of storyboards
- ◆ implementation of a 'linear' multimedia application
- ◆ testing of a multimedia application
- ◆ documentation of a multimedia application
- ◆ evaluation of a multimedia application

Hard copy evidence should be provided of implementation and one other of these skills.

These practical skills may all be demonstrated in a single extended task, or in a number of smaller tasks.

The practical skills should be demonstrated in the context defined in the content statements (see Information Systems (Intermediate 2) Course Content).

The candidate will be allowed access to books, notes and on-line help while completing these tasks.

(The content statements are also reproduced for convenience as a table in the support notes for this Unit).

The standard to be applied is illustrated in the National Assessment Bank items available for this Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

## National Unit Specification: support notes

### UNIT Applied Multimedia (Intermediate 2)

This part of the Unit Specification is offered as guidance.

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 content for this Unit is detailed below (and also in the National Course Specifications: Course details.)

<b>Content Statements: Contemporary uses and means of delivery</b>
Simple description and exemplification of how multimedia applications are used in the following areas: <ul style="list-style-type: none"><li>◆ business<ul style="list-style-type: none"><li>○ advertising and selling products</li><li>○ presentations</li></ul></li><li>◆ education<ul style="list-style-type: none"><li>○ CAL</li><li>○ reference materials</li></ul></li><li>◆ home<ul style="list-style-type: none"><li>○ games</li><li>○ leisure pursuits</li></ul></li><li>◆ public places<ul style="list-style-type: none"><li>○ information points</li></ul></li></ul>
Exemplification of appropriate uses for delivery media: <ul style="list-style-type: none"><li>◆ CD-ROM/DVD-ROM</li><li>◆ kiosk</li><li>◆ WWW</li></ul>
Comparison of delivery media in terms of: <ul style="list-style-type: none"><li>◆ data capacity</li><li>◆ ease of update</li></ul>

<b>Content Statements: Stages of development — analysis</b>
Identification of the following aspects of the analysis stage: <ul style="list-style-type: none"><li>◆ purpose</li><li>◆ user/audience</li><li>◆ content</li><li>◆ delivery media</li><li>◆ budget</li><li>◆ timescale</li></ul>

## National Unit Specification: support notes (cont)

### UNIT Applied Multimedia (Intermediate 2)

<b>Content Statements: Stages of development — design of navigation structures and HCI</b>
Simple representation using navigation maps of the different types of navigation structures to include: <ul style="list-style-type: none"><li>◆ linear</li><li>◆ hierarchical</li><li>◆ web</li></ul>
Description and use of complex search facilities (AND).
Description of user interfaces <ul style="list-style-type: none"><li>◆ CLI</li><li>◆ menu</li><li>◆ form fill-in</li><li>◆ direct manipulation (GUI)</li></ul>

<b>Content Statements: Stages of development — design of screens and media elements</b>
Description and use of storyboarding to represent the design of screens including: <ul style="list-style-type: none"><li>◆ layout of screen elements</li><li>◆ user interface</li><li>◆ transitions</li><li>◆ navigation</li></ul>
Description and use of general design principles (text): <ul style="list-style-type: none"><li>◆ quantity of text</li><li>◆ choice of font(s)</li><li>◆ alignment and size</li><li>◆ consistency in headings/subheadings/body</li><li>◆ use of lists and tables</li><li>◆ use of white space</li></ul>
Description and use of general design principles (graphics): <ul style="list-style-type: none"><li>◆ number of graphics per screen</li><li>◆ captions</li><li>◆ text wrap</li></ul>
Description and use of general design principles (audio): <ul style="list-style-type: none"><li>◆ advantages/disadvantages of background music, sound effects</li><li>◆ user controlled (volume, on/off)</li><li>◆ voice output</li></ul>

## National Unit Specification: support notes (cont)

### UNIT Applied Multimedia (Intermediate 2)

<b>Content Statements: Stages of development — implementation (general)</b>
Description of the basic functions and features of software for creating multimedia applications: <ul style="list-style-type: none"><li>◆ presentation</li><li>◆ authoring (icon-based and scripting)</li><li>◆ web-page</li></ul>
Comparison of the different types of software for creating multimedia applications in terms of: <ul style="list-style-type: none"><li>◆ ease of use</li><li>◆ cost</li><li>◆ programming requirements</li></ul>
Basic description of personnel and their role: <ul style="list-style-type: none"><li>◆ project manager</li><li>◆ multimedia designer</li><li>◆ subject expert</li><li>◆ media specialists (graphic, audio)</li><li>◆ multimedia programmer</li><li>◆ webmaster</li></ul>

<b>Content Statements: Stages of development — implementation (media elements)</b>
Explanation of how colour depth and resolution affect the file size and clarity of graphics.
Explanation of how sampling rate and sampling depth (sampling resolution) affect the file size and audio quality. Explanation of the need for compression.
Definition of the terms node, link and anchor.

<b>Content Statements: Stages of development — testing</b>
Explanation of the need for testing.
Simple description and exemplification of different tests that should be carried out including: <ul style="list-style-type: none"><li>◆ screen tests</li><li>◆ navigation tests</li></ul>

## National Unit Specification: support notes (cont)

### UNIT Applied Multimedia (Intermediate 2)

<b>Content Statements: Stages of development — documentation</b>
Identification of the contents and purpose of user documentation including: <ul style="list-style-type: none"><li>◆ hardware and software system requirements</li><li>◆ user instructions</li></ul>
Description of need for clearly documented copyright licenses including Copyright, Design & Patents Act.

<b>Content Statements: Stages of development — evaluation</b>
Evaluation of a multimedia application in terms of: <ul style="list-style-type: none"><li>◆ fitness for purpose</li></ul>

### **GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT**

Candidates will require individual access to appropriate computer hardware and software throughout this Unit.

The two Outcomes may be delivered in an integrated way. Appropriate practical activities should be taught and used to illustrate and exemplify the knowledge and understanding required for Outcome 1.

The amount of time spent on each area of content will vary depending on the teaching methodology used and the ability and prior experience of the candidates. However, the following times are a rough guide:

Contemporary uses and delivery media	6 hours
Stages of development	
analysis	3 hours
design	8 hours
implementation	14 hours
testing	2 hours
documentation	2 hours
evaluation	1 hour

1½ hours should be set aside to:

- ◆ administer the Outcome 1 test
- ◆ gather evidence for Outcome 2

A further 2½ hours is allowed for remediation and re-assessment if required.

If the Unit is delivered as part of a Course, the Course documentation will provide further information on teaching and learning in a Course context, including the identification of a number of ‘themes’ to facilitate holistic learning across the Course.



## National Unit Specification: support notes (cont)

### UNIT Applied Multimedia (Intermediate 2)

#### GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

National Assessment Bank tests have been created specifically to assess Outcome 1 of the Unit. This assessment consists of a closed book test, and must be conducted under examination conditions. In order to gain success in this Outcome, the candidate must achieve at least the cut-off score for the test. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

Outcome 2 requires the candidate to demonstrate practical skills while using contemporary hardware and software. These practical skills will normally be demonstrated in the context of a number of relatively short tasks. The tasks will normally be undertaken by the candidate as part of the teaching and learning activities of the Unit, rather than as separate formal assessment activities. The candidate will be allowed access to books, notes and online help while completing the tasks.

To gain success in this Outcome, the candidate must demonstrate practical skills at an appropriate level in all of the following contexts, defined in the content statements (see Information Systems (Intermediate 2) Course Content):

- ◆ analysis of a project brief
- ◆ design of a navigation map and series of storyboards
- ◆ implementation of a 'linear' multimedia application
- ◆ testing of a multimedia application
- ◆ documentation of a multimedia application
- ◆ evaluation of a multimedia application

Hard copy evidence should be provided for implementation and one other of these skills. Note that this need not be formal documentation — print outs, screen shots and handwritten notes on analysis and design would all be examples of suitable evidence.

An observation checklist for Outcome 2 is provided in the National Assessment Bank materials.

All evidence must be retained by the centre. The assessment of this Unit is subject to moderation by SQA.

#### 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, September, 2003).