National Unit Specification: general information

UNIT   Computer Games: Design (SCQF level 4)

CODE   F915 10

SUMMARY

The aim of this Unit is for candidates to gain an understanding of underlying concepts and fundamental principles involved in computer game planning and design. Candidates will learn how to recognise and distinguish differences between gaming platforms, environments and genres. Candidates will be introduced to fundamental methods used in the planning and design stages of a computer game. Candidates will plan and design a computer game.

OUTCOMES

1   Identify gaming technologies.
2   Identify game genres and design elements.
3   Plan and design a computer game.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, it would be beneficial if candidates had the following IT skills:

D01D 09   *Information Technology* (Access 3)

or equivalent qualifications or experience.

CREDIT VALUE

1 credit at SCQF level 4 (6 SCQF credit points at SCQF level 4*).

*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.

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

National Unit Specification: statement of standards

UNIT Computer Games: Design (SCQF level 4)

CORE SKILLS

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit Specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

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 SQA.

OUTCOME 1

Identify gaming technologies.

Performance Criteria

(a) Accurately identify gaming platforms by type and name.
(b) Accurately identify the control and output devices of a gaming platform.
(c) Accurately identify the backing storage medium of a gaming platform.

OUTCOME 2

Identify game genres and design elements.

Performance Criteria

(a) Accurately identify game genres.
(b) Accurately identify design elements from observable design areas in an existing game.

OUTCOME 3

Plan and design a computer game.

Performance Criteria

(a) Produce a clear and feasible design brief for a basic computer game, referencing design elements.
(b) Produce a plan of design elements for the computer game consistent with the design brief.
(c) Produce a list of assets consistent with the plan for the computer game.

National Unit Specification: statement of standards (cont)

UNIT   Computer Games: Design (SCQF level 4)

EVIDENCE REQUIREMENTS FOR THIS UNIT

The Evidence Requirements for this Unit will be the production of a digital or paper portfolio containing the following items:

1   A statement identifying two gaming platforms accurately by type and name.
2   A statement accurately identifying the control and output devices of one gaming platform.
3   A statement accurately identifying the backing storage medium of one gaming platform.
4   A statement accurately identifying three different game genres.
5   A statement accurately identifying four design elements from five observable design areas in an existing game.
6   A clear and feasible design brief for a basic computer game containing at least four design elements.
7   A plan of at least two design elements for a computer game.
8   A list of assets required for a computer game.

Candidates are encouraged to use the internet in any research, however, the evidence produced must be in their own words. Tutors should assure themselves of the authenticity of candidates' evidence.

Written and/or oral recorded evidence is required which demonstrates that candidates have achieved all three Outcomes to the standard specified in the Performance Criteria. The evidence for all three Outcomes should be obtained under controlled, supervised conditions.

A checklist is required to confirm that each candidate has completed the above tasks, without undue assistance, to the standards defined in the performance criteria, and also to authenticate that the contents of the portfolio are the candidate's own work.

National Unit Specification: support notes

UNIT Computer Games: Design (SCQF level 4)

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 length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit is a mandatory Unit in the NPA in Computer Games Development at SCQF level 4. It is included in the optional sections of Digital Media Computing frameworks and can be taken as a standalone Unit.

Outcome 1

Candidates will become familiar with various types of digital gaming platforms and related technologies. These may be located in manufacturers' web pages, catalogues, magazine reviews and within software help menus and documentation. Candidates will extract information regarding:

♦ gaming platforms by type and name, eg portable gaming platform Nintendo DSi. Further examples may include:
   — portable gaming platform (psp, nds, pandora, gp2x wiz)
   — games console (xbox360, ps3)
   — PC (Windows, Mac OS X, Linux)
   — software platforms (flash, java)
   — mobile operating systems (Symbian, RIM Blackberry, Windows, Apple iPhone, Google Android, other (Palm/Linux))
   — other devices: eg skybox, portable media players

   For more information see:

   http://en.wikipedia.org/wiki/Computing_platform
   http://en.wikipedia.org/wiki/Handheld_game_console
   http://en.wikipedia.org/wiki/Mobile_game

♦ Control (input) devices such as:
   — analogue/digital controls
   — touch screen, pointing device
   — position sensor, movement sensor/accelerometer
   — microphone
   — camera
   — gps
   — specialist devices: dance mat, drums, guitar, musical keyboard

   For more information see:

   http://en.wikipedia.org/wiki/Game_controller

National Unit Specification: support notes (cont)

UNIT Computer Games: Design (SCQF level 4)

♦ output devices such as:
— external display (television screen, monitor, projector), built-in display
— speakers
— force feedback, rumble/vibration

♦ backing storage media and media used to store player data such as.
— internal flash memory
— hard disc
— DVD
— removable flash memory

Outcome 2

Candidates will identify different game genres associated with computer games such as

♦ casual games
♦ simulations
♦ action
♦ role play
♦ educational

For more information see:

http://en.wikipedia.org/wiki/Video_game_genres

Candidates will identify observable computer games design elements in the following design areas:

♦ narrative design (design elements such as subject, theme, story/plot)

♦ character design (design elements such as player object, sprite, players/actors/avatars)

♦ level/environment design (design elements such as background, board, set dressing, lighting, atmosphere such as the weather, the set, props, map)

♦ gameplay and game mechanics design — (design elements such as types of challenges, activities, rewards, progression, game rules, skill, chance, states)

♦ user interface design (design elements such as use of control (input), output devices, viewpoint, head-up display (HUD). The term user interface in this context refers to more than the software but also includes the input and output devices.

National Unit Specification: support notes (cont)

UNIT   Computer Games: Design (SCQF level 4)

Outcome 3

Candidates will produce a clear and feasible design brief for a computer game. The design brief should contain at least four of the following:

Design element	Number of items required
Game title/theme/genre	One accurate description
Target audience	One accurate description
Game platform	One accurately named
Game purpose/objective/plot	One brief description
Basic gameplay	One brief description
Main characters (if any)	One illustration/description

It should be feasible to implement the design brief within the centre's resources. Tutors should provide guidance to candidates of what is and is not feasible.

Candidates will produce a plan for at least two observable design elements from different design areas of one digital game. At least two of the following types of evidence would be acceptable:

♦ narrative design — storyboard, mind map, story, script
♦ character design — character/object description, character sketch
♦ level/environment design — written description, illustrations, environmental pictures
♦ gameplay and game mechanics design — list of rules, flow chart, spreadsheet of possible outcomes, game layout chart, top-down design
♦ user interface design — navigation, feedback, instructions, menus, buttons

Candidates will produce a list of assets required for the game they are designing. This will vary according to the game and may include graphics, sound files, animation, 3D objects, video clips and text files.

National Unit Specification: support notes (cont)

UNIT   Computer Games: Design (SCQF level 4)

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

If this Unit is undertaken in the context of the NPA in Computer Games Development at SCQF level 4, the following sequence of delivery is recommended:

1   *Computer Games: Design*
2   *Computer Games: Media Assets*
3   *Computer Games: Development*

A variety of different types of information sources should be used for Outcome 1. Suitable sources include current magazines and a range of websites available on the internet.

Candidates should be allowed to actively explore various gaming platforms.

Candidates could record the findings of their research on a pro forma with suitable headings to aid gathering of appropriate information.

This Unit could be delivered in the context of a larger game with each candidate designing a level of a computer game. In these circumstances it essential that each candidate identifies their own contribution to the design task and provides evidence for their own individual portfolio.

The actual distribution of time between Outcomes is at the discretion of the centre. However, the following distribution and order is suggested.

Outcome 1   5 hours
Outcome 2   15 hours
Outcome 3   20 hours

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates are required to investigate technologies and to create a design which can provide opportunities to gather evidence towards aspects of *Information and Communication Technology* and *Problem Solving* at SQCF level 4.

Candidates should produce a clear and feasible design brief for a computer game and may also choose to plan a narrative design which could include writing a story, play or plot and provide opportunities to gather evidence towards aspects of *Communication* at SCQF level 4.

This Unit may be delivered in the context of a larger game with each candidate designing a level of a computer game. This would provide opportunities to gather evidence towards aspects of *Working with Others* (SCQF level 4).

National Unit Specification: support notes (cont)

UNIT Computer Games: Design (SCQF level 4)

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

A portfolio approach to assessment should be taken. The portfolio may be paper or electronic (digital). The portfolio should be constructed over the period of the Unit, with candidates contributing material to the portfolio on an on-going basis. The contents of the portfolio should be clearly labelled and related to specific Evidence Requirements. The inclusion of specific items in the portfolio should be negotiated between candidate and tutor, with only the 'best' example of work stored.

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003), SQA Guidelines on e-assessment for Schools (BD2625, June 2005).*

If an e-portfolio is used to capture candidates' work, it may take one of a variety of forms, ranging from general purpose digital repositories to specialised e-portfolio products. For example, a web log could be used to record candidate activity over the duration of the Unit. Specific entries to the blog could provide sufficient evidence in their own right (for example, a required identification) or could link to a file stored in another web service (such as a file hosting site). The use of a blog would aid authentication since any record of a candidate's day-to-day activities would provide implicit evidence of participation and ownership.

If a candidate is undertaking this Unit as part of the NPA in Computer Games Development at SCQF level 4 then the evidence should be retained as part of a portfolio of work required for the Units *Computer Games: Media Assets* and *Computer Games: Development* (SCQF level 4).

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website
www.sqa.org.uk/assessmentarrangements