



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

**Business, Technical, Vocational Education and Training [BTJET] Sub sector
Reform**



**Assessment and
Training Package
FOR
AUDIO PRODUCER**

Qualification Level: 1
Occupational Cluster: PERFORMING ARTS

January 2022

Developed by:

**Qualifications Standards Department
Directorate Of Industrial Training**

Funded by:

Government of Uganda

DIRECTORATE OF INDUSTRIAL TRAINING

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Under BTVET Act, 2008, the functions of the Directorate of Industrial Training are:

- (a) To identify the needs of the labour market for occupational competencies that falls under the UVQF.
- (b) To regulate apprenticeship schemes.
- (c) To foster and promote entrepreneurial values and skills, as an integral part of the UVQF.
- (d) To secure adequate and sustainable financing for the efficient operations of the Directorate.
- (e) To accredit training institutions or companies as assessment centres.
- (f) To determine fees payable under the Act.
- (g) To develop, apply, expand and improve the purposeful application of Uganda vocational qualifications defined in the UVQF.
- (h) To assess and award Uganda Vocational Qualifications.
- (i) To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading.

To prescribe the procedure for the making of training schemes. Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that:

The purpose of the UVQF is to;

- (a) Define occupational standards in the world of work.
- (b) Define assessment standards.
- (c) Award vocational qualifications of learners who meet the set standards of different studies.
- (d) Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:

- (a) Flexible training or learning modules.
- (b) Positive assessment and Certification.
- (c) Assessment of Prior Learning.

- (d) Recognition of formal and non-formal training.
- (e) Self-paced or individual learning.
- (f) Work place learning.

For award and recognition of certificates, the BTVET Act, 2008 provides that:

- (1) The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational Education and Training under the UVQF.
- (2) The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council.
- (3) The Certificates and Diplomas awarded under the Act shall be recognized in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:

- (a) Regulating Industrial Training and Trainers.
- (b) Developing Industrial Training Curricula.
- (c) Harmonizing Curricula and Certificates of competence.
- (d) Assessing Industrial Training.
- (e) Development of Occupational Standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work.
- (f) Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organizes and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

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Word from Permanent Secretary

The Ministry of Education and Sports (MoES) through the Directorate of Industrial Training conducts Competence Based Assessment.

The foreseen advantages of CBA include improved access, equity and relevance of skills development, reduced unit costs of training, and recognition of Prior Learning (or on-the-job- training), among others.

As the Ministry executes its obligation of ensuring quality in training standards, the public-private partnership is being strengthened to improve occupational competence of the country's workforce without gender bias.

To achieve the set-out targets, the Directorate embarked on the anticipated UVQF design and development piloting its instruments and mechanisms in order to effectively enhance Competence-Based Assessment (CBA) in Uganda.

To date, the Qualifications Standards Department of DIT has produced Assessment and Training Packages (ATP) for various occupations. Each ATP contains 3 parts namely:

- 1.Occupational/job Profile
- 2.Training modules and
- 3.Assessment instruments Banks

The ATP can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the "Assessment & Training Package (ATP)" for training, assessment and certification of **AUDIO PRODUCER – QUALIFICATION LEVEL 1**.

Finally, I thank all individuals, organizations and development partners who have contributed and/or participated in the review of this noble document.

Ketty Lamaro
Permanent Secretary

Executive Summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts:

- 0.1. **PART I: The “Occupational Profile” (OP) of Audio producer.** This Occupational Profile, which was developed by Audio producers practicing in the world of work mirrors the duties, and tasks Audio Producers are expected to perform.
- 0.2. **PART II: “Training Modules”** in the form of guidelines to train **Audio producers** both on the job as well as in training centers (or combinations of both venues of learning). The Training Modules herein have been developed basing on the Occupational Profile and hence are directly relevant for employment.
- 0.3. **PART III: “Assessment Instruments”** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as **Audio producer**. These assessment-based instruments were developed by Job practitioners (Audio producer) based on the occupational profile and training modules.
- 0.4. While the Occupational Profile (OP) contained in PART I of this document provides the information on **WHAT a person is expected to do** competently in the world of work, the test items, - including performance criteria- of PART III qualify the **HOW and/or HOW WELL a person must do the job.**
- 0.5. The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e., competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centers as well as companies can accommodate more students in a given period of time.
- 0.6. In addition to improved access, equity and relevance of BTVET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).

0.7. The parts of this Assessment and Training Package were sequentially developed as follows:

- i Part 1: Occupational Profile: ***January 2022***
- ii Part 2: Training Modules: ***January 2022***
- iii Part 3: Assessment Instruments: ***January 2022***

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

Patrick Byakatonda
Ag. Director DIT

Acknowledgement

The Qualifications Standards Department of DIT wishes to sincerely acknowledge the valuable contributions to the development of this Assessment and Training Package by the following persons, Institutions and organizations:

- Members of the DIT Industrial Training Council;
- The Director and staff of DIT;
- Ministry of Education and Sports;
- The practitioners from the world of work;
- Art and Design Curriculum Specialists from NCDC
- Examination Specialists from UNEB
- The facilitators involved in guiding the review panel in their activities
- The Government of Uganda for financing the review of this ATP

Abbreviations and Acronyms

A&C	Assessment & Certification
ATP	Assessment & Training Packages
BTVET	Business, Technical and Vocational Education and Training
CBA	Competence Based Assessment
CBET	Competency Based Education and Training
DACUM	Develop a Curriculum
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical and Vocational Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item

Key Definitions

Assessment	Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.
Certification	Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.
Competence	Integration of skills, knowledge, attitudes, attributes and expertise in doing/ performing tasks in the world of work to a set standard.
Competency	(Occupational) competency is understood as the ability to perform tasks common to an occupation to a set standard.
CBET	Competence-based education and training means that programmes: <ol style="list-style-type: none">1. have content directly related to work2. focus is on 'doing something well'3. assessment is based upon industry work standards, and4. curricula are developed in modular form
Duty	A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).
Learning-Working Assignment (LWA)	LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWA are real work situations/assignments.
Modules	Modules are part(s) of a whole curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.
Occupational Profile (OP)	An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment.

Occupational Profiles developed by practitioners from the world of work enhance the relevance of training and learning to the requirements of the world of work.

Occupational Profiles define WHAT a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behaviour, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards

Qualification A qualification is a formal reward for demonstrating competence, based on formal assessment against set standards and provided to the individual in the form of a certificate specifying the nature of the competence.

Task Job TASKS represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be observed and measured. *(see also: Duty)*

ATP-PART I

Occupational Profile for AUDIO PRODUCER

- 1.1 The OCCUPATIONAL PROFILE (OP) for “**Audio producer**” below defines the **Duties** and **Tasks** a competent **Audio producer** is expected to perform in the world of work (on the job) in Uganda and the East African region today.
- 1.2 Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.
- 1.3 To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of “occupational/job profiling.

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panellists define the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

- 1.4 The panellists, facilitators and coordinators who participated in developing this Occupational Profile for **Audio producers** are listed on the following page.

¹ The DACUM-method was used. DACUM is an acronym for ‘Develop A Curriculum’

Expert Panel

Ntubiro Godfrey

NCDC

Julius Kyoshabira

UNEB

Ssendikwanawa Raymond

Senior Examiner

Sempereza Daniel

Music teacher

Kiwuwa Henry

Grayce Sounds

Ike Joshua

Sound district records

NgaboHerbet

Harvey Gold Studio

TumwesigyeRemigious

Alpha studios

Gerald Mutebi

Mota records

Matovu Ronald

Gagamel Records

Facilitators

Mushabenta Brendah

Directorate of Industrial
Training

Tuhirwe Doreen

Directorate of Industrial
Training

Co-ordinator

Elizabeth Ruth Mukyala

Directorate of Industrial
Training

Funded by

Government of Uganda



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

**Business, Technical, Vocational Education and
Training (BTJET) Sub sector Reform**

Occupational Profile

For

“AUDIO PRODUCER”

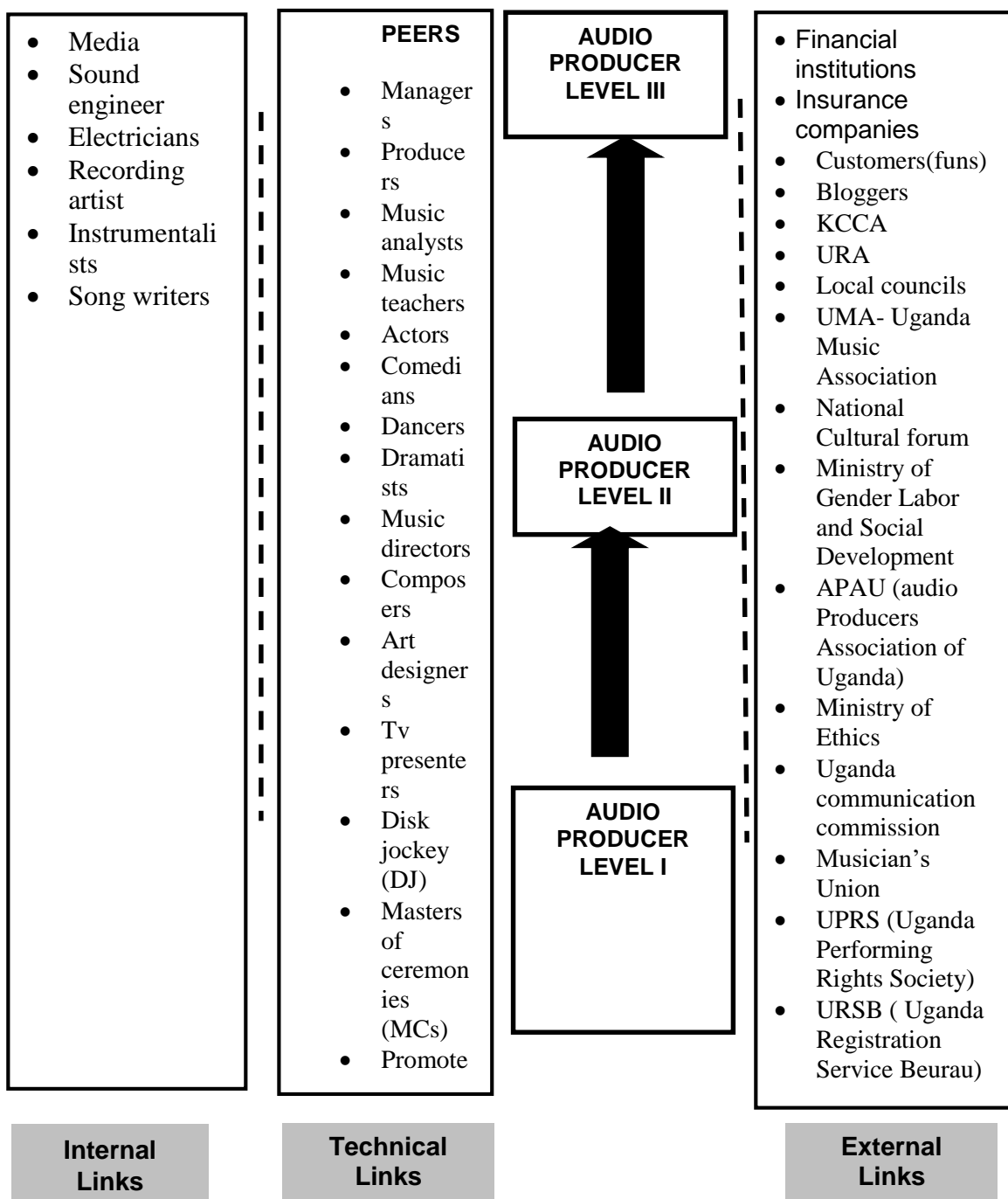
**Developed by: Directorate of Industrial Training
(Qualifications Standards)**

Dates of workshop: 3rd January - 07th January 2022

NOMENCLATURE - AUDIO PRODUCER

Definition: Audio producer is a person who assesses, creates records, arranges and processes audio materials (including voices and instruments) into a meaningful piece using software apps and relevant tools.

JOB ORGANISATION CHART FOR AAUDIO PRODUCER



1. **UVQ Level I Audio producer;** is a person who has knowledge and skills in handling and using recording equipment as well as music instrumental playing skills to create audio material.
2. **UVQ Level II Audio producer;** is a person who has knowledge and skills in recording, arranging, editing, and developing tracks.
3. **UVQ Level III Audio producer** is a person who has knowledge and skills in training, directing, analyzing, mixing, mastering as well as pre -export processing

Duties and Tasks

A. SET UP STUDIO	A1 Identifystudio location	A2 Secure studio site	A3 Identify source of funds
	A4 Identify tools, equipment and material	A5 Prepare site	A6 Source tools, equipment and material
	A7 Install equipment and soft wares	A8 Test equipment	A9 Make configurations
B. PLAN RECORDING SESSION	B1 Dialogue with the artist	B2 Scheduleactivities	B3 Determine personnel
	B4 Source personnel	B5 Make rehearsals	B6 Arrange recording venue
C. EXECUTE RECORDING.	C1 Create page lay out	C2 Create accompaniments	C3 Record voice
	C4 Record additional instruments	C5 Review content	C6 Make adjustments

D. MAINTAIN TOOLS, EQUIPMENT AND MATERIALS.	D1 Repair tools and equipment	D2 Update software	D3 Service tools and equipment
	D4 Upgrade tools and equipment	D5 Store tools, equipment and materials	D6 Clean tools, equipment and materials

E. PERFORM ADMINISTRATIVE TASKS	E1 Recruit workers	E2 Supervise works	E3 Attend meetings
	E4 Train Workers	E5 Appraise workers	E6 Assign works
	E7 Manage workers welfare	E8 Acquire Operational Licence	E9 Register copy rights
	E9 Insure business	E10 Pursue continuous professional development	E11 Manage finances
	E12 Motivate team	E13 Provide Customer care	E14 Provide security
	E15 Sanction workers	E16 Manage business	

A. EDIT AUDIO	F1 Rearrange content	F2 Perform panning	F3 Clean files
	F4 Approve files	F5 Make corrections	F6 conform files

B. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION PRACTICES.	G1 Administer first aid	G2 Train subordinates on safety	G3 Sensitize co-workers on key health issues
	G4 Take measures to protect the environment	G5. Manage waste	G6 Display safety signs
	G7 Sensitize workers		

C. MIX AUDIO	H1 Reverb files	H2 Balance volume levels	H3 Apply compression
	H4 Apply equalizers	H5 Design space	H6 Make variations
	H7 Apply effects	H8 Apply automations	H9 Export mix

D. MASTER AUDIO	I1 Listen to mix	I2 Identify sound colour	I3 Benchmark tracks
	I4 Balance frequencies	I5 Boost loudness	I6 Apply dynamics
	I7 Balance wideness	I8 Image sound	I9 Export Audio
	I10 Analyse audio		

J. MARKET SERVICE	J1 Advertise service	J2 Display posters	J3 Display banners
	J4 Create partnerships	J5 Make announcement	J6 Brand service
	J7 Package service	J8 Make portfolio	J9 Sale service
	J10 Price service	J11 Gather feed back	J12 Distribute service

Additional Information

Generic Knowledge & Skills

- | | |
|--------------------------|---|
| 1. Training | 19. Regulations |
| 2. Counselling | 20. Literacy and numeracy |
| 3. Sound engineering | 21. Language |
| 4. Playing instruments | 22. Business management |
| 5. Vocal skills | 23. Industry trends |
| 6. Song writing | 24. Market demands |
| 7. Content building | 25. Environmental awareness |
| 8. Song mixing | 26. Recording |
| 9. Audio editing | 27. Tools, equipment and materials |
| 10. Audio mastering | 28. Culture affiliations |
| 11. Script Writing | 29. Pricing |
| 12. ICT | 30. Commercialization |
| 13. Music | 31. Entrepreneurship skills |
| 14. Marketing | |
| 15. Sales skills | 32. Tools, equipment operations |
| 16. Communication skills | 33. Operational knowledge on tools, equipment and materials |
| 17. Interpersonal skills | |
| 18. Copy right laws | |

Tools, Equipment and materials

- | | |
|--|-------------------------|
| 1. Sound proof | 15. Compact disks |
| 2. Masks | 16. Brooms |
| 3. Tables | 17. Detergents |
| 4. Chair | 18. Books |
| 5. Microphone | 19. Pens |
| 6. Computer | 20. Sprays |
| 7. Audio interference | 21. Recording soft ware |
| 8. Wires | 22. Internet |
| 9. Cables | 23. Sprayers |
| 10. Music instruments | 24. Chemicals |
| 11. Flashes disks/
stationary devices | 25. Power source |
| 12. A coustic materials | 26. Stationary |
| 13. Microphone stand | 27. Furniture |
| | 28. Electricity |
| | 29. First aid kit |

14. Music stands

Attitudes/Traits/Behaviour

- | | |
|---------------------------|----------------------------|
| 1. Honest and transparent | 13 Dedicated |
| 2. Tolerant | 14 Team player |
| 3. Active | 15 Disciplined |
| 4. Hard working | 16 Enthusiastic |
| 5. Punctual | 17 Creative and innovative |
| 6. Realistic | 18 Resourceful |
| 7. Social | 19 A good listener |
| 8. Able to predict | 20 Result oriented |
| 9. Organized | 21 Trainable |
| 10. Respectful | 22 Strategic |
| 11. Confident | 23 Researcher |
| 12. Trustworthy | |

Future Trends and Concerns

1. Expansion of market
2. Use of computers
3. Advanced technology i.e. internet, websites, etc.
4. Use of improved machines e.g. recording machines
5. Audio producer groups formation
6. Need for training in audio producer
7. Environmental degradation
8. Lack of capital
9. Taxes

2.0 ATP – PART II

Training Modules for AUDIO PRODUCER:

- 2.1 A curriculum is a “guide /plan for teaching and learning” which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile that provides the benchmark for Curriculum development as well as assessment.
- 2.2 This modular format of the curriculum allows learners of AUDIO PRODUCER to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centres, as well as companies can accommodate more students in a given period of time.
- 2.3 The modules were developed jointly by both instructors and job practitioners. They were developed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes.
- 2.4 The modules contain “Learning-Working Assignments” (LWAs) and related “Practical Exercises” (PEXs) as key elements.
- LWAs are simulated or real job situations/assignments that are suitable for learning in a training environment (e.g. “small projects”). In a working environment, LWAs are real work situations.
- PEXs are therefore sub-sets of a LWA.
- 2.5 In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training Centre, at the workplace; or a combination of both.

WHO IS A AUDIO PRODUCER LEVEL 1?

AUDIO PRODUCER is a person who has knowledge and skills in handling and using recording equipment as well as music instrumental playing skills to create audio material.

OVERVIEW MODULES FOR A AUDIO PRODUCER UVQF LEVEL 1

Code	Module Title	Average duration	
		Contact hours	Weeks
UE/AP/M1.1	Set up audio studio	80 hours	2weeks
UE/AP/M1.2	Manage recording hardware and software	168 hours	4weeks and 1day
UE/AP/M1.3	Produce audio	240 hours	6 weeks
UE/AP/M1.4	Perform entrepreneurial tasks	200 hours	5 weeks
Summary	5 modules	1408 hours	19 weeks and 1 day

Note: Average duration is contact time but NOT calendar duration.

It is assumed that:

- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 240hours of nominal learning

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their Practical exercises and attached theoretical instructions, as the minimum exposure.

Prior to summative assessment by recognized Agencies, the users of these Modules Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP for **AUDIO PRODUCER**.

Code	UE/AP/M1.1
Module title	M1.1: Set up Audio studio
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (Audio producer UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to set up audio studio
Learning-Working Assignments (LWAs)	<p>LWA 1/1: Identify venue LWA 1/2: Venue treatment LWA 1/3: Identify equipment, tools and materials LWA 1/4: Assemble equipments, tools and materials LWA 1/5: Perform Occupational health, safety and environmental protection practices</p> <p><u>Note:</u> 1. The learning exercises may be repeated till the trainee acquires targeted competences. 2. The trainer is advised to deliver relevant theoretical instructions with demonstrations as required to perform each learning assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 1/1: Identify venue PEX 1.1: Survey venue PEX 1.2: Secure venue PEX 1.3: Clean venue</p>
	<p>LWA 1/2: Treat venue PEX 2.1: Draw venue plan PEX 2.2: Partition venue PEX 2.3: Decorate venue PEX 2.3: Make Acoustic treatment</p>

	LWA1/3: Select equipment, tools and materials PEX 3.1: Identify recording hardware PEX 3.2: Identify recording software PEX 3.3: Identify furniture PEX 3.4: Identify electrical materials PEX 3.5: Procure equipment, tools and materials, PEX3.6: Store equipment, tools and materials
	LWA 1/4: Assemble equipment, tools and materials PEX 4.1: Arrange equipment, tools and materials PEX 4.2: Connect equipment PEX 4.3: Configure set up PEX4.4: Identify power source PEX 4.5: Test system
	LWA1.5: Perform Occupational health, safety and environment protection practices. PEX 5.1: Manage waste PEX5.2: Wear protective gears PEX 5.3: Manage security PEX 5.4: Sensitize workers on health issues PEX 7.5: Administer first aid
	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs. E.g.wear protective gears
	None
Occupational health and safety	
Pre-requisite modules	

Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Budgeting • Knowledge on sound • Security • Studio maintenance • Studio equipment • Technicians • Electrical knowledge • Decision making • ICT knowledge • Art and Design
Average duration of learning	<p>80hours (10days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 3 day of occupational theory and • 7 days of occupational practice
Suggestions on organization of learning	<p>The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
Assessment	<p>Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank</p>
Minimum required tools/ equipment/ implements or equivalent	<p>Table, chair, microphone, computer, audio interface, wire, cables, music instruments, Flash disks, Acoustic materials, microphone stands, music stands,</p>
Minimum required materials and consumables or equivalent	<p>Compact disks, brooms, detergent, water, books, pens, sprays,</p>
Special notes	<ul style="list-style-type: none"> • Focus on quality

	<ul style="list-style-type: none"> • Focus on market standards
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Code	UE/AP/M1.2
Module title	M1.2: Manage recording hardware and software
Related Qualification	<u>Part of</u> Uganda Vocational Qualification
Qualification Level	(Audio producer UVQ 1)
Module purpose	At the end of this module, a trainee shall be able to manage recording hardware and software
Learning-Working Assignments (LWAs)	<p>LWA 2/1: Maintain recording Gears LWA 2/2: Maintain recording software LWA 2/3: Provide Data security LWA 2/4: Perform occupational health safety and environmental protection practices</p> <p><u>Note:</u></p> <p>1. The learning exercises may be repeated till the trainee acquires targeted competence</p> <p>2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment</p>
Related Practical Exercises (PEXs)	<p>LWA 2/1: Maintain recording Gears PEX 1.1: Clean machines PEX 1.2: Service machines PEX 1.3: Disassemble machines PEX 1.4: Assemble machines PEX 1.4 : Observe power supply PEX 1.5: Test machines</p> <p>LWA 2/2: Maintain recording software PEX 2.1: Update software PEX 2.2: Upgrade software PEX 2.3: Install software PEX 2.4: Configure software PEX 2.5: Test software PEX 2.6 : Clean boot</p>

	LWA 2/3: Provide data security PEX 3.1: Store data PEX 3.2: Restrict access PEX 3.3: Backup data PEX 3.4: Recover data PEX 3.5: Organize data
	LWA2/4: Perform occupational health, safety and Environment protection Practises. PEX 4.1: Wear Protective gears PEX 4.2: Manage wastes PEX 4.3: Administer first aid PEX 4.4: Sensitize worker on health and safety measures PEX 4.5: Maintain personal hygiene
	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs
	None
Occupational health and safety	
Pre-requisite modules	

Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • ICT • Electrical knowledge • Types of hardware • Types of soft ware • Cleaning materials • Health and safety • Hardware and software usage • installation • knowledge on sound • software and hardware trends • software and hardware generations
Average duration of learning	<p>168 hours (21days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 5 days of occupational theory and • 16 days of occupational practice
Suggestions on organization of learning	<p>The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
Assessment	<p>Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank</p>
Minimum required tools/ equipment/ implements or equivalent	<p>Computer, cleaning materials, storage devices, recording soft ware,</p>
Minimum required materials and consumables or equivalent	<p>Internet, sprayers, detergents, chemicals, power source, stationary</p>

Special notes	Be strict on machine usage and safety precautions.
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Code	UE/AP/M1.3
Module title	M1.3: Produce audio
Related Qualification	Part of Uganda Vocational Qualification (Audio producer UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to produce audio
Learning-Working Assignments (LWAs)	<p>LWA 3/1: Manage recording environment LWA 3/2: Manage instruments LWA 3/3: Manage vocals LWA 3/4: Manage genres LWA 3/5: Record audio LWA 3/6: Manage sound parameters LWA 3/7: Extract audio LWA 3/8: Occupational health, safety and environmental protection practices</p> <p><u>Note:</u> 1. The learning exercises may be repeated till the trainee acquires targeted competences. 2. The trainer is advised to deliver relevant theoretical instructions with demonstrations as required to perform each learning assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 3/1: Manage recording environments PEX 1.1: Determine environment PEX 1.2: Select environment PEX 1.3: Pre test environment PEX 1.4: Prepare environment PEX 1.5: Test environment</p>

	<p>LWA 3/2: Manage instruments</p> <p>PEX 2.1: Identify instruments</p> <p>PEX 2.2: Select instruments</p> <p>PEX 2.3: Assemble instruments</p> <p>PEX 2.4: Connect instruments</p> <p>PEX 2.5: Tune instruments</p> <p>PEX 2.6: Determine range</p> <p>PEX 2.7: Determine recording method</p> <p>PEX 2.8: Test instruments</p> <p>PEX 2.9: Play instruments</p> <p>PEX 2.10: Record content</p> <p>PEX 2.11: Save content</p> <p>PEX 2.12: Store instruments</p>
	<p>LWA 3/3: Manage vocals</p> <p>PEX 3.1: Listen to composition</p> <p>PEX 3.2: Determine vocal ranges</p> <p>PEX 3.3: Determine vocal dynamics</p> <p>PEX 3.4: Record vocals</p> <p>PEX 3.5: Edit vocals</p> <p>PEX 3.6: Save vocals</p>
	<p>LWA 3/4: Manage genres/ style</p> <p>PEX 4.1: Listen to composition</p> <p>PEX 4.2: Determine style</p> <p>PEX 4.3: Determine tempo/ speed (BPM)</p> <p>PEX 4.4: Select instruments</p> <p>PEX 4.5: Select sound</p> <p>PEX 4.6: Determine rhythm</p> <p>PEX 4.7: Determine melody</p> <p>PEX 4.8: Select chord progression</p> <p>PEX 4.9: Select keys</p> <p>PEX 4.10: Determine vocals</p>

	<p>LWA 3/5: Record Audio PEX 5.1: Prepare venue PEX 5.2: Prepare tools, equipment and materials PEX 5.3: Arrange tools, equipment and materials PEX 5.4: Perform vocal warmups. PEX 5.5: Set input levels PEX 5.6: Test input levels PEX 5.7 : Capture content PEX 5.8: Edit content PEX 5.9: Save content</p>
	<p>LWA3/6: Manage sound paremeters PEX 6.1:Listen to sound PEX 6.2:Determine frequency PEX 6.3:Determine intensity (DB) PEX 6.4: Boost frequencies PEX 6.5: Remove frequencies PEX 6.6: Determine soundformats PEX 6.7: Monitor sound PEX 6.8: Compress sound PEX 6.9: Automate sound</p>
	<p>LWA 3/7: Extract audio PEX 7.1: Bounce files PEX 7.2: Convert files PEX 7.3: Share files PEX 7.4: Copy files PEX 7.5: Save files</p>
	<p>LWA 3/8: Perform Occupational health, safety and environment protection practices. PEX8.1:Wear protective gears PEX 8.2: Perform fire fighting PEX 8.3: Sensitize workers on health issues</p>

	PEX 8.4:Administer first aid PEX 8.5: Manage waste
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Occupational health and safety	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs. E.g.wear protective gears
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Sense of tone • Recording environment • Types of instruments • Types of genres/ styles • Vocals • Recording tools, equipment • ICT • Sound engineering • Electrical knowledge • Technical knowledge • Safety and health • Composition • Artistic knowledge
Average duration of learning	240hours (30 days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 8 day of occupational theory and • 22 days of occupational practice

Suggestions on organization of learning	The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
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Assessment	Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank
Minimum required tools/ equipment/ implements or equivalent	Computers, softwares, music instruments, micro phones, furniture, recording gears
Minimum required materials and consumables or equivalent	Electricity, stationary, detergents, sanitizers,
Special notes	<ul style="list-style-type: none"> • Music instruments are an added advantage at this level

Code	UE/AP/M1.4
Module title	M1.4: Perform entrepreneurial task
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (Audio producer UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to perform entrepreneurial tasks
Learning-Working Assignments (LWAs)	LWA 4/1: Market service LWA 4/2: Manage finances LWA 4/3: keep records LWA 4/4: Perform occupational Health, Safety and environment protection practices <u>Note:</u> 1. The learning exercises may be repeated till the trainee acquires targeted competence 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment
Related Practical Exercises (PEXs)	LWA 4/1: Market service PEX 4.1: Cost service PEX 4.2: Advertise/promote service PEX 4.3: Brand service PEX 4.4: Create partnerships PEX 4.5: Value service PEX 4.6: Perform customer care PEX 4.7: Distribute product
	LWA 4/2: Manage finances

	PEX 2.1: Prepare budgets PEX 2.2: Source funds PEX 2.3: Prepare balance sheets PEX 2.4: Prepare cash flow statements PEX 2.5: Prepare receipts PEX 2.6: Prepare income statements PEX 2.7: Prepare inventory PEX 2.8: Prepare debit notes
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	LWA 4/3: Keep record PEX 3.1: Prepare reports PEX 3.2: Prepare portfolio PEX 3.3: Sign agreements PEX 3.4: Keep staff records PEX 3.5: Keep guest data PEX 3.6: Keep business files
	LWA 4/4 : Perform occupational Health, safety and environment protection practices PEX 4.1: Manage waste PEX 4.2: Administer first aid PEX 4.3: Wear protective gear PEX 4.4: Practise personal hygiene PEX 4.5: Sensitize workers on health issues PEX 4.6:
Occupational Health and Safety	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs
Pre-Requisite Modules	None
Related Knowledge/ Theory	<i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i> <ul style="list-style-type: none"> • Advertising • Financial knowledge • Customer care • Report writing

	<ul style="list-style-type: none"> • Record keeping • Commercial knowledge • Branding • Portfolio making • Rules and regulations/ government policies • Safety, health and environmental knowledge • Conflict resolution
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Average Duration of Learning	200hours (25days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 20 day of occupational theory and • 5 days of occupational practice
Suggestions On Organization of Learning	The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank
Minimum Required Tools/ Equipment/ Implements or Equivalent	Computers, furniture, printers, cameras, calculators,
Minimum Required Materials and Consumables or Equivalent	Stationary, electricity, sanitizers, first aid kit, internet,
Special Notes	<ul style="list-style-type: none"> • Customers are always the king therefore customer care is so paramount.

ATP- PART III

Assessment Instruments for AUDIO PRODUCER

- 3.1 Assessment of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards.
- 3.2 Assessment of occupational competence should comprise of both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the Occupational Profile and Training Modules, a combined panel of job practitioners and Instructors developed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at the Directorate of Industrial Training.
- 3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business enterprises. They comprise of a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.
- 3.5 Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
- Short answer test items.
 - Multiple choice test items
 - Matching test items
- These WTIs here in focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.
- 3.6 Composition of assessment/test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.
- 3.7 The test items contained in the Test Item Bank may be used for continuous/formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally or informally.
- 3.8 In this document, samples of test items for assessing both performance (practical) and occupational knowledge (theory) of AUDIO PRODUCERS included a larger selection of test items can be obtained as electronic or printed copies from the UVQF Secretariat or designated outlet.

3.9 Overview of Test Item Samples Included

No	Type of test Items	Numbers included
1	Written (Theory)- Short Answer	2
2.	Written (Theory)- Multiple Choice	2
3.	Written (Theory)- Matching with generic	1
4.	Written (Theory)- Matching with cause effect	1
5	Written(theory)-Matching with work-sequence	1
6.	Performance (Practical)Test Items	1
Total		8

Test Item Database	
Written (Theory) Test Item- no. 1	
Occupational Title:	Audio producer
Competence level:	Level 1
Code no.	
Test type:	Short answer ✓
	Multiple choice
	Matching item Generic Cause- Effect Work-sequence
Complexity level:	C1
Date of OP:	January 2022
Related modules:	M1.2
Time allocation:	3Minutes

Test Item	List any three equipment on which data is stored
Answer spaces	i. ii. iii.

Expected key (answers)	i. Hard drive ii. Flash disk iii. Compact disk iv. Google drive v. Secure digital card (SD) vi. Phone memory vii. Floppy disk
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- no. 2			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C2			
Date of OP:	January 2022			
Related modules:	M1.4			
Time allocation:	4minutes			

Test Item	List three activities done while marketing audio service
Answer spaces	i. ii. iii.
Expected key (answers)	i. Advertising ii. Branding iii. Creating partnerships iv. Displaying sign posts v. Carry out sales promotions vi. Giving out business cards vii. Distribute audio samples

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 03			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C3			
Date of OP:	January 2022			
Related Module:	M1.3			
Time allocation:	2 minutes			

Test Item	What is the MAJOR task done while editing an audio?
Distracters and correct answer	A. Exporting B. Mastering C. Panning D. Mixing
Key (answer)	C

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 04			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	2 minutes			

Test Item	Which of the following is an input device?
Distracters and correct answer	A. Monitor B. Microphone C. Head phone D. Sound booth
Key (answer)	B

DIT/ QS	Test Item Database			
	Written (Theory) Test Item- no. 05			
Occupational Title:	AUDIO PRODUCER			
Qualification level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
		√		
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	3Minutes			

Test Item	Match the following instruments with their functions
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Column (A)[Instrument]	
A	Midi controller
B	Computer
C	Microphone
D	Acoustic foam

Column (B)[Fuctions]	
1	Hear sound
2	Capture sound
3	Outputs sound
4	Plays sound
5	Filter sound
6	Edit sound
7	Absorbs sound

Key (answer)	A-4, B-6, C-2, D-7
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- no. 06			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
			√	
Complexity level:	C3			
Date of OP:	January 2022			
Related Module:	M1.3			
Time allocation:	4Minutes			

Test Item	Match the following faults to their causes in audio production
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Column (A) (Faults)	
A	Data loss
B	Echoes in the studio
C	Un coordinated pitches
D	Unbalanced sound

Column (B) (causes)	
1	Improper mastering
2	Improper power connections
3	Improper tuning
4	Failure to store
5	Failure to repair
6	Improper acoustic treatment
7	Failure to lubricate

Key (answer)	A-4, B-6, C-3, D-1
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- no. 07			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
				√
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.3			
Time allocation:	10Minutes			

Test Item	Match the following steps followed when setting up audio studio in their chronological order.
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Column A (Order)		Column B (Steps in wrong order)
1 st	A	Source tools, equipment and materials
2 nd	B	Source funds
3 rd	C	Install and arrange tools, equipment and materials
4 th	D	Identify venue
5 th	E	Determine tools, equipment and materials
6 th	F	Test tools and equipment
7 th	G	Carry out market survey

Key (answer)	A 5 , B4, C6, D2, E3, F7, G1,
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- no. 08			
Occupational Title:	Audio producer			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
				√
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.3			
Time allocation:	8 Minutes			

Test Item	Arrange the following steps in recording an audio in theirchronological order/ proper order.
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Column A (Order)		Column B (Steps in wrong order)
1 st	A	Prepare tools, equipment and materials
2 nd	B	Identify environment
3 rd	C	Prepare venue
4 th	D	Save and extract content
5 th	E	Assemble tools, equipment and materials
6 th Se	F	Capture and edit content
7 th	G	Perform warmups

8 th	H	Set and test input levels

Key (answer)	1-B, 2-C, 3-A, 4-E, 5-G, 6-H, 7-F, 8-D
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DIT/ QS	Test Item Database Performance Test Item- no.01.
Occupational Title:	Audio producer
Competence level:	1
Code no.	
Test Item:	Produce piece x in Afropopat 100 BPM .
Complexity level:	P2
Date of OP:	JANUARY 2022
Related Module:	M1.3
Related skills and knowledge:	Afropop, African drums, quantization, major minor and pentatonic scales
Required tools, materials and equipment:	Computer, microphone, audio interface, studio monitors, midi controller, connecting cables, power source, stationery, hardware (djembe, conga and shaker)/ software packages.
Time allocation:	3 Hours
Preferred venue:	Audio studio
Remarks for candidates	Avail protective gear Observe health safety and environment
Remarks for assessors	Provide all the tools equipment and materials listed above

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Preparation before task	Wore protective gear		1
		Assembled tools and equipments		2
		Assembled materials		1
2	Open project	Arranged page layout	2	
		100 BPM and quantize observed		2
		Selected plugins		2
4	Record sound	Selected input level	2	
		Captured sound		2
		Edited sound	2	
		Balanced sounds with		2
		• Drums		2
		• Melody		2
		• Low ends		2
		• Hi- ends		2
		• Compression		2
		• Equalization		2
		Soothing sound heard		4
		Saved page observed		4
		Exported audio observed		2
5	Post recording activities	Analyzed sound	2	
		Optimized frequencies hear		3
		Matching chords heard		2
		African grooveheard		2
6	Performed finishing	Closed programmes observed	2	
		Shut down computer	2	
		A shut down computer observed		2
		Switched off equipment	2	

		Power switched off observed		2
		Dissembled tools and equipment observed		2
		Covered equipment observed		2
		Packed tools and equipment	2	
		Cleaned studio	2	
		A clean studio observed		2
TOTAL (Y)		Process + Results	18	49
			$\frac{x}{\text{---}} \times 100$	
MAXIMUM SCORE				

4.0 ATP- PART IV

INFORMATION ON DEVELOPMENT PROCESS

4.1 Occupational Profile Developed(January 2022)

The Occupational Profile was exclusively developed by job practitioners who were working in the Audio producer occupation. The job expert panel, guided by UVQF Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

4.2 Training Module Developed(January 2022)

Based on the Occupational Profile for Audio producer of January 2022, Training Modules were developed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Developed (January 2022)

Based on the Occupational Profile for Audio producer of January 2022, and Training Modules, Test Items were developed sby combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package development was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the development philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

4.5 Development Panels

The participating panels of Job Practitioners required at different stages were constituted by members from the following organizations:

No.	Name	Institution/ Organization
1.	Ntubiro Godfrey	NCDC
2.	Julius Kyoshabira	UNEB
3.	Ssendikwanawa Raymond	Mityana ss
4.	Sempereza Daniel	Kaboya International school
5.	Kiwuwa Henry	Grayce sounds
6.	Ike Joshua	Sound district records
7.	Ngabo Herbert	Harvey Gold Studio
8.	TumwesigyeRemigious	Alpha studios
9.	Gerald Mutebi	Mota Records
10.	Matovu Ronald	Gagamel Records

4.6 Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:

1. Team Leader – Mr. Byakatonda Patrick, Ag Deputy Director, DIT
2. Coordinated by - Ms. Mukyala Ruth, Ag.DD/DIT
3. Facilitators - Ms. Mushabenta Brendah and Ms. Tuhirwe Doreen.
4. Data entrants – Mr.Kirinya Steven and Ms. Mutonyi Sharon
4. Compiled and edited by Ms. Mushabenta Brendah

4.7 Reference time:

The Assessment and Training Package was developed in January 2022 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

Reference

- Giannoulis, D., Massberg, M., & Reiss, J. (2012). Digital dynamic range compressor design—a tutorial and analysis. AES: Journal of the Audio Engineering Society.
- Tarr, Eric, (2019) Hack audio : an introduction to computer programming and digital signal processing in MATLAB. Audio Engineering Society, Routledge, New York, NY:
- Timothy A. Dittmar, (2012) Audio Engineering 101. Focal Press, 225 Wyman Street, Waltham, MA 02451, the Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, UK.
- Simon Langford, (2014) Digital Audio Editing: Correcting and Enhancing Audio in Pro Tools, Logic Pro, Cubase, and Studio One. Focal Press, 70 Blanchard Rd Suite 402 Burlington, UK.
- Taylor & Francis, (2019); Loudspeakers For Music Recording and Reproduction Second Edition. Routledge, 711 Third Avenue, New York, NY 10017 and by Routledge 2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN.
- Borwick, J., (2001); Loudspeaker and Headphone Handbook, Third Edition, Focal Press, Oxford, UK and Boston, USA.
- Ethan Winer, (2018); The Audio Expert, Everything You Need to Know About Audio Second Edition. Routledge 711 Third Avenue, New York, NY 10017 and by Routledge 2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN.
- Bob McCarthy, (2007) Sound Systems: Design and Optimization Modern techniques and tools for sound system design and alignment. Focal Press Elsevier Linacre House, Jordan Hill, Oxford OX2 8DP, UK.
- Glen M. Ballou, (2008); Handbook for Sound Engineers Fourth Edition. Focal Press Elsevier 30 Corporate Drive, Suite 400, Burlington, MA 01803, USA. Linacre House, Jordan Hill, Oxford OX2 8DP, UK.
- Johnson, P. (2002) 'The Legacy of Recordings', in J. Rink (ed) Musical Performance: A Guide to Understanding, Cambridge University Press.
- Juslin, P. (2001) 'Communicating Emotion in Music Performance: A Review and a Theoretical Framework', in P. Juslin and J. Sloboda (eds) Music and Emotion: Theory and Research, Oxford: Oxford University Press.
- Katz, M. (2003). 'Beethoven in the Age of Mechanical Reproduction: The Violin Concerto on Record', Beethoven Forum

- Katz, M. (2004). Capturing Sound: How Technology has Changed Music. Berkeley: University of California Press.
- Leech-Wilkinson, D. (2001). 'Using Recordings to Study Musical Performances', in A. Linehan (ed) Aural History: Essays on Recorded Sound, London: Association for Recorded Sound Collections, British Library

