



National Unit Specification

General information

Unit title: Digital Media: Audio (SCQF level 5)

Unit code: HW4W 45

Superclass: KA

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Unit purpose

The purpose of this unit is to allow learners to broaden their knowledge and acquire routine skills in digital audio such as standard MP3 or podcasts. This unit is suitable for all learners and no prior knowledge or experience is required, although basic audio knowledge would be beneficial.

Learners will gain knowledge and experience of the routine techniques involved in acquiring and editing standard pieces of digital audio and combining these into a single digital product. Product planning and presentation are also covered. Although the focus is on practical skills, learners will also acquire essential underpinning knowledge. The unit also aims to develop learners' evaluative skills relating to their performance and their finished digital product to ensure that they understand the processes involved in acquiring and editing digital audio.

On completion of this unit, learners may wish to broaden their knowledge of digital media by completing HW4Y 45 *Digital Media: Moving Images* and HW4X 45 *Digital Media: Still Images*. Alternatively, learners might wish to gain a deeper understanding of audio by completing F3T7 12 *Digital Acquisition and Editing: Audio*.

Outcomes

On successful completion of the unit, the learner will be able to:

- 1 Plan the acquisition of digital audio for a specified brief.
- 2 Acquire digital audio for the specified brief.
- 3 Produce edited digital audio in a format required by the specified brief.
- 4 Evaluate the final digital audio product and own performance within the requirements of the given brief.

National Unit Specification: General information (cont)

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Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5).

Recommended entry to the unit

While entry is at the discretion of the centre, it would be beneficial if learners possessed basic audio knowledge. This may be evidenced by possession of HW4W 44 *Digital Media: Audio* or equivalent qualifications or experience.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this unit specification.

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

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.

This unit is part of the National Progression Award in Digital Media at SCQF level 5. As such, it may be delivered alongside other component units, such as HW4X 45 *Digital Media: Still Images* and HW4Y 45 *Digital Media: Moving Images*. In this circumstance, teaching, learning and assessment may be integrated across the units. Further details are provided in the support notes.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

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 SQA.

Outcome 1

Plan the acquisition of digital audio for a specified brief.

Performance criteria

- (a) Create a script or storyboard for the specified brief.
- (b) Identify suitable file types for the specified brief.
- (c) Identify required hardware and software for acquisition and editing of digital audio content for the specified brief.
- (d) Describe different storage media and their use in digital audio.
- (e) Create a production schedule for the acquisition of digital audio content within the time constraints of the specified brief.
- (f) Identify legal implications, including copyright, of the acquisition of digital audio.

Outcome 2

Acquire digital audio for the specified brief.

Performance criteria

- (a) Identify the digital audio required for the brief.
- (b) Acquire digital audio using appropriate recording equipment for the specified brief.
- (c) Store digital audio using appropriate file formats for the specified brief.
- (d) Store digital audio in appropriate locations using appropriate file names.
- (e) Adhere to legal and safety requirements relating to the acquisition and storage of digital audio.

Outcome 3

Produce edited digital audio in a format required by the specified brief.

Performance criteria

- (a) Edit the digital audio to meet the requirements of the specified brief.
- (b) Combine the digital audio material into a single product to meet the requirements of the brief.
- (c) Save the edited digital audio sequence in a format specified by the requirements of the brief.
- (d) Present the final digital audio product to the intended audience using appropriate software.
- (e) Adhere to the tasks and timescales of the production schedule.

National Unit Specification: Statement of standards

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Outcome 4

Evaluate the final digital audio product and own performance within the requirements of the given brief.

Performance criteria

- (a) Evaluate the final digital audio product against the specified brief.
- (b) Describe solutions employed to resolve issues in the production of the piece of digital audio.
- (c) Identify steps to improve future digital audio projects.

Evidence requirements for this unit

Evidence is required to demonstrate that learners have achieved all outcomes and performance criteria.

The evidence requirements for this unit will consist of two types of evidence: knowledge evidence and product evidence.

The knowledge evidence will relate to all outcomes and performance criteria. It may take any appropriate format (including oral). The evidence will relate to explicit knowledge (such as Outcome 1, Performance Criterion (b)) and underpinning knowledge (such as Outcome 2, Performance Criterion (c)). The focus of the knowledge evidence is breadth, not depth, so the amount of evidence should be the minimum consistent with the performance criteria. It may be produced with access to reference materials over the life of the unit.

Sampling of knowledge is permissible in certain contexts, such as when traditional testing is used to generate the evidence. When sampling is used, the sampling frame must be broad enough to ensure that every outcome is covered (but not every performance criterion in every outcome). In this circumstance, the test must be carried out under controlled, supervised and timed conditions, without access to reference materials.

The product evidence will consist of at least one product plan (Outcome 1) and at least one final digital audio product (Outcomes 2 and 3). The product plan may take any acceptable format but must satisfy all associated performance criteria. Learners must produce the plan on their own, although the teacher/lecturer may provide some assistance, where required, in order to allow learners to progress to the next stage.

The piece of digital audio must satisfy the brief and its production must adhere to the product plan. It must be produced under supervised, loosely controlled conditions and may be conducted over an extended period of time. For example, some parts of it may be carried out without supervision from an assessor. In this scenario, authentication will be required to ensure that the product is the work of the learner.

National Unit Specification: Statement of standards

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Product evidence is required to demonstrate that the learner has satisfied the specified brief:

- ◆ Acquire at least eight pieces of audio material to meet the quality requirements.
- ◆ Name and log audio material to enable efficient access and retrieval.
- ◆ Capture and save audio in appropriate file formats.
- ◆ Edit audio to match the content plan.
- ◆ Export the edited audio in an appropriate file format.
- ◆ Play the completed audio to the intended audience using appropriate software.
- ◆ Confirmation that the audio adheres to legal requirements; this should include records of copyright clearances.
- ◆ A written and/or oral recorded evaluation:
 - indicating that the learner has read the product brief and has met the requirements.
 - evaluating the completed audio and solutions employed to resolve problems.
 - identifying steps to improve future digital audio projects.

The Assessment Support Pack (ASP) for this unit provides sample assessment material including an instrument of assessment for the knowledge and a specified brief. Centres wishing to develop their own assessments should refer to the assessment support pack to ensure a comparable standard.



National Unit Support Notes

Unit title: Digital Media: Audio (SCQF level 5)

Unit support notes are offered as guidance and 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

This unit is intended for anyone with an interest in audio who requires a basic knowledge and understanding of audio acquisition, editing and presentation.

Please note that the following guidance is not a teaching syllabus and does not seek to explain each performance criterion, which is left to the professionalism of the teacher. This section seeks to clarify the statement of standards where it is potentially ambiguous. It also focuses on non-apparent teaching and learning issues that may be over-looked, or not emphasised, during unit delivery. As such, it is not representative of the actual time spent teaching or learning specific competences or the relative importance of each competence.

The aim of the unit is to show learners how to plan, acquire materials for audio production, produce audio and evaluate output. The unit has four outcomes. The outcomes cover both the theory and practice of planning, acquiring materials for audio production and producing audio material.

Any appropriate software can be used to deliver the unit and is not prescriptive, providing that the software is capable of providing the manipulation processes required. The learner will evaluate their own performance of the finished digital audio product and draw conclusions from their activity.

The brief should provide enough scope to allow for a variety of interpretations on the part of the learner. Learners should not only identify possible acquisition sources or methods, but also explain why they are making choices as to which sources or methods they will employ.

If this unit is delivered as part of the National Progression Award in Digital Media at SCQF level 5, there is significant potential for teaching, learning and assessment to be integrated across the component units.

Outcome 1

This outcome introduces learners to the stages and components required to enable acquisition of audio. It also introduces the different file types, hardware and software that can be used.

National Unit Support Notes (cont)

Unit title: Digital Media: Audio (SCQF level 5)

Typical theory should include the following:

- ◆ Planning techniques, such as script, storyboard and production schedule
- ◆ Audio sources, for example microphones, voice recorders and mobile phones
- ◆ The internet and CD/DVDs as sources of pre-recorded digital audio material
- ◆ How to use different audio recorders
- ◆ Sampling rates
- ◆ Sound waves
- ◆ Types of audio file systems (ie wav, AIFF, FLAC, MP3 and wma)
- ◆ Types of file compression
- ◆ The range of editing software currently available (free and paid for) and their advantages and disadvantages

Learners must be able to use the correct terminology for the materials, hardware, software and file formats that they are using.

Learners will produce a detailed plan and schedule for at least one piece of audio work, outlining the materials, hardware and software that they will require and their awareness of any associated copyright issues. The plan must be a response to a brief provided by the teacher/lecturer.

Outcomes 2 and 3

These outcomes introduce the learner to the process of acquiring digital audio material. The practical nature of these outcomes will include the following:

- ◆ Methods used to acquire audio materials using, for example, microphones, voice recorders and mobile phones
- ◆ How to apply appropriate naming conventions and store this material safely on a computer, network, portable or cloud-based storage
- ◆ How to edit the material using basic editing software. Learners must be able to:
 - import materials into their given editing software (for example Audacity, Adobe Audition, Sound Forge)
 - apply standard editing procedures, such as trimming clips; apply effects, such as chorus, reverb and flange; apply volume/amplitude related effects, such as fade-ins and fade-outs, in a considered and appropriate manner
 - save the project file for future editing
- ◆ How to export the edited digital audio and present the final digital audio product in an appropriate file format
- ◆ Have an opportunity to use more advanced editing features, such as Foley techniques, where practical for the centre
- ◆ Have an opportunity to investigate the effect that sample rate and compression setting have on file size and output quality
- ◆ Demonstrate an understanding of the range of distribution formats available for audio. Learners must be able to export their project file in a format appropriate for the audience outlined in the task specification supplied by the assessor

Learners must acquire their own materials for, and produce at least one piece of digital audio work.

National Unit Support Notes (cont)

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Outcome 4

In this outcome, learners must reflect on their output and performance against the brief provided. The purpose of the outcome is to encourage learners to look for opportunities to improve on and develop their practice. Learners will not only evaluate what was produced, but also how it was produced.

Suggested content for *Digital Media: Audio* levels 4 and 5

	Level 4	Level 5
Media lifecycle	Plan Acquire Produce	Design Acquire/edit Produce Evaluate
Hardware	Microphone Smartphones Tablets Voice recorder Headphones Mic stand	Microphone Smartphones Tablets Mobile gaming devices Voice recorder Headphones Mic stand
Software	Open-source software Professional tools	Plug-ins
Audio transfer	Cable Card reader Memory card Import Export	Cloud storage Bluetooth Wi-Fi HDMI Display port Digital Visual Interface (DVI)
Audio storage	Hard disk Tape Optical media Backups	Internal and external hard disks Compression Internet, eg Vimeo and YouTube DVD Blu-ray
File format	MP3 Wav WMA	MP3 Wav FLACC WMA
Audio editing features	Cropping Trimming Effects	Cropping Trimming Foley effects Amplitude effects Sample rate
Legislation	Copyright permissions	Release notice

National Unit Support Notes (cont)

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Learning and teaching materials

- ◆ <https://www.sqaacademy.org.uk/mod/resource/view.php?id=13810>
- ◆ <http://www.bbc.co.uk/schools/gcsebitesize/dida/multimedia/audiorev1.shtml>

Equipment

- ◆ <https://ehomerecordingstudio.com/home-recording-studio-essentials/>

Techniques

- ◆ <http://schoolvideonews.com/Audio/Basic-Audio-Techniques-Intro-to-Booming>
- ◆ <http://www.mediacollege.com/audio/>
- ◆ <https://www.youtube.com/watch?v=fqZYwhStcKI&index=1&list=PLigO1yIFTMjGyjrJ-ugl2fD4GTtG3ZD2u>

Tools

- ◆ Audacity — <http://www.audacityteam.org/home/>
- ◆ Adobe Audition — <https://www.adobe.com/uk/products/audition.html>
- ◆ Sound forge — <http://www.magix.com/gb/sound-forge/>

Guidance on approaches to delivery of this unit

Although this unit contains a significant body of knowledge, it is recommended that it is delivered in a practical context through exemplification of the principles and practice of audio production in the context of each learner's preferred subject area of interest. Learners should be given a broad enough brief that allows them to produce a piece of audio work in a subject area that interests them, for example sport, computer games or music.

The brief should provide learners with an opportunity to produce audio, ie it should contain a complete story element. A possible brief could be:

- ◆ a series of general views/opinions of the learner's school or college.
- ◆ a podcast.
- ◆ a narration of a short story with sound effects.

Alternatively, learners might produce a short piece explaining some of their learning or a concept from another domain, a mock radio advertisement or safety briefing.

All learners will require access to at least one device that allows them to capture digital audio (ideally, learners should be able to try more than one kind of device to enable them to compare and contrast features and quality). Learners will also require access to a computer which has sufficient processing power, memory, file storage and audio capabilities, to allow them to edit, render and playback their audio product. On completion of the audio piece, learners must have sufficient file storage space, either locally, on a network, portable storage device, or a cloud-based system to enable them to export the project in a suitable file format.

National Unit Support Notes (cont)

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It is recommended that learners are given an opportunity to listen to, and discuss as a group, examples of audio work, and to recognise and critique basic techniques that have been employed in the examples that are observed.

The unit could be delivered in distinct stages with learners being given the theory regarding each stage of the audio production process, with small discrete practical tasks to reinforce the learning, after which learners are presented with a final design brief/task. Alternatively, if there are time constraints to deliver the unit, learners could be presented with all of the theory at once, with the practical work being satisfied by the planning, acquisition of materials and production of an audio piece that meets a design/brief given by the assessor.

It is recommended that the unit is delivered in the sequence of the outcomes, since each outcome requires the underpinning knowledge and skills of earlier outcomes. A suggested distribution of time across the outcomes is:

- ◆ Outcome 1: 10 hours
- ◆ Outcome 2: 14 hours
- ◆ Outcome 3: 14 hours
- ◆ Outcome 4: 2 hours

There will be opportunities for learners to collaborate by, for example, helping behind, or in front of, the recorder and thereby learning from one another. The learner could participate in the production of another learner's piece of audio work by listening to it and providing constructive feedback on the evolving piece. Although collaboration with other learners taking the unit is encouraged, each learner must be able to provide their own evidence.

Although not essential to the successful completion of the unit, audio provides an excellent platform for outdoor learning and/or interdisciplinary work.

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

A traditional approach to assessment would comprise a test (for knowledge evidence) and a practical assignment (for the product evidence).

The knowledge assessment should take place towards the end of the unit, when learners have the knowledge to attempt the practical assignment. The test could consist of a number of selected response questions. For example, a multiple-choice test, consisting of 20 items, each with four options. In this example, the pass mark would be 12 out of 20. The items would cover every outcome but not every performance criterion. The test would be timed (no more than 45 minutes) and carried out under controlled conditions, without access to reference material.

National Unit Support Notes (cont)

Unit title: Digital Media: Audio (SCQF level 5)

Each sample must also include the following:

- ◆ effects of sampling rate on digital audio and its quality
- ◆ different audio effects
- ◆ different amplitude effects
- ◆ different delivery platforms for digital audio
- ◆ different compression techniques
- ◆ component parts of soundwaves

The test should be conducted towards the end of unit delivery, although learners could begin to generate the evidence at an earlier stage. However, in this case, the completed digital audio piece should not be assessed until it is complete and the learner is satisfied with it. Learners must be able to use the correct terminology for the materials, hardware, software and file formats that they are using.

Where re-assessment is required it should contain a different sample from the range of mandatory content.

The practical assignment could require learners to individually construct a complete digital audio piece on a subject of their choosing but which follows a brief supplied by the teacher/lecturer. It is recommended that the digital audio piece is linked to their extra-curricular interests.

The brief should ensure that the learners are aware of details, such as:

- ◆ quantity of work required.
- ◆ quality of the material to be acquired.
- ◆ timescale for production.

The digital audio product would consist of some standard components, which would be identified and acquired by the learner, and combined into a single product. It may be constructed under loosely controlled conditions. For example, parts of it may not be done under the supervision of the assessor. In this scenario, authentication would be required, which could take the form of oral questioning. Alternatively, an assessor observation checklist could be used for authentication purposes to ensure that the learner has completed the tasks along with the audio evidence. The assessor should endorse each learner checklist with their name, signature and date. Centres could provide a log which could include headings for learners to follow.

A more contemporary (and natural) approach to assessment would be the use of a web log (blog) to record learning over the life of the unit. The blog could log, on a regular basis, learner activities, which would include their planning, acquiring and final-product work. Given the multimedia nature of blogs, individual posts could record the tasks carried out by learners, including embedded digital media, illustrating the various stages of them carrying out the supplied brief. The blog would, of course, have to include the final digital audio product.

National Unit Support Notes (cont)

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The resulting audio piece should be assessed against defined criteria and these criteria should be known to the learner before they submit their evidence. The criteria should be based on the performance criteria within this unit specification and the characteristics defined in the evidence requirements section of this unit specification together with the appropriate SCQF level descriptors.

Formative assessment could be used to assess learners' knowledge at various stages in the unit. An ideal time to gauge their knowledge would be at the end of each outcome. This assessment could be delivered through an item bank of selected response questions, providing diagnostic feedback to learners (when appropriate) and opportunities for remedial action.

The assessment of this unit could be combined with the assessment of the other component units within the National Progression Award in Digital Media at SCQF level 5 by means of a project involving learners in creating a more substantial digital product comprising audio and images.

Opportunities for e-assessment

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 social software.

Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

In this unit learners are required to plan the acquisition of an audio sequence. This will present opportunities for developing aspects of the Core Skill of *Problem Solving* (SCQF level 5) as well as aspects of the Core Skill in *Communication* (SCQF level 5). In addition, opportunities may arise for learners to work together as part of the learning process, such as composing and recording audio or using software packages for editing.

Broader skills development in the areas of enterprise, employability, sustainable development and citizenship may also be included depending on the task/scenario selected.

History of changes to unit

Version	Description of change	Date

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General information for learners

Unit title: Digital Media: Audio (SCQF level 5)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit, and opportunities for further learning and employment.

Whilst undertaking this unit, you will be required to create a script or storyboard to meet the requirements of a given brief (supplied by your assessor), plan for the acquisition of digital audio material and then acquire it. You will edit and present the edited sequence in a format appropriate to the given brief. The final stage for successful completion of the unit will be a self-evaluation of your work and your approach to the unit.

On successful completion of this unit, you will have the skills and knowledge to undertake the acquisition of a short digital audio sequence to meet the requirements of a specified brief.

This unit is suitable for you if you have an interest in audio and you wish to acquire routine skills and knowledge required for the acquisition and editing of audio media. Although it is not essential, it would be beneficial if you had basic audio knowledge, such as possession of HW4W 44 *Digital Media: Audio* or equivalent qualifications or experience.

The unit is a mix of theory and practice. The theory includes the underpinning knowledge required to plan, acquire materials for, and produce, a piece of audio work. The unit also covers some theoretical aspects of audio, such as the hardware, software and techniques used in the field of audio.

The practical aspects of the unit include planning an audio piece, acquiring and storing audio materials, and editing and producing a complete piece of audio work to a competent level.

You will be assessed practically by creating your own piece of audio work. You will be required to provide evidence of your knowledge of audio technical terminology and you may produce this throughout the unit or at the end of unit delivery; your teacher/lecturer will decide this.

This unit will present opportunities for developing aspects of the Core Skill of *Problem Solving* as well as aspects of the Core Skill in *Communication*. In addition, opportunities may arise for you to work together with other learners as part of the learning process, such as composing and recording audio or using software packages for editing.

Broader skills development in the areas of enterprise, employability, sustainable development and citizenship may also be included depending on the task scenario selected.

On completion of this unit, you may wish to broaden your understanding of digital media by completing HW4X 45 *Digital Media: Still Images* and/or HW4Y 45 *Digital Media: Moving Images* to gain NPA Digital Media (level 5) group award. Alternatively, you might wish to gain an appreciation of the body of knowledge that constitutes the discipline of audio by completing F3T7 12 (SCQF level 6) *Digital Acquisition and Editing: Audio*.