**National Unit Specification: general information**

**UNIT**       Computer Games: Media Assets (SCQF level 4)

**CODE**       F916 10

## SUMMARY

The aim of this Unit is for candidates to gain an understanding of the different types of media assets required for developing a computer game. Candidates will identify legitimate methods of acquiring media assets and how to plan and produce media assets for use in a game development environment.

## OUTCOMES

1   Identify media assets in an existing computer game.
2   Plan media assets for a specified brief.
3   Produce media assets for a specified brief.

## 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: general information (cont)

**UNIT** Computer Games: Media Assets (SCQF level 4)

## CORE SKILLS

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

# National Unit Specification: statement of standards

## UNIT        Computer Games: Media Assets (SCQF level 4)

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 media assets in an existing computer game.

### Performance Criteria

(a)  Accurately identify media assets in an existing game.
(b)  Clearly describe one media asset from an existing game.
(c)  Accurately identify legitimate methods of acquiring media assets.

## OUTCOME 2

Plan media assets for a specified brief.

### Performance Criteria

(a)  For a specified brief, clearly plan media assets to be obtained from legitimate sources.
(b)  Clearly record sources for media assets.
(c)  For a specified brief, clearly plan media assets to be captured or created.
(d)  Select appropriate software required for the production of media assets.

## OUTCOME 3

Produce media assets for a specified brief.

### Performance Criteria

(a)  For a specified brief, produce suitable basic media assets.
(b)  Carry out basic modifications to selected media assets to accurately meet the brief.
(c)  Effectively store media assets in a digital format.

# National Unit Specification: statement of standards (cont)

**UNIT**      Computer Games: Media Assets (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 list identifying at least four different media assets in an existing game.

2    A description of at least one asset in detail.

3    A statement accurately identifying two legitimate methods of acquiring media assets.

4    A plan of all media assets to be used, indicating for each whether it will be sourced, captured or created.

5    A reference list citing the sources of media assets not created by the candidates. This should include details of assets sourced from game environments, CD-Rom resources, websites, etc.

6    A statement identifying appropriate software for the production of media assets.

7    At least one sourced media asset and at least one captured or created media asset, for example:
   ◆   graphics such as:
      — sprites
      — background images
      — 3D objects (including characters)
      — 3D levels
      — textures (and associated files)
      — skyboxes
   ◆   videos
   ◆   animations
   ◆   audio such as:
      — speech
      — sound effects
      — music
   ◆   text such as:
      — text files
      — script files

8    A description of modifications carried out to at least four media assets.

The assets produced by candidates and selected for use in the computer game must be stored in a format suitable to import into the chosen game development environment.

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: Media Assets (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 stand-alone Unit.

**Outcome 1**

Candidates will identify different media assets in an existing game and give a brief description of at least one asset. Ideally the existing game being studied should be similar in genre or type to the game being designed by candidates. The table overleaf demonstrates the typical assets that exist in a game and the level of description required.

Candidates will accurately identify legitimate methods of acquiring assets.

Creative Commons is one method of licensing images, sounds and other creative works that lets others use the work legitimately. http://search.creativecommons.org

Creative Commons gives creators the following options:

♦ Attribution: others can copy, distribute, display, and perform the copyrighted work — and derivative works based upon it — but only if they give credit to the original creator.
♦ Non-commercial: others can copy, distribute, display, and perform the work — and derivative works based upon it — but for non-commercial purposes only.
♦ No Derivative Works: others can copy, distribute, display, and perform only verbatim copies of the work, not derivative works based upon it.
♦ Share Alike: others can distribute derivative works only under a licence identical to the licence that governs the original work.

Other methods to acquire assets legitimately may include:

♦ use creative commons search engines
♦ get permission from the copyright owner (eg the photographer)
♦ buy them (eg stock photos)

Many websites and search engines offer ways to search for work that is labelled for reuse or labelled for reuse with modification. For example, Google allows users to set usage rights in advanced search. If using search engines to source assets, candidates should follow the link to check the licence details.

Many creative works are shared with the condition that credit is given to the original creator.

| Media Asset | Description |
| --- | --- |
| Graphic | A graphic can be a vector or bitmap images, such as photographs, sprites, tiling textures, background images, etc. |
| | Vector graphics are built up by using shapes. Each shape (object) which makes up a graphic has its own set of properties also known as attributes. A full definition of the attributes of the shape is stored. This is more memory efficient than bit-mapped graphics which store the state of every pixel. Vector graphics have small file sizes in comparison to bit-mapped graphics. |
| | Bitmapped graphics are made up of a rectangular grid (or array) of dots or pixels — each of which is stored individually. The colour value of every pixel is stored. File sizes can be large since each pixel would typically take up to three or four bytes. Bitmapped graphics (images) are captured by scanners and digital cameras are bitmapped. |
| | Types of graphical media assets: |
| | A sprite is a figure or character within a game. Sprites usually have a transparent outline and can be animated to simulate movement. Characters in some games are also known as avatars. |
| | A background image is a type of texture that shows a landscape image |
| | 3D objects (including characters) are items or characters that can be placed within the game |
| | 3D levels lay out the areas of game play, such as hills, cities, rooms, tunnels, etc for players and characters to move around in. |
| | A skybox is a cube with background images that surrounds the game player in a 3D game. |
| | Textures (and associated files) are bitmapped images that are mapped onto surfaces of objects such as stone walls, metallic surfaces and wooden tables. |
| Videos | A video is a moving image file in a format that is compatible with the game development environment |
| Animations | An animation is a collection of still images with each one in the sequence slightly different from the previous. The images are played quickly one after the other to give the illusion of movement. |
| Audio | Audio is sound of any type played in a game. |
| | Types of audio media assets include: |
| | ♦ Speech: such as the voices for characters |
| | ♦ Sound effects: noises of objects in the game. |
| | ♦ Music: background music that usually loops and repeats during the game play. |
| Text | Text media assets are required for the game to provide dialogue, create an atmosphere; give player feedback or instructions |
| | Script files: code for using within the game development environment |

# National Unit Specification: support notes (cont)

**UNIT** Computer Games: Media Assets (SCQF level 4)

**Outcome 2**

Candidates will list how the media assets required will be sourced or produced and develop an understanding of available software applications.

Candidates will develop skills in informed decision making about approaches and possible solutions to the design brief within the constraints of the game development environment.

Candidates should be encouraged to obtain assets from legitimate sources such as stock libraries or video archives where the terms of use state that assets can be used and modified by others.

Candidates will plan which assets they will source legitimately. Assets can be sourced by acquiring an image from somewhere or someone else, for example downloading from a copyright free website. It will be helpful for candidates to have an idea of the type and quality of assets available from legitimate sources. Candidates must log details of sourced assets to ensure that credit can be given to the copyright owner when producing the final game.

Candidates will have the opportunity to explore a variety of media asset types and software applications to help them make effective decisions in selecting appropriate media, software and processes.

**Outcome 3**

Candidates will source media assets legitimately and acknowledge copyright and permissions for media assets. They will capture a variety of media assets using appropriate devices and create media assets using software tools. They will then modify assets as required by the brief. Candidates will store all assets using appropriate file formats and file management.

It may be that not all of the media assets are used in the final game. Some media assets may be used or created by candidates as a way of progressing lines of development. As part of the process of creating assets candidates may make different versions of an asset and select the best option.

Candidates will source at least one media asset and capture or create at least one media asset.

Candidates will carry out basic modifications in a single operation ie paramenters do not have to be reset. They will use simple editing tools provided in software packages such as trim, copy and paste, fade. These modifications are considered to be the minimum requirements — candidates may modify their assets using more complex methods.

The following are examples of actions that can be carried out on various media asset types. Candidates can source, create and modify alternative types of media as long as they are suitable for use within the chosen game development environment. The list is not restrictive and not all actions listed would be carried out on the same asset.

Actions listed in italics would be carried out as part of the Unit *Computer Games: Development* and not as part of this Unit. These are included for information only.

# National Unit Specification: support notes (cont)

**UNIT**      Computer Games: Media Assets (SCQF level 4)

**Sound**
- source using for example [www.freesound.org](www.freesound.org); freeplaymusic.com
- capture using appropriate software and a microphone; mobile phone
- create using for example Garageband
- basic modifications such as: crop; alter the tempo; amplify the volume
- *[import into game development environment for speech for an avatar or character; sound effect for an object; background music]*

**Vector graphics**
- source using for example aviary.com or a vector image library
- create using for example aviary.com, Inkscape, DrawPlus or similar vector graphics or illustration software
- basic modifications such as: rotate; resize; filling with colour, gradient or patterns
- *[import into game development environment as an object]*

**Bitmapped graphics** (including photographs, textures and sprites)
- source using for example www.flickr.com/creativecommons or another legitimate source of images
- source using online websites
- capture using a digital camera, webcam, mobile phone, scanner
- create using a graphics package or for example paint.net, PaintPlus, Artrage or similar image editing or paint software and a mouse or graphics tablet.
- basic modifications such as: resize, rotate, skew, flip
- *[import into game development environment as an object, object or skybox texture, sprite, background graphic]*

**Video**
- basic modifications such as edit single clip: crop; re-size; alter colour; alter contrast; capture a still image from a clip

Effectively store media assets in a digital format and record sources.

# National Unit Specification: support notes (cont)

**UNIT**        Computer Games: Media Assets (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*

If it is delivered as part of the NPA in Computer Games Development the following items should have been produced by candidates during the Unit *Computer Games: Design* at SCQF level 4:

♦    game design brief
♦    game design document (or plan)
♦    a list of required media assets

If these items have not previously been produced by candidates they will have to be provided by the tutor or planned by candidates in agreement with the tutor.

In this Unit, candidates will create and prepare the media assets for a computer game.

There are ample opportunities for delivering this Unit in groups and in a vocational context. Candidates could already have formed groups (studios) to design a game. It would then be natural for them to contribute to the development of the game assets. The contribution of each candidate to the process must be clearly demonstrated. One approach might be that they each contribute distinct assets for the game or that they each produce their own version of the assets. These approaches could allow them to compare and evaluate each others' efforts.

If working in a group, it is essential that each candidate identifies their own contribution to the task and that they provide evidence for their own 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    5 hours
Outcome 3    30 hours

**OPPORTUNITIES FOR CORE SKILL DEVELOPMENT**

In this Unit candidates are required to design and create media assets for a computer game which can provide opportunities to gather evidence towards aspects of *Information and Communication Technology* and *Problem Solving* at SCQF level 4.

This Unit may be delivered as a group project. This would provide opportunities to gather evidence towards aspects of *Working with Others* at SCQF level 4.

# National Unit Specification: support notes (cont)

**UNIT**    Computer Games: Media Assets (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 a group 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: Design* 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**