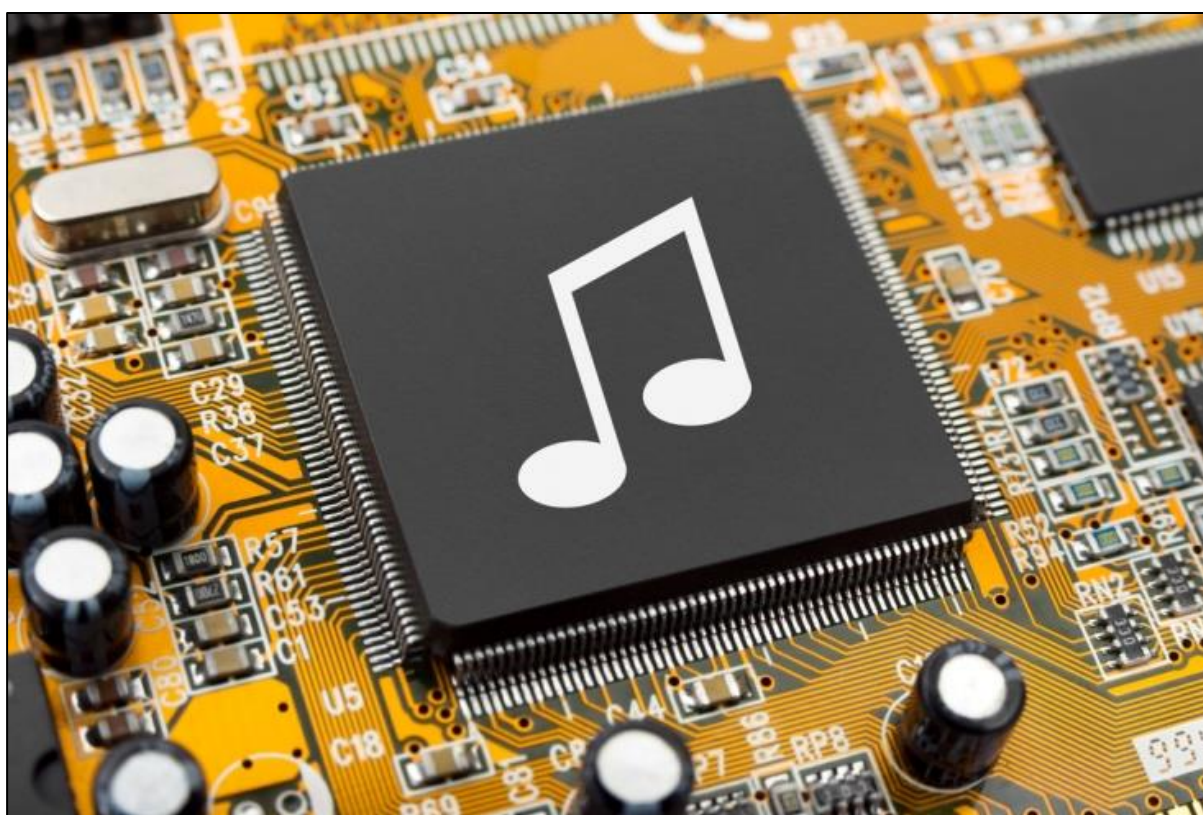


National 4 Music Technology Course Support Notes



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Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

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Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the National 4 Music Technology Course. They are intended for teachers and lecturers who are delivering the Course and its Units. They should be read in conjunction with the *Course Specification*, the *Course Assessment Specification* and the Unit Specifications for the Units in the Course.

National 4 Music Technology

Internally assessed mandatory Units

Music Technology Skills — 6 SCQF credit points

Understanding 20th and 21st Century Music — 6 SCQF credit points

Music Technology in Context — 6 SCQF credit points

Added Value Unit

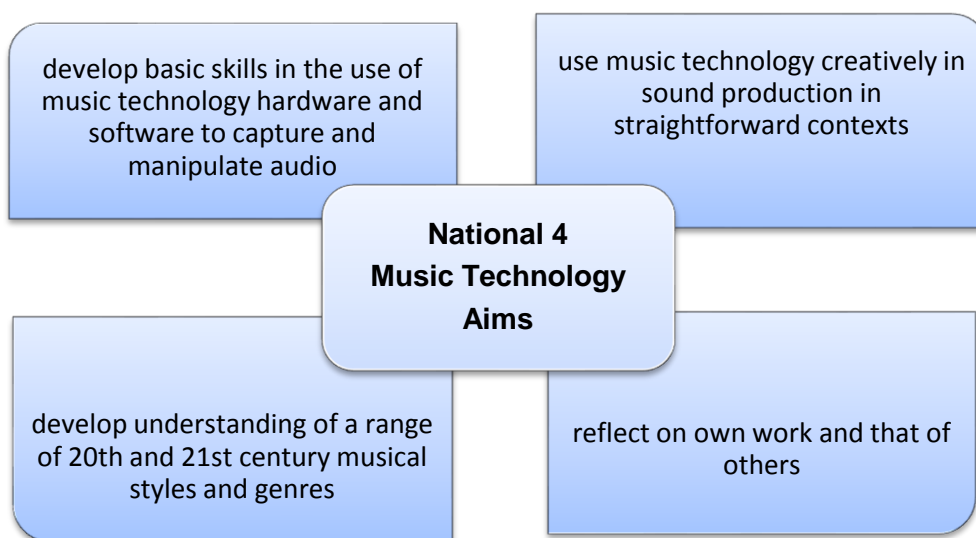
Music Technology Assignment (practical)

General guidance on the Course

Aims

The purpose of the National 4 Music Technology Course is to enable learners to develop their knowledge and understanding of music technology, and of music concepts, particularly those relevant to 20th and 21st century music, and to engage in the development of technical and creative skills through practical learning. This Course will provide opportunities for learners to develop their interest in music technology and to develop skills and knowledge relevant to the needs of the music industry.

The aims of the Course are to enable learners to:



What do these aims mean, in practical terms?

Develop basic skills in the use of music technology hardware and software to capture and manipulate audio

For many learners, music technology is already a part of their lives. Home computers and mobile phones have made it possible for learners to create and mix music as a hobby. There are many free websites and programs which are easily accessible to beginners, and this means learners may already have an interest and ability in using music technology.

In the delivery of this Course, teachers/lecturers may well make use of useful free resources, and should encourage their learners to do the same.

This Course is open and flexible in hardware and software requirements. Centres currently using music programs for composition, or that offer courses in Music Technology, may well already have suitable equipment to capture and work with audio.

Use music technology creatively in sound production in straightforward contexts

Recorded music surrounds us in our everyday lives – radio jingles, TV adverts, film soundtracks, gaming music, aerobics classes, on mp3 players, in TV

programmes, on telephones when placed on hold, ringtones: these are just a few suggestions; there are many, many more.

In this Course, learners should be encouraged to use their music technology skills creatively. Discuss with them where their interests lie, some may play computer and video games, others may love their modern dance class, some might make films which they post on websites. Encourage them to listen to the music that is already used in these, and to consider how they could produce music for these familiar contexts.

There is great opportunity to allow for personalisation and choice, and to allow learners to produce and develop music in ways that are of interest to them.

Develop understanding of a range of 20th and 21st century musical styles and genres

A range of concepts from the 20th and 21st centuries will be explored, examined, investigated and researched by learners. At this level, the genres considered should include ragtime, swing, skiffle, synth pop, electronica, dance music and rap, in addition to those studied at lower levels (jazz, blues, rock and disco). Aural discrimination skills will be developed throughout the Course and concepts will be applied across all Units.

Reflect on own work and that of others

Self-evaluation should be a regular and natural part of producing music. Learning to recognise what works well, what doesn't, what could be improved, etc, are skills that will help to train the ear, and improve on the quality of the product. By sharing ideas, learners will develop skills to reflect on work produced by themselves and others.

Progression into this Course

Entry to this Course is at the discretion of the centre. However, learners would benefit from having some or all of the following skills and knowledge before starting this Course.

Skills and knowledge developed through any of the following, while **not mandatory**, are likely to be helpful as a basis for further learning in this Course.

Other SQA qualifications

- ♦ National 3 Music Technology Course

Experiences and outcomes

Learners who have completed relevant Curriculum for Excellence experiences and outcomes will find these an appropriate basis for doing the Course.

Skills, knowledge and understanding covered in this Course

This section provides further advice and guidance about skills, knowledge and understanding that could be included in the Course.

Note: teachers and lecturers should refer to the *Added Value Unit Specification* for mandatory information about the skills, knowledge and understanding to be covered in this Course.

The Course engages the learner through practical music activities. Learners will develop their ability to express themselves through music, encouraging creativity and autonomy. The Course also enables learners to gain knowledge and understanding of music and technological concepts. Across the Course, skills and experiences which complement each other are developed.

The mandatory skills will be developed throughout the Course. The table below shows where there are significant opportunities to develop these in the individual Units, and how the Units build up the skills, knowledge and understanding required for Course assessment.

Mandatory skills and knowledge	Music Technology Skills	Understanding 20th and 21st Century Music	Music Technology in Context
basic skills in using music technology hardware and software to capture and manipulate audio	✓		
knowledge of music technology hardware	✓		
knowledge of features and functions of music technology software	✓		
application of music technology in creative ways			✓
planning, implementation and simple evaluation of a sound production			✓
awareness of a range of contexts in which music technology can be applied			✓
knowledge and understanding of 20th and 21st century music styles and genres and how they relate to the development of music technology		✓	
ability to reflect on own work			✓

Teachers/lecturers should ensure that learners are fully aware of the range of skills, knowledge and understanding that they are developing in the Units and Course as a whole.

It is also important to highlight any transferable learning that is taking place which supports the development of skills for learning, skills for life and skills for work.

Progression from this Course

This Course or its components may provide progression to:

- ♦ other SQA qualifications in Music Technology or related areas
- ♦ further study, employment and/or training

Hierarchies

Hierarchy is the term used to describe Courses and Units which form a structured progression involving two or more SCQF levels.

It is important that any content in a Course and/or Unit at one particular SCQF level is not repeated (unless required for consolidation) if a learner progresses to the next level of the hierarchy. The skills and knowledge should be able to be applied to new content and contexts to enrich the learning experience. This is for centres to manage.

The Units in the Music Technology Courses from National 3 to Higher level are designed in a hierarchy. This means that learners may be able to achieve and be certificated for a Unit at the level above the level of the Course they are doing. This could be achieved for example by learners within the class group completing similar practical activities and their work being differentiated and benchmarked against the Assessment Standards and evidence requirements at different SCQF levels.

It is very important for centres to ensure that learners who progress to the next SCQF level progressively build and broaden their skills, knowledge and understanding at the next SCQF level. This is of particular importance in Courses with a common hierarchical Unit and Course structure.

Appendix 2 contains a table showing the relationship between the mandatory National 3 and National 4 concepts. This table may be useful for:

- ♦ designing and planning learning activities for teaching mixed level groups
- ♦ ensuring seamless progression between levels
- ♦ identifying important prior learning for learners at National 4

Teachers should also refer to the Outcomes and Assessment Standards for each level when planning delivery.

Further advice on teaching mixed groups is given in the next section of these support notes, with additional detailed guidance in the *Unit Support Notes*.

Approaches to learning and teaching

Music Technology, like all new and revised National Courses, has been developed to reflect Curriculum for Excellence values, purposes and principles. The approach to learning and teaching developed by individual centres should reflect these principles.

An appropriate balance of teaching methodologies should therefore be used in the delivery of the Course. Whole-class, direct teaching opportunities should be balanced by activity-based learning on practical tasks. The use of a variety of active learning approaches is encouraged, including peer teaching, individual and group presentations and investigatory tasks, with learners actively involved in developing their skills, knowledge and understanding. Learning should be planned so that skills are developed simultaneously with knowledge and understanding. It is important that teachers/lecturers plan teaching and learning experiences carefully to take account of the prior skills of learners. Practical activities and investigations lend themselves to group work, and this should be encouraged.

A key principle of Curriculum for Excellence qualifications is that they allow learners to acquire skills, knowledge and understanding in a meaningful and integrated way. This not only assists with retention of skills so that they may be transferable and capable of being applied to new and different contexts but it also enables the time available for delivering a Course to be used more efficiently, creating more time for learning. This same principle can also be applied to assessment. Assessment activities, used to support learning, may usefully be blended with learning activities throughout the Course.

For example:

- ◆ using assessment information to set learning targets and next steps
- ◆ adapting teaching and learning activities based on assessment information
- ◆ boosting learner confidence by providing supportive feedback

Self- and peer-assessment techniques should be encouraged wherever appropriate.

Learning and teaching activities should be designed to develop both:

- ◆ skills and knowledge to the standard required by **each Unit** and to the level defined by the associated Outcomes and Assessment Standards
- ◆ ability to apply the breadth of knowledge and understanding listed in the *Added Value Unit Specification*, as required to complete the **Music Technology Assignment** successfully

Learning about Scotland and Scottish culture will enrich the learners' learning experience and help them to develop the skills for learning, life and work they will need to prepare them for taking their place in a diverse, inclusive and participative Scotland and beyond. Where there are opportunities to contextualise approaches to learning and teaching to Scottish contexts, teachers and lecturers should consider this.

Sequencing and delivery — Units and the Course

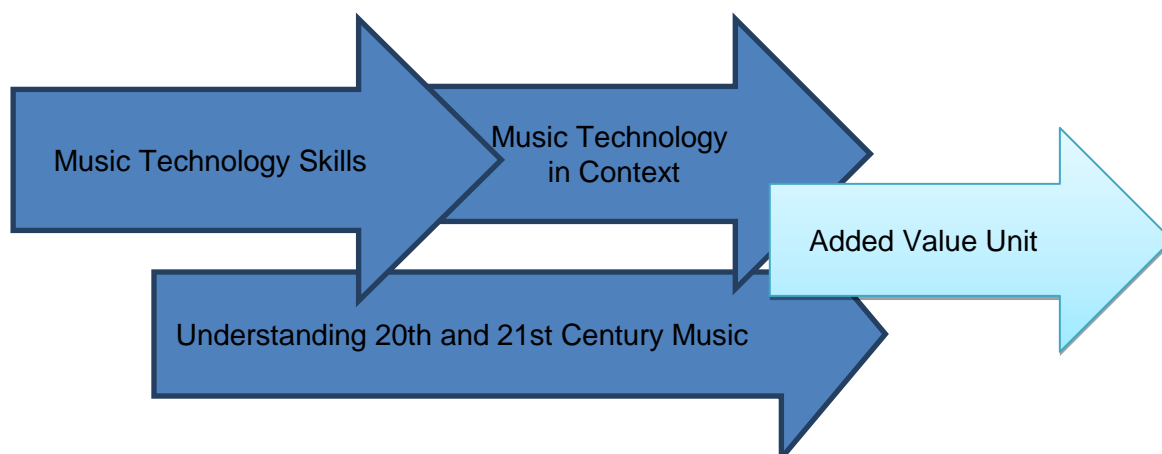
Centres should be aware that there are many different ways of delivering the National 4 Music Technology Course. The following information provides some advice on possible approaches.

Delivery approach 1: Stand-alone delivery of Units

Any of these Units may be delivered independently. For example, a learner who has studied the Music (performance) Course may wish to extend their knowledge of modern music, without getting involved in the technological aspects of capturing and manipulating audio. In this case, the Understanding 20th and 21st Century Music Unit would be useful to study on a stand-alone basis. Another learner may wish to develop (or consolidate) practical skills in capturing and manipulating audio to support their own hobby interests; in this case, the Music Technology Skills Unit could be taken as a stand-alone qualification.

Delivery approach 2a: Concurrent delivery of Units

This approach allows the technology skills to be developed concurrently with the relevant music understanding, and is a straightforward way of building up skills and knowledge, culminating in the Added Value Unit (assignment).



Unit 1 — **Music Technology Skills** — is likely to be the starting point for the Course. In this Unit, learners will develop the essential technological skills and knowledge for the Course. Learners will be introduced to the relevant hardware and software required to capture audio. This could include (for example) using a microphone, inputting notes using a MIDI sequencing program, and recording an electric guitar directly into a computer. A wide range of skills will be taught during these processes – selecting appropriate microphones and placements, setting gain levels, ensuring instruments are tuned, inputting MIDI data etc. Once captured, the sound(s) should be manipulated and edited, using appropriate processes and effects.

Learning could be based around short demonstrations, followed by hands-on activities for the learners.

While developing basic skills in the Music Technology Skills Unit, learners can begin to develop their music knowledge and listening skills through Unit 2 — **Understanding 20th and 21st Century Music**.

In the Understanding 20th and 21st Century Music Unit, learners will study a range of styles and genres of music. Technology concepts will also be explored and learners will begin to understand the influence of music technology on music, and conversely, how music has influenced music technology. Key people, who have led the way in these developments, could be researched by learners individually, and then presented to peers.

Unit 3 — Music Technology in Context — develops the practical skills learned in the Music Technology Skills Unit, and combines these skills with relevant concepts learned in the Understanding 20th and 21st Century Music Unit. Learners will bring these together to produce a minimum of two short pieces of work from two clearly different contexts which will demonstrate their ability to capture sound, manipulate it, and then mix it down to an audio master. Possible contexts could include recording elements of a rock band, recording a class ensemble, creating a short sound track for a film, a short radio broadcast, arranging or composing using a sequencing program, producing simple sound effects for drama, recording narration of a story or poem and adding some music, creating an advertising jingle, and using samples and loops in simple structures and manipulations.

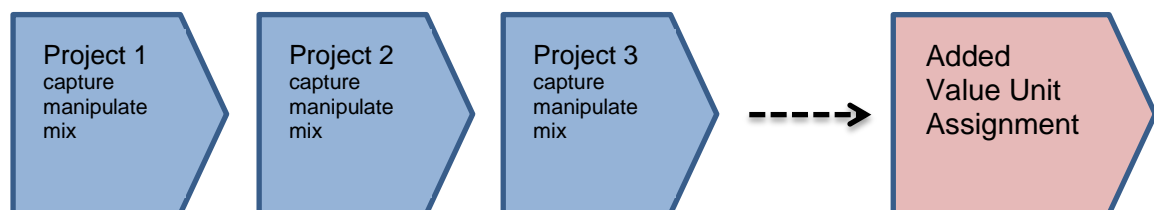
Delivery approach 2b: Mix first — capture later

In approach example 2a, described above, the learner starts by learning how to capture sounds, then how to manipulate them, and finally how to mix them to produce a finished product. An alternative, and equally valid, approach is to develop skills of manipulating and mixing first, using supplied audio files. In effect, the learning of Units 1 and 3 would be combined, covering Assessment Standards 1.2 and 1.3 of Music Technology in Context first. The skills of capturing audio, involving choosing appropriate devices, microphone placement and designing signal paths would be developed later.

Where resources are limited, a combination of delivery examples 2 and 3 may be necessary, with different groups carrying out practical activities in different sequences, so that limited access to computers, or to sound capture equipment, can be shared equitably.

Delivery approach 3: Possible integrated approaches

An alternative delivery approach would involve a series (more than the three shown in the diagram below) of mini-projects, each building additional technical skills and knowledge.



Each new project could include new aspects of audio capture, audio manipulation and mixing, but presented in a new context. Learners could work in small groups on different projects at the same time. This approach would allow school events (concerts, shows, events) to be incorporated naturally into the Course delivery, with possible opportunities for inter-disciplinary working. These series of projects could allow learners to produce evidence required for the Music Technology Skills and Music Technology in Context Units. Gradually, over the duration of the

Course, skills and understanding would be developed to the stage where learners were ready to undertake the final Added Value Unit assignment.

The Understanding 20th and 21st Century Music Unit could be delivered as a separate but concurrent strand, or it might be possible to integrate some or all of the learning into carefully chosen projects.

Delivery approach 4: Combining delivery of Music Technology Course with Music (performing) Course

The similarity in structure of the Music Technology and Music (performing) Courses, and the fact that both Courses require learners to spend significant amounts of time working alone or in groups, with the teacher often working as a facilitator, mean that it might be possible, with careful planning, for one teacher to deliver both Courses simultaneously to a mixed group of learners.

An example week planner for a five-week period is shown below — this could be adapted for other timetable structures. Shaded cells show where teacher would be actively involved in teaching; in unshaded cells, learners would be working independently or in groups.

	Music (performing)	Music Technology
1	performing	teaching technology skills
2	performing	technology practical work
3a	music concepts (20/21C) for both groups	
3b	composing	technological concepts
4	composing	project work
5	concepts	research

Developing skills for learning, skills for life and skills for work

It is important that learners have opportunities to develop broad generic skills as an integral part of their learning experience.

Guidance on the development of skills for life, skills for learning and skills for work is to be found in the support notes for each of the component Units.

Approaches to assessment

The publication *Building the Curriculum 5* sets out a framework for assessment which offers guidance on approaches to recognising achievement, profiling and reporting. Research in assessment suggests that learners learn best, and attainment improves, when learners:

- ◆ understand clearly what they are trying to learn, and what is expected of them
- ◆ are given feedback about the quality of their work, and what they can do to make it better
- ◆ are given advice about how to go about making improvements
- ◆ are fully involved in deciding what needs to be done next, and who can give them help if they need it

Where possible, approaches to assessment should encourage personalisation and choice for learners in assessment methods and processes and support learning and teaching. *Building the Curriculum 5: a Framework for Assessment* also recommends that learners receive accurate and regular feedback regarding their learning and are actively involved in the assessment process.

It is important that different approaches to assessment are used by teachers/lecturers to suit the varying needs of learners. Teachers/lecturers should also use inclusive approaches to assessment taking account of any specific needs of their learners.

Assessment should:

- ◆ cover subject content at the appropriate level
- ◆ use content, resources and assessment materials that recognise the achievements and contributions of different groups
- ◆ where appropriate, provide a balance of assessment methods and encourage alternative approaches

In day-to-day teaching and learning there may be opportunities in the delivery of the Units in a Course to observe learners providing evidence which satisfies completely or partially, a Unit or Units. This is **naturally-occurring evidence** and this evidence can be recorded as evidence using an observation checklist.

Unit assessment

See the *Unit Support Notes* for guidance on approaches to assessment of the Units of the Course.

Added value

Courses from National 4 to Advanced Higher include assessment of added value. At National 4 the added value will be assessed in the Added Value Unit.

Information given in the *Course Specification* and the *Added Value Unit Specification* about the assessment of added value is mandatory.

Full details of assessment of added value are included in the *Added Value Unit Specification*.

The Added Value Unit will assess the application of skills and knowledge which learners will have developed through the other Units. Evidence for this Unit will be generated through an assignment in which learners will be required to solve an appropriately challenging engineering problem.

The assignment will be one piece of work which will demonstrate application of knowledge and skills gained throughout the Course. Learners can choose to develop one of their pieces of work from the Music Technology in Context Unit, or to apply their skills in a new context. The production should demonstrate audio capture, manipulation and production of an audio master.

Combining assessment across Units

If an integrated approach to Course delivery is chosen (see above), then there will be opportunities for combining assessment across Units. For example, a single project or production could provide evidence for aspects of Units 1 and 3.

If using this approach, teachers/lecturers should track evidence of individual Outcomes so that learners who do not achieve the complete assessment can still gain recognition for the Outcomes they have achieved.

Equality and inclusion

The requirement to develop practical skills involving the use of equipment may present challenges for learners with physical, visual or aural impairment. In such cases, reasonable adjustments may be appropriate.

Alternative arrangements for Course assessment (at National 4 and above) can be organised with the approval of SQA. Assessment arrangements can be approved if SQA is satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will in fact generate the necessary evidence of achievement.

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these Course Support Notes is designed to sit alongside these duties but is specific to the delivery and assessment of the Course.

It is important that centres are aware of and understand SQA's assessment arrangements for disabled learners, and those with additional support needs, when making requests for adjustments to published assessment arrangements. Centres will find more guidance on this in the series of publications on Assessment Arrangements on SQA's website: www.sqa.org.uk/sqa/14977.html.

Appendix 1: Reference documents

The following reference documents will provide useful information and background.

- ◆ Assessment Arrangements (for disabled learners and/or those with additional support needs) — various publications are available on SQA's website at: www.sqa.org.uk/sqa/14977.html
- ◆ [*Building the Curriculum 4: Skills for learning, skills for life and skills for work*](#)
- ◆ [*Building the Curriculum 5: A framework for assessment*](#)
- ◆ [*Course Specifications*](#)
- ◆ [*Design Principles for National Courses*](#)
- ◆ [*Guide to Assessment \(June 2008\)*](#)
- ◆ Principles and practice papers for curriculum areas
- ◆ [*SCQF Handbook: User Guide*](#) (published 2009) and SCQF level descriptors (reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- ◆ [*SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*](#)

Appendix 2: Concept tables

These tables show the relationship between the concepts to be covered in National 3 and National 4. These tables may be useful for:

- ♦ designing and planning learning activities for classes with some learners working at National 3 level, and some at National 4 level
- ♦ ensuring seamless progression between levels
- ♦ identifying important prior learning for learners at National 4

Teachers should also refer to the Outcomes and Assessment Standards for each level when planning delivery.

	Technological terms	Styles and genres
National 3	beat capture channel distortion/overload dry/wet frequency (Hertz, kHz) microphone MIDI sequenced data session log track (names/list) virtual instrument tracks volume	jazz blues rock disco
National 4	apps arrange window arrangement clipping feedback file management frequency response intro/outro lead vocal polar patterns (cardioid and omnidirectional) popping and blasting proximity effect sibilance take tempo	ragtime swing skiffle synth pop electronica dance music rap

	Melody/ harmony	Rhythm/tempo	Texture/ structure/form	Timbre/ dynamics
National 3	ascending descending step (stepwise) leap (leaping) repetition sequence improvisation chord chord change	accent/accented beat/pulse BPM (beats per minute) 2, 3 or 4 beats in the bar on the beat/off the beat repetition slower/faster pause drum fill	unison/octave harmony/chord solo accompanied/ unaccompanied repetition riff ostinato	acoustic/electronic striking (hitting), blowing, bowing, strumming, plucking acoustic guitar, electric guitar piano, organ, synthesiser drum kit voice/vocals crescendo (cres) diminuendo (dim)
National 4	major/minor (tonality) broken chord/ arpeggio change of key pedal scale octave vamp scat singing	syncopation 2 3 4 6 4 4 4 8 anacrusis accel(erando) rall(entando) a tempo	binary – AB ternary - ABA verse and chorus (song structure) middle 8 imitation	woodwind instruments string instruments brass instruments percussion instruments bass guitar distortion muted backing vocals voices — S A T B

Learners are also expected to use a range of controls, effects and processes in their assignment, drawn from the following lists:

Controls and effects	
N3	delay, EQ (equalisation), gain/trim, mono(phonic), panning, playback, record, reverb(eration), stereo(phonic), time domain
N4	compression/expansion, effects (FX), fader, line level, microphone level, tone control, transport bar/controls

Processes	
N3	backup copy, format, mix/mixing/balance, normalising, sampled, save, audio/stereo master, USB (port)
N4	click track, copy, cut and paste, dry mix/wet mix, effects pedals, final mix, general MIDI (GM), guide vocal, import/export, input/output, mute, overdub, peak, sequencer, signal path, synchronisation (sync), WAV/AIFF file

Appendix 3: Online resources

Online resources (websites, microsites, wikis, newsfeeds, databases, etc) can provide a valuable source of easily accessible and up-to-date information on a wide range of music technology hardware, software and topics. Some suggested online resources are listed below.

Websites	Resources
Intellectual property	
PRS for Music	Information about licencing
Association of Independent Music	Wide range of advice and downloadable resources
British Academy of Songwriters, Composers and Authors (BASCA)	Downloadable paper on IP in educational resources section
The British Recorded Music Industry (BPI)	Useful glossary of terms, and information on copyright, in visitors area
Merlin (merlinnetwork.org)	Copyright protection agency for musicians
Musicians Union (MU)	Wide range of advice for professional musicians
PPL	Information for performers and music makers
UK Music	Supporting the UK music industry
Ofcom	Information on broadcasting licences
Microphones and recording	
Recording-microphones	A website with good description of microphone types, and tips on recording and many useful links
planetoftunes	General website with sections on sound theory, sound recording, MIDI sequencing and much more
PRC Recording	A recording studio with a useful hints and tips section
Making your microphone placement work	An 'audio tuts+' resource with useful hints and tips
General information	
Sae Institute	
Renaissance recording Studio, Nashville	Sections on microphone technique, tracking tips and mixing tips
120years.net	useful information about music technology developments
Royalty-free music and sound effects	
Stonewashed (Vilkki Studios) AudioMicro	Sources of royalty-free music and sound effects which can be used in tasks and projects
Websites	
Intellectual property	
PRS for Music	Information about licencing
Association of Independent Music	
British Academy of Songwriters, Composers and Authors (BASCA)	Downloadable paper on IP in educational resources section

Administrative information

Published: June 2014 (version 1.1)

History of changes to Course Support Notes

Course details	Version	Description of change	Authorised by	Date
	1.1	'Would' changed to 'could' on page 8 and 'should' changed to 'might' on page 9. Additional technological terms added to page 14 and additional processes added to page 15.	Qualifications Manager	June 2014

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Note: You are advised to check SQA's website (**www.sqa.org.uk**) to ensure you are using the most up-to-date version.

Unit Support Notes — Music Technology Skills (National 4)



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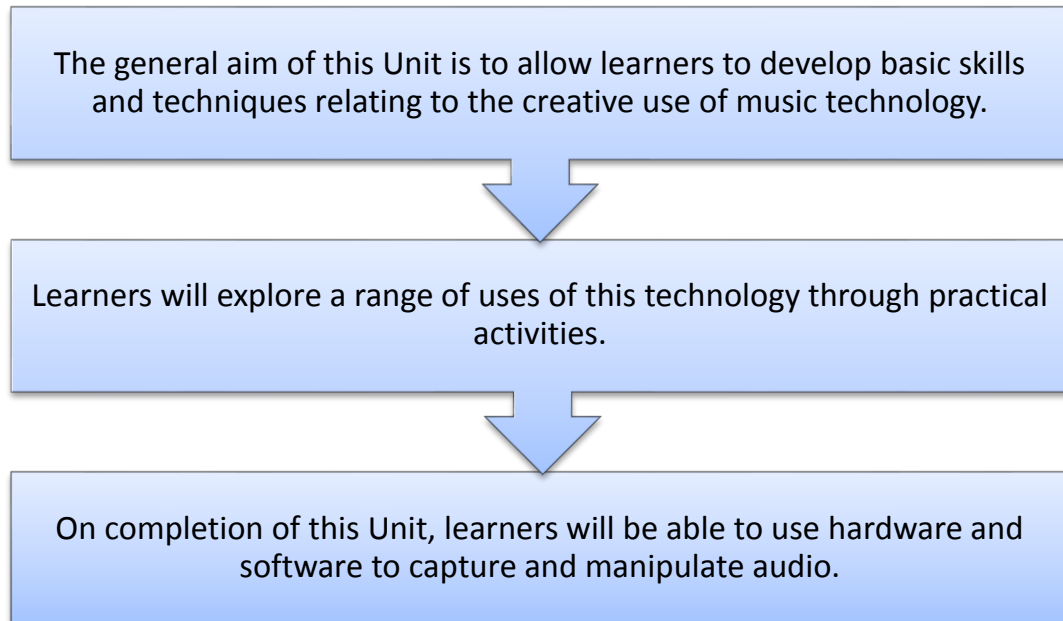
Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Music Technology Skills* (National 4) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the Music Technology Skills (National 4) *Unit Specification*
- ◆ the National 4 Music Technology *Course Specification*
- ◆ the National 4 Music Technology *Course Support Notes*
- ◆ the Added Value Unit Specification
- ◆ appropriate assessment support materials

General guidance on the Unit



This Unit will also give learners the opportunity to develop a range of transferable skills for life, learning and work.

The Unit can be delivered:

- ♦ as a stand-alone Unit
- ♦ as a part of the National 4 Music Technology Course

Progression into this Unit

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ♦ National 3 Music Technology Course or relevant Units

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 4 Music Technology *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

If the Unit is being delivered as part of the National 4 Music Technology Course, the teacher should refer to the 'Further mandatory information on Course coverage' section within the *Added Value Unit Specification* for detailed content.

Progression from this Unit

On successful completion of this Unit, the following Units and Courses provide appropriate progression pathways for learners:

- ◆ other Music or Music Technology Units at SCQF level 5
- ◆ Music Technology Skills (National 5) Unit

Approaches to learning, teaching, and assessment

The Unit is designed to provide flexibility and choice for both the learner and the teacher.

Learning and teaching activities should be designed to stimulate learners' interest, and to develop skills and knowledge to the standard required by the Outcomes and to the level defined by the associated Assessment Standards.

Tasks and activities throughout the Unit should be linked to relevant contexts. The *Unit Specifications* and *Course Specifications* define the skills and knowledge required, but leave complete freedom to the teacher and learner to select interesting contexts in which to develop these. This provides scope for personalisation and choice, as relevant and motivating contexts can be used. Centres should design choices around available equipment and skills.

The *Course Support Notes* provide further broad guidance on approaches to learning and teaching which applies to all the Units of the Course, and should be read before delivering this Unit.

When delivering the Unit as part of the National 4 Music Technology Course, reference should be made to the appropriate content statements within the 'Further mandatory information on Course coverage' section to ensure the required breadth of knowledge is covered.

Approaches to delivering and assessing each Outcome

The learner must demonstrate attainment of **both** of the Outcomes and their associated Assessment Standards. Assessment must be valid, reliable and fit for purpose.

SQA does not specify the methods of assessment to be used; teachers should determine the most appropriate method for their learners. In many cases, evidence (which may be oral or observational) will be gathered during normal classroom activities, rather than through formal assessment instruments.

Centres are expected to maintain a detailed record of evidence, including oral or observational evidence. Evidence in written or presentation format should be retained by the centre for verification.

Authentication of evidence

All evidence should be gathered under supervised conditions.

In order to ensure that the learner's work is their own, the following strategies are recommended:

- ◆ personal interviews with learners where teachers can ask additional questions about the completed work
- ◆ asking learners to do an oral presentation on their work

- ◆ ensuring learners are clear about acknowledging sources
- ◆ using checklists to record the authentication activity

Assessment evidence may be produced in a variety of formats including presentations, digital photographs and video, audio files, podcasts and blogs, and these can be stored by the learner (or teacher) within a proprietary e-portfolio, or simply by storing them in a secure folder. It should be noted that centres should verify that this evidence is indeed that of the learner and ensure that no credit is given for archive information without further analysis or comment by the learner.

Assessment of learners can be carried out at any point during teaching and learning in this Unit, where evidence of competence is demonstrated.

Outcome 1 The learner will:

- 1 Use hardware and software to capture audio, by:
 - 1.1 selecting and using appropriate audio input devices and sources
 - 1.2 applying appropriate microphone placement
 - 1.3 constructing the signal path
 - 1.4 setting appropriate input gain and monitoring levels

Guidance on delivery of Outcome 1

It is important that learners are taught the basics of microphone types and placement techniques early on when delivering this Unit. They should be encouraged to experiment with different positioning of microphones and different instrumentation. This should include spot micing, two or more microphones on one instrument and utilising different stereo micing techniques. They should be introduced to the basic principles of microphone design and should recognise the differences between a dynamic and condenser mic. Learners should be encouraged to compare and discuss recordings of the same sound sources when different techniques and microphones are used. It will be beneficial for teachers to highlight the benefits and weaknesses of one system over another.

Each centre delivering the Unit should direct learning and teaching towards the equipment they have and should focus on the functions and features of each part of the recording/mixing/editing system. Where a centre has more than one type of recording set-up, learners should be encouraged to investigate function and features of each.

During the early stages of delivery, teachers/lecturers should emphasise the importance of input gain and monitoring levels. They should underline the consequences of potential damage to equipment through excessive levels and also the health and safety considerations in relation to hearing damage through exposure to high sound pressure levels. It is important that when using headphones, learners adhere to best practice and are made aware of the very real potential of hearing loss and damage through incorrect monitoring and excessive levels. In addition to these considerations, learners should be introduced to the basic principles of signal to noise ratios and the significance of how this will affect the quality of the end product. If more than one microphone is

used to capture an audio source, learners may be introduced to the concept of phase.

If the teacher is using recording software on a digital audio workstation (DAW) it will be beneficial to show examples of different recorded sound waves as a visual aid to understanding differences in levels and how an incorrect gain structure can introduce distortion and other audio artefacts into a recording. Visual representation will demonstrate limitations of a system and will clearly show where levels are too high or too low.

Teaching approaches for Outcome 1 should be varied and could include a mix of demonstration, teacher exposition, practical activities, group work and individual experimentation. It is good practice to encourage learners to experiment with several different types of music and instrumentation when applying microphone techniques and to experiment with audio capture of other sound sources such as sounds which occur in nature, background noise, traffic noise, footsteps, etc. Each of these sounds will have different properties and different issues in accurately capturing them at a good level therefore will encourage the learners to fully consider mic placement, gain structure and microphone type. This approach to recording audio can be fun and can enhance understanding and learning of the subject matter in the classroom environment.

It is recommended that when recording music ensembles, learners are encouraged to play instruments for each other and should assist each other with set ups including microphone placement. Learners should investigate different microphone placement techniques for different audio sources and should discuss the resulting recordings with their peers.

It may be beneficial for learners to work in groups where each member is allocated different responsibility from the others such as one member being responsible for interconnecting recording equipment, another deals with microphone placement, another is responsible for setting recording levels and others may decide on the audio to be recorded, eg a rock band or brass quintet. Roles and responsibilities could be rotated as each new recording is made. Where there are learners within a group who have prior knowledge and experience of recording equipment, both hardware and/or software, they should be encouraged to assist the less experienced with recording and mixing techniques.

Different ensembles and/or audio sources will require different approaches to microphone placement and should be discussed with learners prior to a recording being undertaken however experimentation is vital in order that the learner can discover what works best. The variety of different techniques is vast but as a minimum, teachers/lecturers should demonstrate coincident pairs using both XY and AB placement and spot micing techniques.

The focus is on developing a good range of essential skills, so recordings need not necessarily be completed works; short examples to demonstrate understanding and competence of the task are more appropriate.

It is important throughout the Unit that the teacher/lecturer emphasises the importance of health and safety and good practice when working with electrical and other equipment. Learners should be taught how to correctly set up equipment so that cable and microphone stands, etc, do not create hazards.

Outcome 2 The learner will:

- 2 Use hardware and software to manipulate audio, by:
 - 2.1 applying equalisation
 - 2.2 applying time domain and other effects
 - 2.3 applying mixing techniques, including volume and panning
 - 2.4 editing tracks

Guidance on delivery of Outcome 2

Outcome 2 could be delivered through a combination of practical activities and teacher/lecturer demonstrations. Listening to examples of professionally recorded tracks will enhance the learner's understanding of the various concepts in Outcome 2. Learners should be encouraged to experiment with different effects and mixing techniques and should be offered the opportunity to critique each other's mixes.

Where possible, pre-recorded examples of varied audio recordings may be made available for the learners to practice different mixing and manipulating techniques. This could allow for comparisons between professionally recorded material and the treatment by the learner. The teacher/lecturer should demonstrate the function of the mixing set-up and should demonstrate how to apply equalisation both as a corrective tool and as a creative process. The teacher/lecturer should highlight how different styles and genres of music place emphasis on different mixing techniques. Professionally recorded examples for comparison and discussion will bolster understanding. Examples of this may include enhanced levels of bass frequencies in reggae and dub through the use of EQ and microphone technique, lo-fi recordings of early punk music and lush reverb filled recordings of bands such as the Cocteau Twins. The teacher/lecturer should demonstrate how to use time domain effect to enhance the recording and should explain stereo imaging and the use of pan controls and faders to achieve a balanced and creative mix.

If the delivery centre has appropriate equipment then learners could be encouraged to combine both audio and MIDI tracks when editing a recording; however this is not a requirement of the Unit. Although many editing techniques and functions are the same for both audio and MIDI within most software-based DAWs, use of both together will reinforce understanding of the editing software where the learner must consider the relationship between tempo and synchronisation.

Once learners have mastered the basic techniques and functions of the mixing and editing software they should be encouraged to work on mixes of material which they have recorded. Understanding will be enhanced if the learner attempts several contrasting treatments of the same recording and then evaluates each example.

Learners will benefit if given the opportunity to mix non-music-related audio for instance, pre-recorded sound effects or dialogue. This will foster different ways of listening and may generate interest in this side of sound recording. Understanding of effects can be developed through the use of non-music-based audio where learners can attempt to recreate the sound properties of a space

through the use of reverb and equalisation. A useful exercise would be to give the learner a brief describing two different types of space, for instance a tiled bathroom and a cavernous hall, to give them an audio recording of dialogue and to let them attempt to create the impression of a vocal being heard within the context of each setting. This will encourage them to experiment with the various controls and parameters of the effects processors and will promote a greater understanding of the equipment and how sound interacts with different spaces.

There are many issues specific to live sound mixing which are not encountered in the studio mixing context therefore learners could develop further knowledge and skills through practice within this setting, perhaps assisting with sound for a school play or show or mixing sound for a live band. If undertaking mixing in this context it is essential that teaching staff emphasise the importance of health and safety of performers and also those operating sound reinforcement/mixing equipment.

Guidance on assessment of Outcomes 1 and 2

For this Unit, learners must provide evidence of their ability to use a range of hardware and software to capture and manipulate audio. Evidence may be generated through a single activity or as naturally-occurring evidence produced over a series of activities. Evidence may include appropriate screen shots, track sheets, session data files and audio files, supplemented by observational evidence of the Assessment Standards.

This Unit may be assessed as two discrete Outcomes or may be approached holistically with a final task being the instrument of assessment. Whichever method is adopted, the teacher/lecturer should monitor and record progress throughout and should keep records of each element of the Unit being achieved.

The assessment may be in the form of a series of tasks set by the assessor which should cover each element of the Outcome to which it refers or all elements if a single activity.

Different types of tasks could include:

- ◆ recording a mini radio show
- ◆ capturing and manipulating simple sound effects
- ◆ recording a small musical ensemble or choir
- ◆ live recording of part of a show

Recordings for Outcome 1 will be expected to use at least one microphone for audio capture and a minimum of one other audio source. This may be in the form of a pre-recorded loop, audio generated from a line level instrument, ie keyboard, guitar, drum machine or mobile phone, or may be generated by a virtual instrument. Candidates should be issued with a brief in relation to the assessment which will allow them to plan the methodology and techniques they intend to use to achieve the aims of the brief. Assessors are expected to keep a record of evidence of planning which may be in the form of a check sheet. Evidence can be generated through questioning the learner about how they intend to proceed with the recording.

During Outcome 2 the brief for each task should be specific about which mixing techniques are required and could clearly identify edits which should be made to the recording. Required edits could ask for the recording to be restructured with sections being moved into a different order. An alternative to using pre-recorded

music could be editing a radio show or sound effects and dialogue for a film soundtrack. There may be opportunities in some centres for creating backing tracks for school shows which should incorporate all elements of the assessment criteria. It is important however that if such an approach is to be adopted, the scope and size of projects could be very variable therefore the finished product in its entirety is not necessarily the evidence, only the required criteria as required by the Outcome.

Learners should retain a session log(s) for each recording undertaken and they should note any changes made to the previous version. This may include screen grabs which should be dated and will demonstrate progress within a recording or mix down but will also provide evidence of each of the Assessment Standards being met. The log should reflect the session type, microphone placement and selection, track lists, overdubs and timings.

The assessor should keep observational checklists for each of the Assessment Standards which cannot be exemplified through screen capture or purely listening to a recording, for example appropriate selection, placement and routing of audio input devices and microphones. The learner may also be asked to produce a diagram of each of these elements of Outcome 1. Where appropriate, assessors may wish to use video/photographic evidence of a recording set-up.

All audio files should be accurately labelled and stored for evidence purposes.

Useful resources

Each centre delivering this Unit will have different resources. A typical resource list could include:

- ◆ Three dynamic microphones with stands
- ◆ One condenser microphone
- ◆ Appropriate cabling for microphones, other audio sources and monitors
- ◆ Multi-track recording/editing/mixing equipment
- ◆ Monitoring system
- ◆ Outboard or built in effects processors and EQ

There are many different recording systems available, some stand-alone and others computer-based. Some of the most popular software-based recording packages currently are Protools, Logic, Reason, Garageband and Ableton Live. Other products are also suitable, including apps for mobile devices.

It would be beneficial to learners if they have access to a Digital Audio Workstation (DAW) based around a computer with appropriate software and hardware. A suitable system might include:

- ◆ Computer with 4GB RAM
- ◆ Hardware audio interface with a minimum of three microphone inputs and line inputs
- ◆ Hardware audio interface with stereo output
- ◆ Appropriate cabling for microphones, other audio sources and monitors
- ◆ MIDI keyboard
- ◆ Monitoring system
- ◆ Headphones
- ◆ Recording/sequencing software with effects/EQ plugins
- ◆ External digital storage device

Developing skills for learning, skills for life and skills for work

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Unit Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Course. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Unit where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Unit.

The table below highlights some opportunities to develop these skills during this Unit.

4 Employability, enterprise and citizenship	
4.2 Information and communication technology (ICT)	Using software to manipulate audio Interfacing audio capture equipment with computer systems File storage, naming and converting processes
5 Thinking skills	
5.1 Remembering	Recalling technical terms related to hardware and software, and their meaning
5.2 Understanding	Explaining the purpose and effects of a range of ways of manipulating audio

The Unit may also provide opportunities to develop or consolidate other skills for life, learning and work, including:

- ♦ reading and writing
- ♦ working with others
- ♦ enterprise and citizenship
- ♦ creating

Equality and inclusion

The requirement to develop practical skills involving the use of equipment may present challenges for learners with physical, visual or aural impairment. In such cases, reasonable adjustments may be appropriate.

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in this document is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Reference documents

The following reference documents will provide useful information and background.

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Administrative information

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History of changes to Unit Support Notes

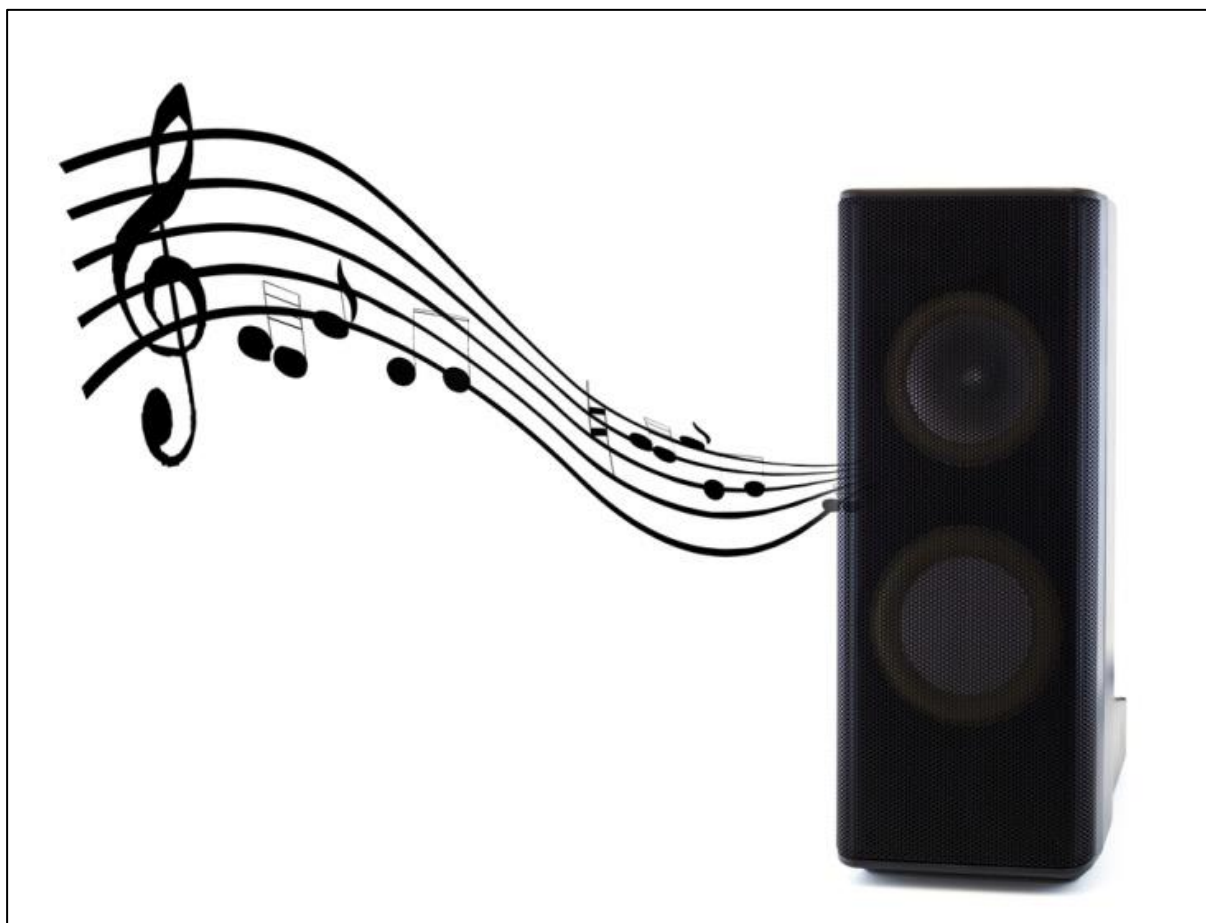
Unit details	Version	Description of change	Authorised by	Date

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Unit Support Notes — Understanding 20th and 21st Century Music (National 4)



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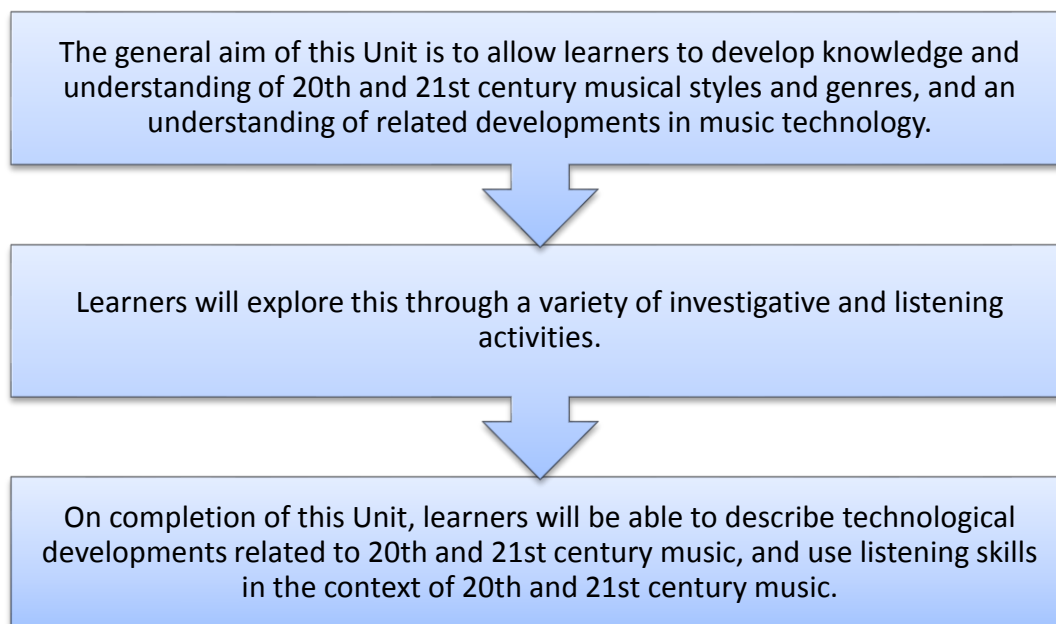
Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance to support the delivery of the *Understanding 20th and 21st Century Music* (National 4) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the Understanding 20th and 21st Century Music (National 4) *Unit Specification*
- ◆ the National 4 Music Technology *Course Specification*
- ◆ the *Added Value Unit Specification*
- ◆ the National 4 Music Technology *Course Support Notes*
- ◆ appropriate assessment support materials

General guidance on the Unit



This Unit will also give learners the opportunity to develop a range of transferable skills for life, learning and work.

The Unit can be delivered:

- ♦ as a stand-alone Unit
- ♦ as a part of the National 4 Music Technology Course

Progression into this Unit

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ♦ National 3 Music Technology Course or relevant Units

In terms of prior learning and experience, relevant experience of playing any musical instrument or singing and basic numeracy skills would be of value.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 4 Music Technology *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

If the Unit is being delivered as part of the National 4 Music Technology Course, the teacher should refer to the 'Further mandatory information on Course coverage' section within the *Added Value Unit Specification* for detailed content.

Progression from this Unit

Progression opportunities for learners will vary. They may include further study in a related subject area at the same SQCF level, providing greater breadth to the learner's achievements. Alternatively they could include progression onto the same Course at a National 4 SCQF level. On completion of this Unit, learners could consider moving on to:

- ♦ other Music or Music Technology Units at SQCF level 4
- ♦ Understanding 20th and 21st Century Music (National 5) Unit

Approaches to learning, teaching, and assessment

The Unit is designed to provide flexibility and choice for both the learner and the teacher.

Learning and teaching activities should be designed to stimulate learners' interest, and to develop skills and knowledge to the standard required by the Outcomes and to the level defined by the associated Assessment Standards.

Tasks and activities throughout the Unit should be linked to relevant contexts. The *Unit Specifications* and *Course Specifications* define the skills and knowledge required, but leave complete freedom to the teacher and learner to select interesting contexts in which to develop these. This provides scope for personalisation and choice, as relevant and motivating contexts can be used.

The *Course Support Notes* provide further broad guidance on approaches to learning and teaching which applies to all the component Units of the Course, and should be read before delivering this Unit.

When delivering the Unit as part of the National 4 Music Technology Course, reference should be made to the appropriate content statements within the 'Further mandatory information on Course coverage' section to ensure the required breadth of knowledge is covered.

Approaches to delivering and assessing each Outcome

The learner must demonstrate attainment of **both** of the Outcomes and their associated Assessment Standards. Assessment must be valid, reliable and fit for purpose.

SQA does not specify the methods of assessment to be used; teachers should determine the most appropriate method for their learners. In many cases, evidence (which may be oral or observational) will be gathered during normal classroom activities, rather than through formal assessment instruments.

Centres are expected to maintain a detailed record of evidence, including oral or observational evidence. Evidence in written or presentation format should be retained by the centre for verification.

Authentication of evidence

All evidence should be gathered under supervised conditions.

In order to ensure that the learner's work is their own, the following strategies are recommended:

- ◆ personal interviews with learners where teachers can ask additional questions about the completed work
- ◆ asking learners to do an oral presentation on their work
- ◆ ensuring learners are clear about acknowledging sources
- ◆ using checklists to record the authentication activity

Assessment of learners can be carried out at any point during teaching and learning in this Unit, where evidence of competence is demonstrated.

Note: Although there are two Outcomes to this Unit, the order is not significant, and it is recommended that they are delivered in an integrated way.

Outcome 1 The learner will:

- 1 describe, in broad terms, technological developments related to 20th and 21st century music, by:
 - 1.1 describing the main features of significant genres and styles
 - 1.2 describing significant technologies related to 20th and 21st century music

Outcome 2 The learner will:

- 2 use listening skills in the context of 20th and 21st century music, by:
 - 2.1 identifying examples of a range of significant genres and their main features
 - 2.2 identifying examples of a range of relevant music concepts

Guidance on delivery of Outcomes 1 and 2

Learners should be given the opportunity to study a variety of musical styles that have been used and become popular at different points in the 20th and 21st centuries. Appropriate genres for study at National 4 include (but are not limited to) jazz, blues, rock, disco, ragtime, swing, skiffle, synth pop, electronica/dance music, and rap. This study should incorporate the development of musical instruments and the methods used to record music over this period.

Learners should become familiar with a range of technological developments, which might include relevant examples from: player pianos, acoustic horn/cylinder, wax cylinders, gramophone records, vinyl LPs, 45 rpm records, radio, juke box, CD players, MP3 players, electric guitar (solid body), electronic organ, reel to reel magnetic tape, stereo LPs, guitar pick-up, 8-track recording/multi-track recording (analogue and digital), audio/MIDI interface, virtual instruments, performance software, stereo LPs, bass guitar, electronic drum kit, cassette recorder/player/ tape, DJ decks/mixer, minidisc, sequencer, streaming audio.

A range of music concepts, including the following should be studied and exemplified, so that they can be described and identified in music excerpts.

Melody/ harmony	Rhythm/tempo	Texture/ structure/form	Timbre/ dynamics
<i>ascending</i> <i>descending</i> <i>step (stepwise)</i> <i>leap (leaping)</i> <i>repetition</i> <i>sequence</i> <i>improvisation</i> <i>chord</i> <i>chord change</i>	<i>accent/accented</i> <i>beat/pulse</i> <i>BPM (beats per minute)</i> <i>2, 3 or 4 beats in the bar</i> <i>on the beat/off the beat</i> <i>repetition</i> <i>slower/faster</i> <i>pause</i> <i>drum fill</i>	<i>unison/octave</i> <i>harmony/chord</i> <i>solo</i> <i>accompanied/unaccompanied</i> <i>repetition</i> <i>riff</i> <i>ostinato</i>	<i>acoustic/electronic</i> <i>striking (hitting),</i> <i>blowing, bowing,</i> <i>strumming,</i> <i>plucking</i> <i>acoustic guitar,</i> <i>electric guitar</i> <i>piano, organ,</i> <i>synthesiser</i> <i>drum kit</i> <i>voice/vocals</i> <i>crescendo (cres)</i> <i>diminuendo (dim)</i>
major/minor (tonality) broken chord/ arpeggio change of key pedal scale octave vamp scat singing	syncopation 2 3 4 6 4 4 4 8 anacrusis accelerando(accel) rallentando (rall) a tempo	binary – AB ternary - ABA verse and chorus (song structure) middle 8 imitation	woodwind instruments string instruments brass instruments percussion instruments bass guitar distortion muted backing vocals voices — S A T B

A variety of approaches may be adopted. These should include opportunities for personal learning and development, making use of online resources for guided research.

Learning activities could include:

- ♦ giving learners the opportunity to experience an appropriate range of music, relating, in broad terms, the styles of music to social backgrounds of the time, the mechanical means by which new music could be heard by a wider audience and the impact the music had on listeners' lives; for example the use of player pianos in the ragtime era or the development of the acoustic horn during the jazz era
- ♦ class discussions as a follow-on to a teacher-led analysis of a selected style based on varied critical reaction within the class; for example the development of radio and jukeboxes during the swing era
- ♦ group discussion as a follow-up to a teacher-led analysis of a chosen style; for example the development of the electronic organ, the electric guitar and valve amplifiers in 50s rock music
- ♦ a group assignment based on a chosen genre dealing with a combination of the music, the performers and the mechanical means by which the music was recorded such as the use of multi-track recorders, synthesisers, drum machines and sequencers in disco music

- ◆ a paired discussion based on a teacher-led lesson where the findings of the discussion can then be shared with the rest of a class such as an investigation into the use and recording of synthesisers in synth pop from the mid-‘70s
- ◆ individual, short responses to a piece of music to be used as discussion material for a group or a class where, for instance, examples of dance music are identified and relevant information about sequencers, sampling and effects are used to describe the music
- ◆ describing and comparing the use of downloaded music in the late 20th and 21st centuries with the availability of vinyl LPs and 45rpm records from the middle of the 20th century, identifying the basic advantages and disadvantages of each to the listener
- ◆ identifying the technology and production techniques used in producing electronica/dance music including the use of computer-based sequencers in the creation of music in this genre
- ◆ researching the influences and equipment used for rap music including the technological developments that made this genre possible
- ◆ a study of the influence Caribbean music has had on popular styles in the second half of the 20th century and the technology used by groups such as Bob Marley and the Wailers
- ◆ creating a time line to act as a reference point for the various genres which the learner experiences at this level including the identification of the most popular performers and the introduction of music technology as it developed

For Outcome 1, learners must refer to at least two different genres in their studies. They should prepare their findings in an appropriate format that can be presented to others. This could include visual, written, oral or electronic formats.

Guidance on assessment of Outcomes 1 and 2

To support a pass in this Unit, assessors should be able to provide evidence on which the assessment is based, demonstrating that the learner has satisfied the requirements of both of the Unit’s Outcomes.

Throughout the Unit the assessor will select the most appropriate method of gathering and recording evidence from individual learners.

Appropriate evidence could include:

- ◆ brief reports on research into selected genres, styles and technologies
- ◆ oral responses to questions put to the learner
- ◆ an oral or audio/visual presentation by an individual learner to a group or class
- ◆ answers to questions in response to music excerpts

Useful resources

A suggested range of resources for learners embarking on this Unit include:

- ◆ good quality audio play-back facilities with stereo speakers
- ◆ decent quality headphones for individual work
- ◆ computer systems with appropriate software for the playing of CDs and DVDs
- ◆ access to the web for individual and group research including the Performing Arts Resource Guide in the Library of Congress (Washington DC), and Archival Sound Recordings in the British Library
- ◆ photographic evidence of recording and playback devices used during the period of study
- ◆ access to recordings of televised documentary programmes that deal with specific genres from the period of study
- ◆ interactive classroom boards for teachers and learners' presentations to a group or class
- ◆ a range of CDs and DVDs that demonstrate the variety of music styles through the 20th and 21st centuries
- ◆ personal music players for the playback of downloaded music
- ◆ where available, music scores of appropriate examples from different genres
- ◆ textbooks, CD and DVD cover notes, programme notes for reference and support purposes

Developing skills for learning, skills for life and skills for work

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Unit Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Course. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Unit where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Unit.

The table below highlights some opportunities to develop these skills during this Unit.

4 Employability, enterprise and citizenship	
4.2 Information and communication technology (ICT)	Using search engines to research technological developments, genres and styles Producing text-based and audio-visual reports on research findings

5 Thinking skills	
5.1 Remembering	Recalling main features of a range of significant genres
5.2 Understanding	Using knowledge of genres and styles to identify examples in music excerpts Using knowledge of music concepts to identify examples in music excerpts

The Unit may also provide opportunities to develop or consolidate other skills for life, learning and work, including:

- ♦ reading and writing
- ♦ working with others
- ♦ enterprise and citizenship

Equality and inclusion

The approaches to learning including suggested learning activities have 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 activities and selecting from the various ways in which evidence may be prepared and presented for assessment purposes.

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in this document is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

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Administrative information

Published: June 2014 (version 1.1)

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date
	1.1	Additional guidance on delivery of Outcomes 1 and 2 provided on page 37. Wording amended to read 'music' concepts on page 41.	Qualifications Manager	June 2014

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Unit Support Notes — Music Technology in Context (National 4)



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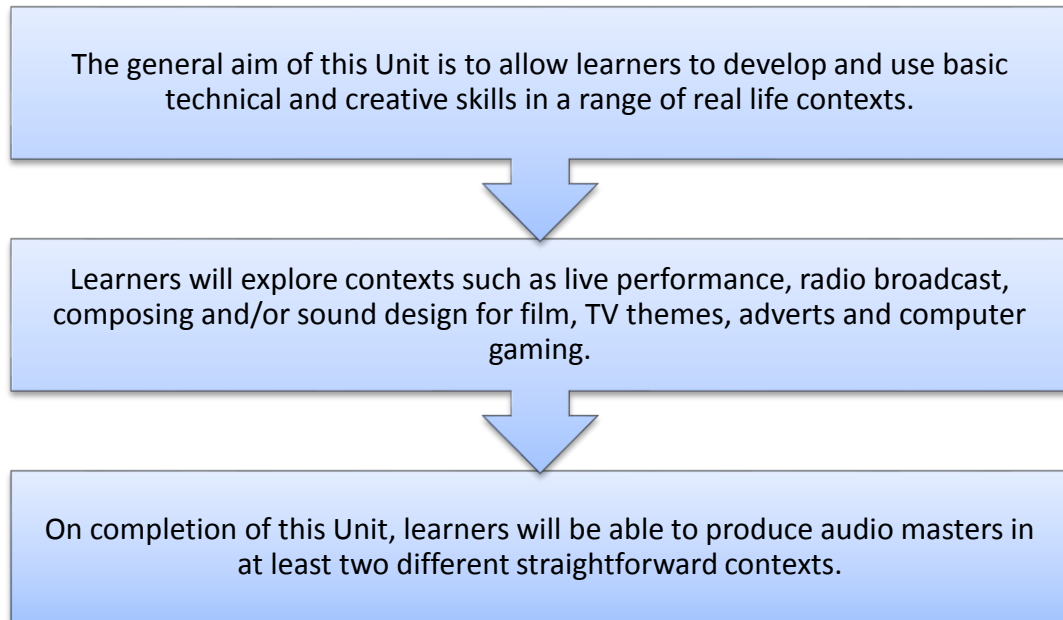
Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Music Technology in Context* (National 4) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the Music Technology in Context (National 4) *Unit Specification*
- ◆ the National 4 Music Technology *Course Specification*
- ◆ the *Added Value Unit Specification*
- ◆ the National 4 Music Technology *Course Support Notes*
- ◆ appropriate assessment support materials

General guidance on the Unit

Aims



This Unit will also give learners the opportunity to develop a range of transferable skills for life, learning and work.

The Unit can be delivered:

- ◆ as a stand-alone Unit
- ◆ as a component of the National 4 Music Technology Course

Progression into this Unit

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 3 Music Technology Course or relevant Units

In terms of prior learning and experience, basic skills in numeracy and aural discriminatory ability would also be of value.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 4 Music Technology *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

If the Unit is being delivered as part of the National 4 Music Technology Course, the teacher should refer to the 'Further mandatory information on Course coverage' section within the *Added Value Unit Specification* for detailed content.

Progression from this Unit

On successful completion of this Unit, the following Units and Courses provide appropriate progression pathways for learners:

- ◆ other Music or Music Technology Units at SQCF level 5
- ◆ Music Technology in Context (National 4) Unit

Approaches to learning, teaching, and assessment

The Unit is designed to provide flexibility and choice for both the learner and the teacher.

Learning and teaching activities should be designed to stimulate learners' interest, and to develop skills and knowledge to the standard required by the Outcomes and to the level defined by the associated Assessment Standards.

Tasks and activities throughout the Unit should be linked to relevant contexts. The *Unit Specifications* and *Course Specifications* define the skills and knowledge required, but leave complete freedom to the teacher and learner to select interesting contexts in which to develop these. This provides scope for personalisation and choice, as relevant and motivating contexts can be used.

The *Course Support Notes* provide further broad guidance on approaches to learning and teaching which applies to all the Units of the Course, and should be read before delivering this Unit.

When delivering the Unit as part of the National 4 Music Technology Course, reference should be made to the appropriate content statements within the 'Further mandatory information on Course coverage' section to ensure the required breadth of knowledge is covered.

Approaches to delivering and assessing the Unit Outcome

The learner must demonstrate attainment of **all** of the Assessment Standards of the Outcome. Assessment must be valid, reliable and fit for purpose.

SQA does not specify the methods of assessment to be used; teachers should determine the most appropriate method for their learners. In many cases, evidence (which may be oral or observational) will be gathered during normal classroom activities, rather than through formal assessment instruments.

Centres are expected to maintain a detailed record of evidence, including oral or observational evidence. Evidence in written or presentation format should be retained by the centre for verification.

Authentication of evidence

All evidence should be gathered under supervised conditions.

In order to ensure that the learner's work is their own, the following strategies are recommended:

- ◆ personal interviews with learners where teachers can ask additional questions about the completed work
- ◆ asking learners to do an oral presentation on their work
- ◆ ensuring learners are clear about acknowledging sources
- ◆ using checklists to record the authentication activity

Assessment evidence may be produced in a variety of formats including presentations, digital photographs or video, podcasts and blogs, and these can be stored by the learner (or teacher) within a proprietary e-portfolio, or simply by storing them in a secure folder. It should be noted that centres should verify that this evidence is indeed that of the learner and ensure that no credit is given for archive information without further analysis or comment by the learner.

Assessment of learners can be carried out at any point during teaching and learning in this Unit, where evidence of competence is demonstrated.

Outcome 1 The learner will:

- 1 Produce audio masters in straightforward contexts by:
 - 1.1 using a range of skills in audio capture
 - 1.2 using a range of skills to manipulate audio and sequenced data
 - 1.3 mixing down to an audio master in appropriate file format(s)

Guidance on delivery of the Outcome

Learners must produce (at least) two clearly different short pieces of work which will demonstrate their ability to capture sound, manipulate it, and then mix it down to an audio master.

Suitable contexts could include:

- ◆ recording elements of a rock band
- ◆ recording a class ensemble
- ◆ creating a short sound track for a film
- ◆ producing a short radio broadcast
- ◆ arranging or composing using a MIDI program
- ◆ producing simple sound effects for drama
- ◆ recording narration of a story or poem, and adding music
- ◆ creating an advertising jingle
- ◆ using samples and loops in simple structures and manipulations

At this level, learners could have some involvement in choosing the context and scope for their pieces of work, but may be guided towards appropriate projects. Two pieces from different contexts are required for assessment, but learners will benefit from discovering a range of contexts, then choosing two to work on.

Short research tasks may be set, with learners investigating elements of a context and then feeding back their discoveries into group discussions.

Learners will find it helpful if they are given realistic examples of acceptable and achievable creative projects. The teacher could select and describe short sequences from some of the following mediums; film; television; radio; animation and computer games exploring possible reasons for the choice of sounds and music used to set the mood, establish environment, support narrative, establish character, convey emotions, create and support transition.

Through discussion, the teacher could involve the learners in creating a sound design map which clearly identifies the sound and music placed in the sequence viewed. This map should be as detailed as possible and draw on the music and technology concepts in Appendix 2 of the Course Support Notes. This process would allow learners to develop their understanding of how various sounds and music supports the narrative/image, sets the mood, establishes environment, convey emotions, and how it can establish character.

Learners could be selected into small working groups and given a short sequence from a film. Through collaboration they could decide what form of sound design map they will produce for this task, then present and discuss their findings. The individual learner is prepared to then plan and execute their own sound design map for their selected creative production.

Through guided analysis of audio clips learners can explore production techniques used in music of the 20th and 21st century and incorporate these approaches into their projects.

Teachers must ensure that all intellectual copyrights for music produced and selected for their learners' projects have not been infringed, and make learners aware of the issues as appropriate.

Through straightforward examples, teachers could demonstrate the manipulation of loops and samples. Building up beat patterns by chopping and sequencing drum loops and samples in basic looping software provide the learner with some insight on the scope and use of sequencing within larger DAW software.

Learners are expected to use skills developed in the Music Technology Skills Unit to set up and dismantle equipment with guidance and supervision, and to observe industry conventions and standards on health and safety at all times. For example, when using microphones, learners should be developing awareness of microphone polar patterns and placement and discovering that these are critical to the capture/recording quality, and that the exact placement and application is dependent on factors such as acoustic environment, instrumentation and performer.

Teachers can informally steer learners towards good practice in micing, recording and mixing techniques through demonstrating and encouraging access to web-based resources, and developing links with other learners through groups and blogs and by following up individual interests in the techniques used by notable practitioners discussed in the Understanding 20th and 21st Century Music Unit.

Working with musicians, producers or music groups will require learners to liaise closely with performers developing organisational, interpersonal and communication skills.

Basic equalisation and panning, developed in the Music Technology Skills Unit, should be applied in a variety of contexts. Learners can be provided with an audio session and tasked with setting the EQ on each track; the teacher would observe giving guidance. The learners could then bounce tracks to an audio master.

The basic functions of dynamic processors such as compressors could be taught through demonstrations explaining the fundamental controls such as threshold, ratio and make up gain. Learners can now begin to experiment with compressors and limiters in their chosen contexts.

Listening to and analysing short clips from a variety of sources can exemplify basic application of time domain effects. A practical demonstration by the teacher using different effects on selected track/tracks would be useful. The learner can then apply effect(s) to the tracks within their audio sessions and bounce down to an audio master to include as part of their e-portfolio.

Journal of progress and reflection

Learners should be encouraged to maintain a journal which could be in the form of a written journal, blog, or diary. This should include:

- ◆ a timeline of progress through planning, creating, and producing the end product
- ◆ simple evaluations of their accomplishments

This journal, while not required for Unit assessment, will provide good preparation and practice for the Added Value assignment.

Guidance on assessment of the Outcome

Evidence will be the audio master(s) of two short examples, supplemented by observational evidence of the Assessment Standards.

This may be supplemented by naturally-occurring evidence. Examples of this are described below.

Photographs can be taken of mic positions and instrument/sound source positions and stored digitally in a learner's e-portfolio or folder on the audio drive of a DAW. The use of screenshots and other methods of visual capture, and storage of plugin settings, could also be stored alongside.

Learners should be encouraged to save date marked chronological sessions as a means of showing progression towards a final product.

Podcasting and blogging regularly about their planning, experiences and learning can very quickly build up a valuable searchable resource for successive learners not only within their centre but nationally and perhaps beyond.

Learners could do an oral presentation on their work and store this within their e-portfolio as evidence of planning and evaluation.

Developing skills for learning, skills for life and skills for work

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Unit Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Course. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Unit where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Unit. The table below highlights some opportunities to develop these skills during this Unit.

3 Health and wellbeing	
3.1 Personal learning	Researching information about a limited range of contexts where music technology may be used
4 Employability, enterprise and citizenship	
4.2 Information and communication technology (ICT)	Using hardware and software to capture and manipulate audio Producing text-based and audio-visual reports on research findings
5 Thinking skills	
5.3 Applying	Applying skills and knowledge from other Units in new contexts
5.5 Creating	Producing an audio master

The Unit may also provide opportunities to develop or consolidate other skills for life, learning and work, including:

- ◆ reading and writing
- ◆ working with others
- ◆ enterprise and citizenship
- ◆ analysing and evaluating

Equality and inclusion

The requirement to develop practical skills involving the use of equipment may present challenges for learners with physical, visual or aural impairment. In such cases, reasonable adjustments may be appropriate.

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in this document is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Reference documents

The following reference documents will provide useful information and background.

- ◆ Assessment Arrangements (for disabled learner and/or those with additional support needs) — various publications on SQA’s website:
www.sqa.org.uk/sqa/14977.html
- ◆ [*Building the Curriculum 4: Skills for learning, skills for life and skills for work*](#)
- ◆ [*Building the Curriculum 5: A framework for assessment*](#)
- ◆ [*Course Specifications*](#)
- ◆ [*Design Principles for National Courses*](#)
- ◆ [*Guide to Assessment \(June 2008\)*](#)
- ◆ *Principles and practice papers for curriculum areas*
- ◆ *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- ◆ *Coursework Authenticity — a Guide for Teachers and Lecturers*
- ◆ [*SCQF Handbook: User Guide*](#) (published 2009) and SCQF level descriptors (reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- ◆ [*SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*](#)
- ◆ SQA Guidelines on e-assessment for Schools
- ◆ SQA Guidelines on Online Assessment for Further Education
- ◆ SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

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History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

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