

Higher National Unit Specification

General information for centres

Unit title: Advanced Studio Techniques

Unit code: DR2X 35

Unit purpose: This Unit is designed to enable candidates to develop an understanding, and to demonstrate their practical ability, of the processes involved in multi-track recording, mixing and mastering. It provides candidates with the knowledge and skills to plan and conduct a multi-track recording session, to complete a fully automated mix-down and to create a production quality final master. It is primarily intended to complement skills developed in other areas of sound capture, processing, mix-down and editing. It is aimed at those who plan a career in sound production as engineer or producer.

On completion of the Unit the candidate should be able to:

- 1 Plan and conduct a multi-track recording session.
- 2 Complete a fully automated multi-track mix-down.
- 3 Create a production master from mix-down.

Credit points and level: 3 HN Credits at SCQF level 8: (24 SCQF credit points at SCQF level 8*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Recommended prior knowledge and skills: Access is at the discretion of the Centre. Candidates should have developed skills in audio, mixing and recording techniques. These may be demonstrated by possession of the HN Units Sound Production: Multi-track Recording (DJ2F 34) and Sound Production: Multi-track Mixing (DJ2E 34) and/or Digital Audio Workstations 1 (DJ23 34).

Candidates should also have good communication skills. These may be demonstrated by the achievement of Core Skill Communication at Higher level or by possession of Higher English and Communication or a suitable NQ Communication Unit (SCQF level 6).

Core Skills: There may be opportunities to gather evidence towards Core Skills in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

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.

General information for centres (cont)

Unit title: Advanced Studio Techniques

Assessment: This Unit could be assessed by three separate assessment events:

For Outcome 1

- ◆ a multi-track recording on appropriate medium
- ◆ track sheets and written evidence of organisational aspects of the session
- ◆ written evaluation of the session

For Outcome 2

- ◆ mix-down recording on appropriate medium, plus audio backup
- ◆ back up of all data generated by automation
- ◆ written evaluation of the session

For Outcome 3

- ◆ production master recording on appropriate medium
- ◆ back up of all relevant audio and data and records on appropriate medium
- ◆ written evaluation of finished product

Alternatively the Unit could be assessed by a single holistic assessment which would require candidates to organise and conduct a multi-track recording session, complete a fully automated mix-down and, finally, create a professional quality production master in a format suitable for mass-production, dissemination and/or broadcast. Candidates would also have to provide track sheets, back up of data and a written evaluation as outlined above as a requirement of each Outcome.

If a holistic approach is taken the written evaluation for the assessment of the finished product should be completed in candidates' own time.

Practical assessments should be carried out under controlled conditions sufficient to ensure confidence in the authenticity of candidates' submissions. It is unlikely, however, that the practical approach for this Unit would be successfully implemented without at least one structured formative practice opportunity.

Higher National Unit specification: statement of standards

Unit title: Advanced Studio Techniques

Unit code: DR2X 35

The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Plan and conduct a multi-track recording session

Knowledge and/or skills

- ◆ Plan and organise all aspects of a multi-track recording session
- ◆ Liaise with client/artist
- ◆ Book studio time, media and required equipment
- ◆ Effective operation of all appropriate, current recording technology
- ◆ Maintain appropriate documentation relevant to purpose
- ◆ Complete session within clearly defined time constraints

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ plan a multi-track recording session in conjunction with artist/client
- ◆ book and confirm appropriate studio time in conjunction with artist/client, dependent on studio availability
- ◆ select and/or book appropriate equipment relevant to purpose
- ◆ maintain correct gain structure and signal flow throughout a recording session
- ◆ communicate effectively with client/artist
- ◆ maintain correct monitoring of playback for engineer and performer
- ◆ successfully record signals onto tracks on a multi-track recorder ensuring the resultant recording is undistorted and acceptable in terms of level and clarity
- ◆ demonstrate the effective use of relevant onboard and/or outboard signal processing within a multi-track recording
- ◆ complete session within agreed timescale
- ◆ complete track sheets and media documentation correctly
- ◆ successfully log and store/back up media
- ◆ operate technical equipment in accordance with recommended instructions and health and safety guidelines
- ◆ maintain a log of activities in the course of making the recording
- ◆ produce a critical evaluation of the technical, organisational and creative aspects of the session

Higher National Unit specification: statement of standards (cont)

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The above items refer to the bullet points listed under knowledge and/or skills and must be assessed on each assessment occasion. Candidates must provide satisfactory evidence of the application of the skills required to carry out the tasks indicated above.

The completed multi-track must contain evidence of:

- ◆ a minimum of 16 discrete audio recorded tracks
- ◆ a minimum of four overdubbing stages

An assessor's checklist must be used to record the required assessment information. The assessment of the practical elements of this Outcome should be undertaken in controlled conditions.

Candidates may bring with them any personal notes or material to the assessment event(s), but they may not bring textbooks, handouts or other material not prepared by them.

Candidate evidence to be retained:

- ◆ multi-track recording on appropriate medium
- ◆ track sheets and written evidence of organisational aspects of the session
- ◆ written evaluation of the session completed in candidates' own time

Assessment guidelines

The assessment of this Outcome can be combined with Outcomes 2 and 3 as part of a single assessment for the Unit, details of which are given after Outcome 3 below.

Should there be ambiguity regarding a candidate's technical understanding or written response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

Outcome 2

Complete a fully automated multi-track mix-down

Knowledge and/or skills

- ◆ Requirement of mixing to fixed schedule
- ◆ Use of nearfield and/or main monitoring systems
- ◆ Signal flow, signal path and gain structure control
- ◆ Configuration of console automation parameters
- ◆ Scene or snapshot creation and storage
- ◆ Dynamic level, mute and panning automation
- ◆ Auxiliary send and/or return automation
- ◆ Application of dynamic and time-domain effect automation
- ◆ Production of final mix-down master on medium relevant to purpose
- ◆ Back up of all automation data

Higher National Unit specification: statement of standards (cont)

Unit title: Advanced Studio Techniques

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ undertake to complete a fully automated mix within given time constraints
- ◆ correctly use an audio monitoring system appropriate for the mix-down session
- ◆ create an automated mix-down using a console with appropriate functions
- ◆ control the signal flow of a multi-track recording throughout an automated mix-down session
- ◆ control automation over levels, mutes, auxiliary sends and/or returns, and panning
- ◆ effectively use recognised forms of signal processing: eg equalisation, dynamic processing, time-domain processing etc and automate appropriately
- ◆ produce a final mix-down from a multi-track recording on an appropriate format
- ◆ back up all storable automation parameter settings
- ◆ operate technical equipment in accordance with recommended instructions and health and safety guidelines
- ◆ maintain a log of activities in the course of making the mix-down
- ◆ produce a written evaluation of the technical, organisational and creative aspects of the session including analysis of imaging and placement

The above items refer to the bullet points listed under knowledge and/or skills and must be assessed on each assessment occasion. Candidates must provide satisfactory evidence of the application of the skills required to carry out the tasks indicated above.

Evidence will be generated through an assessment undertaken in controlled conditions. Candidates should be assessed after an adequate period of tuition and practice. Candidates must submit relevant documentation, such as track-sheets, a back up of console automation and, where used, a record of outboard equipment parameter settings and connections and a final mix down master as evidence.

Candidates may bring with them any personal notes or material to the assessment event(s), but they may not bring textbooks, handouts or other material not prepared by them.

An assessor checklist should be used to record achievement of each of the knowledge and/or skills items.

The automated mix-down should be made from a multi-track session consisting of a minimum of 16 discrete tracks. A minimum of **one** example of all of the automation functions listed in the Evidence Requirements section above should be included in the mix-down.

Candidate evidence to be retained:

- ◆ mix-down recording on appropriate medium, plus audio backup
- ◆ back up of all data generated by automation
- ◆ written evaluation of the session completed in candidates' own time

Higher National Unit specification: statement of standards (cont)

Unit title: Advanced Studio Techniques

Assessment guidelines

The assessment of this Outcome can be combined with Outcomes 1 and 3 as part of a single assessment for the Unit, details of which are given after Outcome 3 below.

Should there be ambiguity regarding a candidate's response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

Outcome 3

Create a production master from mix-down

Knowledge and/or skills

- ◆ Editing techniques appropriate to purpose
- ◆ Correct use of audio editing tools and/or system
- ◆ Correct use of final mastering processing tools appropriate to purpose
- ◆ Awareness of final master processing on sequencing of separate programme material
- ◆ Creation of final mastered mix-down on a format appropriate to purpose
- ◆ Encoding to current professional standards
- ◆ Requirements for archiving/back up of all storable aspects of a mastering session

Evidence Requirements

Candidates will need to provide evidence to demonstrate their skills and/or knowledge by showing that they can:

- ◆ apply the technical processes necessary to carry out suitable editing of at least **two** audio mix-downs in order to produce a final mix-down master
- ◆ carry out editing to create a final mix-down master
- ◆ apply suitable final mastering processing as required
- ◆ create a final encoded and sequenced production master on relevant medium
- ◆ back up all relevant audio and data and records on appropriate medium
- ◆ produce appropriate archive notes and labelling for final mix-down master medium
- ◆ maintain a log of activities in the course of making the mix-down
- ◆ produce a written evaluation of the technical, organisational and creative aspects of the session

The above items refer to the bullet points listed under knowledge and/or skills and must be assessed on each assessment occasion. Candidates must provide satisfactory evidence of the application of the skills required to carry out the tasks indicated above.

Evidence will be generated through an assessment undertaken in controlled conditions. Candidates should be assessed after an adequate period of tuition and practice. Candidates must submit relevant documentation such as archive notes, log and evaluation.

Candidates may bring with them any personal notes or material to the assessment event(s), but they may not bring textbooks, handouts or other material not prepared by them.

Higher National Unit specification: statement of standards (cont)

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An assessor checklist should be used to record achievement of each of the knowledge and/or skills items.

Candidate evidence to be retained:

- ◆ production master recording on appropriate medium
- ◆ back up of all relevant audio and data and records on appropriate medium
- ◆ written evaluation of finished product completed in candidates' own time

Assessment guidelines

The assessment of this Outcome may be combined with Outcomes 1 and 2 as part of a single assessment for the Unit. This should be carried out in controlled conditions, with an appropriate amount of time allocated for the assessment. It would be possible, if desired to divide this assessment into three separate assessment events, which assess each Outcome separately.

In this Unit candidates will first produce a multi-track recording, followed by an automated mix-down and finally create an edited production master on an appropriate medium using current mastering tools and techniques, while maintaining appropriate records. A record and evaluation of each Outcome should also be submitted at the completion of each stage of assessment.

In Outcome 1 the initial multi-track recording session should take place as either a single event or as a series of shorter events. The candidate should take full responsibility for all technical and organisational aspects of a multi-track session. Once complete, the multi-track recordings from the session should be critically evaluated by the assessor and candidate, before progression to the next Outcome in the Unit. Where practice sessions are used, care should be taken to ensure that they would provide the candidate with sufficient opportunity to meet the evidence requirements of the all Outcomes in the Unit.

In Outcome 2 candidates should again maintain control over all technical and organisation aspects of the mix-down session. The session may again take place as either a single event or as a series of shorter events. Sufficient tuition in the use of mixer automation, coupled with practice sessions, should take place before the candidate embarks on this section of the Unit. Again, the final mix-down recording from the session should be critically evaluated by the assessor and candidate before progression to the next Outcome in the Unit.

In Outcome 3 candidates should continue to maintain control over all technical and organisational aspects of the 'mastering' session. This assessment should ideally take place as a single event allowing continuity of processing to be maintained. However, a final decision on the appropriateness of the types of processing applied to the mix-down/s may be left for a reasonable period to allow for a 'fresh ears' approach. Time should be allocated for final 'tweaking' before submission and assessment.

If the Unit is to be offered in the form of an integrated 'project', it is advisable that candidates are given adequate advice and feedback from the assessor at every major stage of the Unit. Candidate's progress should be carefully monitored and the opportunity for reassessment offered. The combined Outcomes should meet the following criteria:

Higher National Unit specification: statement of standards (cont)

Unit title: Advanced Studio Techniques

- ◆ The candidate should be familiar with the client/artist and the material prior to the session. A recording plan should be drawn up based on communication with the client/artist and a familiarity with the material to be recorded.
- ◆ The candidate should work to a clearly identifiable mix-down plan — although the plan should not be so rigid as to restrict creativity.
- ◆ A ‘planning session’ should be completed before the recording, mix-down and mastering sessions are started. A period of reflection would be beneficial prior to mixing and mastering.
- ◆ The recording session should utilise appropriate techniques suitable for the genre/style of material. Effective control of all technical aspects of the recording session should be demonstrated at this stage, again suitable to genre/style.
- ◆ The mix-down session should utilise appropriate techniques suitable for the type of session. Effective control of all technical aspects of the mix-down should be demonstrated at this stage.

No recommendation is made as to whether a single or combined assessment event is offered. All assessments, either single or combined, must take place under controlled conditions. The report of each Outcome must also be submitted, covering the individual or combined aspects of the Unit. If a holistic approach is taken the written evaluation for the assessment of the finished product should be completed in candidates’ own time.

Assessors are advised that suitable instruments of assessment should be devised for all practical elements of the assessment. Checklists could be used to chart practical progress, along with accompanying physical evidence of achievement.

Candidates may bring with them any personal notes or material to the assessment event(s), but they may not bring textbooks, handouts or other material not prepared by them.

Should there be ambiguity regarding a candidate’s response, oral questioning may be used to eliminate any doubt as to the candidate’s understanding. The lecturer should note questions and responses.

Administrative Information

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Unit title: Advanced Studio Techniques

Superclass category: KG

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Higher National Unit specification: support notes

Unit title: Advanced Studio Techniques

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 120 hours.

Guidance on the content and context for this Unit

This Unit is primarily intended to prepare candidates for a broad range of sound engineering roles, by giving them the essential underpinning knowledge and skills for employment. Candidates may work in small groups depending on access to facilities and equipment. Candidates should use this Unit to develop the skills, and an appreciation, of the role of the recording, mix-down and mastering engineer in the context of a professional recording session.

Outcome 1 looks at the candidate's ability to prepare, plan, organise and conduct an in-depth multi-track recording session. Candidates should be familiar with relevant terminology and should make use of this when describing practices or techniques. It is intended that the candidate should develop an appreciation of the role of the recording engineer in a multi-track recording session with reference to context, style or genre.

In Outcome 2 automated multi-track mixing abilities of candidates are developed, along with their ability to work independently. Candidates will be assessed individually, although practice sessions may be carried out in small groups, if time and facilities allow. Candidates should be encouraged to seek advice from assessors and from other candidates prior to assessment, and to study automated mix-down techniques appropriate to the style/genre of their recording. They should also be encouraged to think about the following:

- ◆ The requirement, or otherwise, of the application of automation techniques to a multi-track mix-down.
- ◆ The appropriateness of control room monitoring and its relevance in producing mix-downs to a quality comparable to those currently available commercially.
- ◆ The demands and constraints placed on the mix-down engineer by clients and deadlines, and the extent to which the engineer's contribution to a project is limited by budget or equipment.
- ◆ The need for rapid decision making on the part of the engineer — creative or technical judgements may need to be made, problems solved and technical solutions offered to ensure the smooth running of the session.

Alternative automated mix-down techniques may also be addressed as part of the tuition for this Outcome. An awareness may be developed of automated multi-track mixing for current multi-channel audio or audio/visual reproduction systems and/or mixing 'to picture' for film or television. However, the limitations of equipment in some facilities may restrict 'hands on' practice in this area.

Higher National Unit specification: support notes (cont)

Unit title: Advanced Studio Techniques

Outcome 3 considers the ‘production mastering’ stage of a session and its relevance to, and its effect on, a completed mix-down. Candidates should:

- ◆ Recognise current mastering tools and techniques and their relevance to encoding. Techniques for commercial reproduction on current media formats should also be understood.
- ◆ Compare commercially available ‘mastered’ mix-downs with their own, and develop an appreciation of the techniques involved.
- ◆ Understand the technical requirements of duplicators, the broadcast media or other current forms of dissemination.

Appreciate the requirement for accurate labelling and record-keeping/archiving along with developing an understanding of suitable storage conditions for appropriate formats.

Guidance on the delivery and assessment of this Unit

This is an optional Unit in the framework for the HNC/D Sound Production group award which is primarily designed to provide candidates with technical and/or professional skills related to a specific occupational area. It is expected, however, that those who successfully complete the Group Award may progress to a career in the audio/visual, media or broadcast industries. The Unit will provide a solid and complementary grounding relevant to study in more advanced areas of Sound Production at degree level or progression into the commercial field. This should allow the Unit to be delivered in a way that enables candidates to appreciate its relevance to any occupational situation, along with developing an awareness of the potential broader use of the skills gained.

Advanced techniques such as multi-channel mixing for current reproduction systems may be incorporated into the Unit. However, while there would be no need for such advanced techniques to be formally assessed, it would be advantageous for candidates to have some experience of these disciplines before progressing to higher levels of study or prior to seeking employment in the areas described above.

Assessment will be by a minimum of **one** instrument of assessment. However, each Outcome has the potential to be delivered and assessed separately.

Candidates may bring with them any personal notes or material to the assessment event(s), but they may not bring textbooks, handouts or other material not prepared by them.

Open learning

This Unit could be delivered by open learning. However, it would require planning by the centre to ensure the sufficiency and authenticity of candidate evidence. Arrangements would have to be made to ensure that a single assessment for Outcomes 1, 2 and 3 is delivered in a supervised environment under controlled conditions.

Higher National Unit specification: support notes (cont)

Unit title: Advanced Studio Techniques

No recommendation is made as to whether a single or combined assessment event is offered. All assessments, either single or combined, must take place under controlled conditions. The report element of each Outcome must also be submitted, covering the individual or combined aspects of the Unit. If combined, the minimum requirement of the report should be 2,000-2,500 words.

For further information and advice please refer to *Assessment and Quality Assurance for Open and Distance Learning (SQA, — publication code A1030)*.

Candidates with additional support needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on the SQA website www.sqa.org.uk.

General information for candidates

Unit title: Advanced Studio Techniques

This Unit is designed to enable you to recognise the main issues, skills and knowledge that require to be developed in the role of the recording, mixing and mastering engineer. It is primarily intended to prepare you for a technical role in any of the media industries that require sound production skills.

The Unit is about the work of the ‘all-round’ recording studio engineer. It has three main areas, each of which is the subject of a separate Outcome — multi-track recording, automated mixing and final production mastering.

To begin with you will look at the overall skills and techniques involved in conducting a multi-track recording session. You will plan, prepare and conduct a session to professional standards, while developing an appreciation of the technical or creative skills required by today’s recording engineers. You will also develop an understanding of the need to satisfy the demands of client and artist, whilst working within the constraints of time, budget, location and available equipment.

You will then look at the overall skills and techniques involved in conducting an automated multi-track mix-down session. You will examine the technical or creative processes required as well as developing an appreciation of techniques used and an understanding of the demands of style and genre. This Outcome should also provide insight into the relationship between, and the differing skills required of, the recording engineer and the mix-down engineer.

You will then develop the practical skills and understanding necessary to create a final mix-down production master. The practical use of relevant signal processing will be examined and utilised along with the process of audio editing and use of appropriate equipment, culminating in the creation of a final mix-down master to professional standards

Overall, you will be expected to use the knowledge and skills from this Unit to enable you to complement a broad base of skills developed in other associated areas of study. This may help you in future to become a competent audio professional.

In order to complete this Unit successfully, you will be required to achieve a satisfactory level of performance in all Outcomes. The assessment of each Outcome will normally be practical in nature, supplemented by a report or presentation on each stage of the Unit. The practical elements of this Unit will be assessed under controlled conditions and can be made specific to available equipment and facilities.

You will be notified of assessment event dates and will only be assessed after an adequate period of tuition and/or practice. You will be allowed to bring notes that you have made to the assessment. However, you will not be permitted to bring textbooks, handouts or other material that you have not prepared yourself to the assessment.