

ཐུ་སྐད་བཟོ་བཞིན་པ།



SOUND TECHNICIAN

BQFC II

Technical Trainers Training and Resource Center
Department of Workforce Planning and Skills Development
Ministry of Education and Skills Development





Competency Based Curriculum
SOUND TECHNICIAN BQF Certificate-II

Technical Trainers Training and Resource Center
Department of Workforce Planning and Skills Development
Ministry of Education and Skills Development
Thimphu

Published by Technical Trainers Training and Resource Center
Department of Workforce Planning and Skills Development
Ministry of Education and Skills Development
Royal Government of Bhutan
Thimphu, Bhutan

Copyright © 2024 Technical Trainers Training and Resource Center
Department of Workforce Planning and Skills Development

All rights reserved. No part of this book may be reproduced in any form without the permission from
Technical Trainers Training and Resource Center (TTTRC)

This book remains the property of the Technical Trainers Training and Resource Center (TTTRC).

ISBN 978-99980-706-5-3

FOREWORD

Bhutan has seen a gradual increase in the requirement of skilled workers in recent years due to growth of industries. However, supply of skilled workforce that are responsive to the needs of the industry has not been able to keep in pace with the industry demand. Since the skilled workers are crucial ingredient for socio-economic development of the country, it is important to have adequate number of trained and certified workers. With growing industries, the “Sound Technician” is not only the most significant occupation but also have high demand in the labor market. In an effort to meet the skilled human resources requirement in the area of power sector, it is imperative to deliver training based on Competency Based Training system in Sound Technician BQF Certificate-2 to ensure quality and adequate number of work force in this sector.

To this end, the Department of Workforce Planning and Skills Development (DWPSD) is pleased to present Competency Based Curriculum for Sound Technician BQF Certificate-2 course developed based on national competency standard. Since it is an outcome of a more participatory process of curriculum development, it is expected to provide training delivery with reformed approaches having its content being directly related to labor market needs, focusing on imparting of skills and assessment based on industry work standards. We believe that the Competency Based Curriculum will help in bridging the skill gap between industry’s needs and training institutes thereby enhance the employability of the technical graduates.

The Department acknowledges the valuable contributions made by institutes, officials, and experts from relevant industries who were involved in the design and development of this curriculum. As it is a dynamic document which may require revision based on the needs of the changing labour market, the Department look forward to receiving valuable feedbacks from the institutes and the industries to further improve and refine the curriculum

The Department hope that this document will help advance Competency Based Learning in most of the TVET Institutions.



(Sangay Dorji)

Offg. Director

Department of Workforce Planning and Skills Development

ACKNOWLEDGEMENT

Technical Trainers Training and Resource Center, Department of Workforce Planning and Skills Development under MoESD would like to express our appreciation to the following subject experts and facilitators who have participated in the revision of curriculum for Sound Technician BQF Certificate-2.

Experts involved in the revision of Sound Technician BQF Certificate-2 curriculum:

1. Mr. Tenzin Thinley, Master Trainer, TTI, Samthang
2. Mr. Tashi Dorji, Master Trainer, TTI, Samthang
3. Mr. Lungten Wangchuk, Music Producer, The Yosel Records, Thimphu
4. Ms. Tandin Zangmo Tamang, Master Trainer, TTI, Samthang
5. Mr. Samten Jamtsho, Field Sound Recordist, Freelance, Thimphu
6. Mr. Sangay Dorji, Production Sound Recordist, Gyalgo Effects Gathering, Thimphu

Experts involved in the validation of Sound Technician BQF Certificate-2 curriculum:

1. Mr. Kinley Penjor, Producer, Juthrul Gharkhen Communication, Thimphu
2. Mr. Pelden Dorji, Film Director, Discovery Himalayas, Thimphu
3. Mr. Sonam Rinzin, Cinematographer, Classic Captures Audio Visual, Thimphu
4. Mr. Rinzin Norbu, Director of Photography, Freelance, Thimphu
5. Mr. Sangay Dorji, Production Sound Recordist, Gyalgo Effects Gathering, Thimphu
6. Mr. Tenzin Thinley, Master Trainer, TTI, Samthang

Facilitators and editors for revision of Sound Technician BQF Certificate-2 curriculum

1. Ms. Tenzin Dema Lepcha, Assistant Program Officer, TTTRC, DWPSD, MoESD

Chief editor

1. Mr. Karma Dorji, Acting Training Director, TTTRC

Table of Contents

FOREWORD	I
ACKNOWLEDGEMENT	II
COMPETENCY PROFILE	III
COURSE INFORMATION	V
COURSE OUTLINE	VI
COURSE STRUCTURE FOR CORE COMPETENCIES.....	VII
ASSESSMENT AND CERTIFICATION SYSTEM	VIII
MODULE INFORMATION:	1
MODULE 1	2
APPLY BASIC ELECTRICAL THEORY	4
SET UP SOUND EQUIPMENT	10
OPERATE SOUND EQUIPMENT	14
DISMANTLE THE SOUND EQUIPMENT	17
MODULE 2	20
SET UP SOUND EQUIPMENT	22
OPERATE SOUND EQUIPMENT	26
DISMANTLE THE SOUND EQUIPMENT	30
MODULE 3	33
PREPARE TO PERFORM AUDIO EDITING	35
PERFORM AUDIO MIXING	38
PERFORM AUDIO MIXING	41
PERFORM AUDIO MASTERING	44
ANNEXURE	48
ANNEX I: TIME DISTRIBUTION	48
ANNEX II: ASSESSMENT SAMPLE	52
ANNEX III: MODULE RECOGNITION	56
ANNEX IV: LESSON PLAN	57
ANNEX V: COURSE PLAN	62

Competency Profile

Trade: Sound Technician BQF Certificate-2

Competency Area	Sub Competency Area	Competencies/Tasks			
A: Carry out field sound recording	A1 Apply basic electrical theory	A1.1 Use PPE	A1.2 Test conductor and insulator	A1.3 Measure resistance	A1.4 Measure voltage
		A1.5 Measure current	A1.6 Verify ohms law	A1.7 Verify characteristics of series circuit	A1.8 Verify the characteristic of parallel circuits
		A1.9 Verify DC and AC circuits			
	A2. Set up sound equipment	A2.1 Prepare layout plan	A2.2 Check the equipment	A2.3 Set up equipment	A2.4 Test the equipment
	A3: Operate sound equipment	A3.1 Prepare for recording	A3.2 Record audio	A3.3 Review recorded audio	
	A4: Dismantle the sound equipment	A4.1 Disconnect the equipment	A4.2 Pack the equipment	A4.3 Submit audio files	
B: Carry out stage sound production	B1: Set up sound equipment	B1.1 Prepare layout plan	B1.2 Check the equipment	B1.3 Set up equipment	B1.4 Test the equipment

Competency Area	Sub Competency Area	Competencies/Tasks			
	B2: Operate sound equipment	B2.1 Prepare for production and recording	B2.2 Perform audio mixing	B2.3 Apply sound effects	B2.4 Record live audio
	B3: Dismantle the sound equipment	B3.1 Turn off the equipment	B3.2 Disconnect the equipment	B3.3 Pack the equipment	
C: Carry out audio post production	C1: Prepare to perform audio editing	C1.1 Manage audio files	C1.2 Prepare digital audio workstation	C1.3 Import audio files	C1.4 Review project file (ADR)
	C2: Perform audio editing	C2.1 Perform audio trimming	C2.2 Perform noise removal	C2.3 Perform levelling	C2.4 Export audio stems
	C3 Perform audio mixing	C3.1 Apply equalization (EQ)	C3.2 Apply compression	C3.3 Apply effects	C3.4 Export audio file
	C4: Perform audio mastering	C4.1 Prepare for audio mastering	C4.2 Apply limiter	C4.3 Perform rebalancing	C4.4 Check master audio file
		C4.5 Export master audio file			

COURSE INFORMATION

COURSE TITLE	Sound Technician
LEVEL	BQF Certificate 2
COURSE OBJECTIVE	Upon completion of this training program, the trainees will be able to: • Carry out field sound recording • Carry out stage sound production • Carry out audio post production
COURSE DESCRIPTION	This course is designed to provide trainees with the knowledge, skills and attitudes required to be competent in Sound technician work. This course will prepare the trainees to exhibit professionalism, teamwork, adaptability, and safety practices as per the requirement of workplace. To obtain certification of this course, all learning outcomes prescribed must be achieved.
COURSE DURATION	1202 Hours
TRAINER AND TRAINEE RATIO	1:12 (Practical) 1:20 (Theory)
ENTRY REQUIREMENT	Class X passed
TVET TRAINER REQUIREMENTS	• Must have a minimum qualification of Diploma in Sound engineering with five years of working experience in relevant field; • Must have undergone Training of Trainers-Technical Instruction and Pedagogy; • Must¹ have at least 5 years job/industry experience
SKILLED SUPERVISOR REQUIREMENTS	• Must have undergone ToT in Skilled Supervisor; • Must be Supervisor/Foreman of industry with minimum three years of related field experience

¹ Applicable only if institutes hire instructor or guest lecturer from industry

COURSE OUTLINE

Sl. No	Subject /Module	Duration (Hours)	Content Competencies (Mapped)
1.	Core modules	518	CC
2.	OJT	420	CC
3.	Applied Dzongkha	42	SS
4.	ICT	68	SS
5.	Applied Mathematics	60	SS
6.	Technical English	82	SS
7.	Entrepreneurship	70	SS
8.	Occupational Health and Safety (OHS)	34	ES
9.	Sustainable Consumption and Production (SCP)	36	ES
10.	Professional Ethics	68	PD
11.	Assessment	70	
	Total Course Duration	1202	

Note: (*) This curriculum contains core modules which cover main competencies of Sound Technician BQF Certificate-2 and OJT component. There are separate curricula for subjects/modules for delivery of soft skills, professional development & values and environmental concern & safety. In order to achieve the qualification of Sound Technician BQF Certificate-2, the subjects and modules listed must be accomplished as per the credit hours provided.

Content Competencies:

CC-Core Competencies

SS-Soft Skills

PD-Professional Development and Values

ES-Environmental concern and Safety

COURSE STRUCTURE FOR CORE COMPETENCIES

Training Modality	Module Title	Learning outcomes	Nominal Duration (Hour)
1. Institute Training	A. Carrying out field sound recording	A1. Apply basic electrical theory A2. Set up sound equipment A3. Operate sound equipment A4. Dismantle the sound equipment	152 hrs
	B. Carrying out live sound production	B1. Set up sound equipment B2. Operate sound equipment B3. Dismantle the sound equipment	175 hrs
	C. Carrying out audio post production	C1. Prepare to perform audio editing C2. Perform audio editing C3. Perform audio mixing C4. Perform audio mastering	195 hrs
2. On the Job Training	A. Carrying out field sound recording	A1. Apply basic electrical theory A2. Set up sound equipment A3. Operate sound equipment A4. Dismantle the sound equipment	140 hrs
	B. Carrying out high live sound production	B1. Set up sound equipment B2. Operate sound equipment B3. Dismantle the sound equipment	140 hrs
	C. Carrying out audio post production	C1. Prepare to perform audio editing C2. Perform audio editing C3. Perform audio mixing C4. Perform audio mastering	140 hrs
Total CC Duration:			942 hrs

ASSESSMENT AND CERTIFICATION SYSTEM

ASSESSMENT

Formative assessment for every module and learning outcome will be conducted through assignments, project works, continuous assessment, demonstration of practical skills/observations, oral questioning and written test.

Summative assessment after completion of each national certificate level will be conducted by TVET Quality Council, Bhutan Qualifications and professional certification authority, MoESD as per the National Competency Standards and Guidelines for National Assessment and Certification System, provided the course is accredited with TVET Quality Council, Bhutan Qualifications and professional certification authority, MoESD.

CERTIFICATION

On successful completion of every module, the institute will award a certificate of achievement to the trainees. The TVET Quality Council, Bhutan Qualifications and professional certification authority, MoESD will award a National Certificate to the trainees upon the successful completion of NC level assessment.

COURSE DELIVERY

1. Modular
2. Demonstration
3. Lecture
4. Industrial training/attachment
5. Project work
6. Problem-based learning
7. Project-based learning

RESOURCES

Materials

- Resistor, wires and bread board, pen, pencil, paper, masking tape, gaffer tape, batteries, masking tape, nails and scissors

Tools

- Pliers, screwdriver, neon tester, voltage detector and wire stripper, audio bag, DAW, ladder, torch, and case

Instruments

- Multimeter, voltmeter, ammeter and ohm meter, dB meter

Equipment

- DC power source, Digital Audio Recorder, Computer, Boom mic, windjammer, memory cards, headphone, XLR cable, boom pole, rechargeable batteries and charger, Recorder, Microphone, mic stand, Carrying Case, Handheld Microphone, wireless microphone, Drum mic set, Di box, Snake box, XLR cables, Mixing console, Cross over, Equalizer, Amplifier, Quarter inch Jack, Low frequency speakers (Sub woofer), High frequency speakers, Monitor speakers, In ear monitor, power cables, power strips, stereo RCA cables, and Microphone stands, ¼" cables and Power Adapter

PPE

- Safety gloves, safety boots, safety helmet, safety goggles, safety harness, mouth mask, rain gears and reflective vest

Learning Materials

- Competency Based Learning Materials (CBLM)
- Reference books
- Hand-outs
- Audio visuals

Infrastructure and training facilities

- *Theory classroom size*: Minimum of 1 m² per trainee;
- *Practical Workshop size*: Minimum of 2.25 m² per trainee. Variables must be considered depending upon type of skills being taught and the number of trainees participating at a time.

MODULE INFORMATION:
SOUND TECHNICIAN BQF CERTIFICATE-II

MODULE 1
ON
CARRYING OUT PRODUCTION SOUND RECORDING

MODULE INFORMATION

Occupation	Sound Technician
Competency Area	Carry out field sound recording
Module Title	Carrying out field sound recording
Module Code	3541-L2-M1
Module Description	This module is structured to provide learners with the knowledge, skills and right attitude required to apply basic electrical theory, set up sound equipment, operate sound equipment and dismantle the sound equipment.
Nominal Duration	152 hours
Certificate Level	BQF Certificate 2
Pre-requisite	Class X passed
Learning Outcome	1. Apply basic electrical theory 2. Set up sound equipment 3. Operate sound equipment 4. Dismantle the sound equipment

Module Title	Carrying out production sound recording		
Module Code	3521- L2-M1		
Learning Outcome 1	Apply basic electrical theory		
Duration	Theory: 14 hours	Practical: 20 hours	Total: 34 hours
Assessment Criteria	- Basic electrical theory is applied as per job requirement following standard procedures - Sound equipment is set up as per job requirement following standard procedures - Sound equipment is operated as per job requirement following standard procedures - Sound equipment is dismantled as per job requirement following standard procedures		
Content	A1.00 Introductory knowledge - Introduction to electricity A1.01 Use PPE Knowledge - Definition of PPE - Function of PPE - Types of PPE - PPE manual/Instruction - Types of work area - OHS regulation - Relevant rules and regulation Skills - Communication skills - Wearing PPE kits Attitude, safety and environmental concern - Being alert while using PPE kits - Being prepared to use PPE - Effective time management - Ensuring proper disposal of used PPE kits - Ensuring proper usage of PPE A1.02 Test conductor and insulator Knowledge - Types of conductors, insulator and semiconductor - Properties of conductor, insulator and semiconductor Skills - Using multi meter - Analytical skills Attitude, safety and environmental concern - Effective time management - Being efficient in using resources - Ensuring proper handling and storage of instruments and materials - Ensuring to follow OHS rules and regulations		

	• Ensuring appropriate use of PPE • Ensuring proper disposal of waste A1.03 Measuring resistance Knowledge • Definition of resistance, resistor and resistivity • Unit and symbol of resistance • Factors affecting resistance • Types of resistors • Application of resistors • Selection of meter range Skills • Using multimeter • Analytical skills Attitude, safety and environmental concern • Effective time management • Efficient use of materials • Ensuring proper handling and storage of tools, materials and equipment • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A1. 04 Measuring voltage Knowledge • Definition of voltage • AC and DC source • Unit and symbol of voltage • Selection of multimeter range • Types of voltmeters Skills • Using voltmeter • Analytical skills • Numeracy skills Attitude, safety and environmental concern • Effective time management • Efficient use of materials • Ensuring proper handling and storage of tools, materials and equipment • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A1. 05 Measuring current Knowledge
--	---

	• Definition of current • Units and symbol of current • Types of current • Effects of electric current selection of multimeter mode and range • Types of ammeters Skills • Using clamp-on multimeter • Interpreting circuit diagrams • Analytical skills • Numeracy skills Attitude, safety and environmental concern • Effective time management • Efficient use of materials • Ensuring proper handling and storage of tools, materials and equipment • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A1. 06 Verifying ohms law Knowledge • Ohm's law • Application of ohms law • Limitations of ohms law Skills • Using multimeter • Analytical skills • Numeracy skills Attitude, safety and environmental concern • Effective time management • Efficient use of materials • Ensuring proper handling and storage of tools, materials and equipment • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste • Ensuring to avoid over heating of resistor A1. 07 Verifying characteristics of series circuits Knowledge • Characteristics of series circuit • Advantages and disadvantages of series circuit • Applications of series circuit Skills • Using multimeter
--	---

	- Analytical skills - Numeracy skills <i>Attitude, safety and environmental concern</i> - Effective time management - Efficient use of materials - Ensuring proper handling and storage of tools, materials and equipment - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste - Ensuring to avoid over heating of resistor A1. 08 Verifying characteristics of series parallel combined circuit <i>Knowledge</i> - Advantages and disadvantages of series-parallel combined circuit - Applications of series-parallel combined circuit - Comparison of series and parallel circuit <i>Skills</i> - Using multimeter - Interpreting circuit diagram - Analytical skills - Numeracy skills <i>Attitude, safety and environmental concern</i> - Effective time management - Efficient use of materials - Ensuring proper handling and storage of tools, materials and equipment - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste - Ensuring to avoid over heating of resistor m A1. 09 Verifying characteristics of AC and DC circuits <i>Knowledge</i> - Characteristics of AC & DC - Advantages of AC over DC - Advantages of DC over AC - Types of sources <i>Skills</i> - Operating function generator - Using multimeter - Analytical skills - Numeracy skills <i>Attitude, safety and environmental concern</i> - Effective time management
--	--

	• Efficient use of materials • Ensuring proper handling and storage of tools, materials and equipment • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste • Ensuring proper handling of CRO and function generator • Ensuring not to inject test voltage beyond rated value
Learning Conditions	Learning Materials • Hand-outs • Audio Visuals • Reference books • Manuals • LMS Learning facilities and infrastructure • Classroom with adequate facilities • Information Technology (IT) lab • Library • Workshop Materials • Resistor, wires and bread board Tools • Pliers, screwdriver, neon tester, voltage detector and wire stripper Instruments • Multimeter, voltmeter, ammeter and ohm meter Equipment • DC power source PPE • Work dress and safety gloves
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management

Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out production sound recording		
Module Code	3521-L2-M1		
Learning Outcome 2	Set up sound equipment		
Duration	Theory: 16 hours	Practical: 62 hours	Total: 78 hours
Assessment Criteria	- Layout is planned as per the job requirement following standard procedures - Equipment is checked as per the job requirement following standard procedures - Equipment is set up as per the job requirement following standard procedures - Equipment is tested as per the job requirement following standard procedures		
Content	A2.01 Preparing layout plan Knowledge - Importance of layout planning - Types of equipment - Importance of geographical information - Importance of equipment placement - Cost estimation Skills - Communication skills - Decision making skills - Negotiating skills - Numeracy skills Attitude, safety and environmental concern - Effective time management - Being flexible with the location - Being patient and calm - Being polite while communicating - Being responsible - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste A2.02 Checking the equipment Knowledge - Functions and usage of various equipment - Process of troubleshooting devices Skills - Analytical skills - Observation skills - Problem solving skills Attitude, safety and environmental concern - Effective time management		

	• Being flexible with the location • Being patient and calm • Being polite while communicating • Being responsible • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A2.03 Setting up equipment Knowledge • Basic fundamentals of sound • Definition and working principles of microphone, XLR cable and Digital Audio Recorder • Types of microphones, cables, recording device and audio format • Sample rate • Bit depth • Signal flow of the equipment • Difference between digital and analog audio signal. Skills • Using digital audio recorder • Communication skills • Management skills • Decision making skills Attitude, safety and environmental concern • Ensuring proper handling of equipment • Being calm and mindful • Being responsible • Ensuring proper laying of cable • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A2.04 Testing the equipment Knowledge • Importance of testing the equipment • Process of testing equipment Skills • Using digital audio recorder • Communication skills • Listening skills • Observation skills • Management skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management
--	---

	• Being alert and vigilant while testing the equipment • Being caring • Being patient • Being careful • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand-outs • Audio Visuals • Reference books • Manuals • LMS Learning Facilities and infrastructure • Classroom with adequate facilities • Information Technology (IT) lab • Library • Studio Materials • Pen, pencil, paper, masking tape, AA batteries and scissors Tools • Audio bag and case Equipment • Digital Audio Recorder, shotgun condenser mic, windjammer, mic shield case holder, memory cards, headphone, XLR cable, boom pole, rechargeable AA batteries and charger, microphone, mic stand, carrying case and power adapter PPE • Work dress, safety gloves and safety boots
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management

Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out production sound recording		
Module Code	3521-L2-M1		
Learning Outcome 3	Operate sound equipment		
Duration	Theory: 9 hours	Practical:18 hours	Total: 27 hours
Assessment Criteria	- Recording is prepared as per the job requirement following standard procedures - Audio is recorded as per job requirement following standard procedures - Recorded audio is reviewed as per the job requirement following standard procedures		
Content	A3.01 Preparing for recording Knowledge - Definition and purpose of recording - Importance of positioning and placement of microphone Skills - Communication skills - Listening skills - Observation skills - Management skills - Analytical skills - Decision making skills Attitude, safety and environmental concern - Attention to details - Being patient - Being proactive - Being careful - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste A3.02 Recording audio Knowledge - Techniques of microphone placement - Definition of wavelength - Types of wavelengths - Properties of wavelength - Application of wavelength Skills - Listening skills - Analytical skills - Decision making skills Attitude, safety and environmental concern - Attention to details - Being patient		

	• Being proactive • Being careful • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste A3.03 Reviewing recorded audio Knowledge • Introduction to Digital audio workstation • Types of audio formats and standards Skills • ICT skills • Communication skills • Listening skills • Problem solving skills Attitude, safety and environmental concern • Effective time management • Being professional • Being creative • Being focused • Team work • Being patient and detail oriented • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand-outs • Audio Visuals • Reference books • Manuals • LMS Learning Facilities and infrastructure • Classroom with adequate facilities • Information Technology (IT) lab • Library • Studio Materials • Masking tape, marker pen, paper, pen, AA batteries and scissors Tools • Audio bag and case Equipment

	• Computer, Digital Audio Recorder, shotgun condenser mic, windjammer, mic shield case holder, memory cards, headphone, XLR cable, boom pole, rechargeable AA batteries and charger, microphone, mic stand, carrying case and power adapter PPE • Work dress, safety gloves and safety boots
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out production sound recording		
Module Code	3521-L2-M1		
Learning Outcome 4	Dismantle the sound equipment		
Duration	Theory: 3 hours	Practical: 10 hours	Total: 13 hours
Assessment Criteria	- Equipment is disconnected as per the job requirement following standard procedures - Equipment is packed as per job requirement following standard procedures - Audio file is submitted as per the job requirement following standard procedures		
Content	A4.01 Disconnecting the equipment Knowledge - Procedures of disconnecting equipment - Process of handling equipment Skills - Communication skills - Management skills - Problem solving skills Attitude, safety and environmental concern - Effective time management - Being patient - Being proactive - Being careful - Being responsible - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste A4.02 Packing the equipment Knowledge - Techniques of cable coiling - Techniques of packing Skills - Communication skills - Management skills - Analytical skills - Problem solving skills Attitude, safety and environmental concern - Effective time management - Being active and patient - Being careful and vigilant - Being responsible - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste		

	A4.03 Submitting audio file Knowledge • Importance of securing backup files • Types of submission platform Skills • ICT skills • Communication skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being alert while handling files • Being patient • Being careful • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand-outs • Audio Visuals • Reference books • Manuals • LMS Learning Facilities and infrastructure • Classroom with adequate facilities • Information Technology (IT) lab • Library • Studio Materials • Masking tape, marker pen, scissors, rubber band and straps Equipment • Computer with internet connection, memory card, removeable drive, memory card reader and cases
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management

Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

MODULE 2
ON
CARRYING OUT STAGE SOUND PRODUCTION

MODULE INFORMATION

Occupation	Sound Technician
Competency Area	Carry out stage sound production
Module Title	Carrying out stage sound production
Module Code	3521- L2-M2
Module Description	This module is structured to provide the learners with knowledge, skills and right attitude to set up sound equipment, operate sound equipment
Nominal Duration	175 Hours
Qualification Level	BQF Certificate 2
Pre-requisite	Completed Module: 3521-L2-M1
Learning Outcome	1. Set up sound equipment 2. Operate sound equipment 3. Dismantle the sound equipment

Module Title	Carrying out stage sound production		
Module Code	3521- L2-M2		
Learning Outcome 1	Set up sound equipment		
Duration	Theory: 20 hours	Practical: 66 hours	Total: 86 hours
Assessment Criteria	- Layout is planned as per the job requirement following standard procedures - Equipment is checked as per the job requirement following standard procedures - Stage sound equipment is set up as per the job requirement following standard procedures - Equipment is tested as per the job requirement following standard procedures		
Contents	B1.01 Preparing layout plan Knowledge - Signal flow and gain staging - Mixing console theory - Effects processing - Room acoustics - Speaker theory - Troubleshooting - Outboards - Monitoring systems Skills - ICT skills - Communication skills - Analytical skills - Problem solving skills - Decision making skills Attitude, safety and environmental concern - Effective time management - Being patient and adaptive - Attention to details - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste B1.02 Checking the equipment Knowledge - Types of equipment - Functions of equipment Skills - Analytical skills - Management skills - Problem solving skills - Decision making skills Attitude, safety and environmental concern		

	• Effective time management • Being alert • Being proactive • Being careful • Being caring • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste B1.03 Setting up stage sound equipment Knowledge • Process of setting up equipment • Balanced and unbalanced cables Skills • Management skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Being alert • Being careful • Being responsible • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste B1.04 Testing the equipment Knowledge • Methods of audio feedback identification • Techniques of solving audio feedbacks • Process of operating a mixer Skills • ICT skills • Communication skills • Listening skills • Analytical skills • Problem solving skills Attitude, safety and environmental concern • Effective time management • Being professional • Being creative • Being focused • Being detail oriented • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
--	---

Learning Conditions	Learning Materials • Hand outs • Audio-visuals • Reference books • Manuals • LMS Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Stage Materials • Pen, paper, sketch or digital diagram of the stage, velcro ties, cable ramps, gaffer tape, masking tape and nails Tools • Ladder, measuring tape, hammer, wire stripper and plier Equipment • Computer, handheld microphone, cordless microphone set, drum mic set, mixing console, speakers, in ear monitors, crossover, equalizer, amplifiers, audio cables, microphone stands, chargeable batteries, charger, headphone, snake cable with junction box, quarter inch jack with balanced cable, low frequency speakers (Sub-woofer), high frequency speakers, walkie talkie, monitor speakers, power cables, flight case, outboard rack, power strips, stereo RCA cables and DI boxes PPE • Work dress, safety gloves, safety boots and safety helmet
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning

Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics
-----------------------------	---

Module Title	Carrying out stage sound production		
Module Code	3521- L2-M2		
Learning Outcome 2	Operate sound equipment		
Duration	Theory: 8 hours	Practical: 54 hours	Total: 62 hours
Assessment Criteria	• Production and recording are prepared as per the job requirement following standard procedures • Audio mixing is performed as per the job requirement following standard procedures • Sound effects are applied as per the job requirement following standard procedures • Stage audio is recorded as per the job requirement following standard procedures		
Contents	B2.01 Preparing for production and recording Knowledge • Digital audio workstation Skills • ICT skills • Listening skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Team work • Ensuring appropriate use of PPE • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste B2.02 Performing audio mixing Knowledge • Types of sound sources • Tools and techniques of mixing Skills • Communication skills • Analytical skills • Management skills • Problem solving skills • Decision making skills • Listening skills Attitude, safety and environmental concern • Effective time management • Being alert • Being proactive • Being careful		

	• Being caring • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste B2.03 Applying sound effects Knowledge • Definition of effects • Types of effects • Definition of bus • Importance of bus • Types of bus • Definition of Aux • Process of routing Skills • Listening skills • Management skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Being alert • Being careful • Being responsible • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste B2.04 Recording live audio Knowledge • Types of DAWs • Advantages and limitations of DAWs Skills • ICT skills • Communication skills • Listening skills • Analytical skills • Problem solving skills Attitude, safety and environmental concern • Effective time management • Being professional • Being creative • Being focused • Team work • Being detail oriented
--	---

	• Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand outs • Audio-visuals • Reference books • Manuals • LMS Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Workshop Materials • Gapher tape, masking tape, marker pen, scissors, markers and nails Tools • Ladder, screw driver set, plier and wire striper. Equipment • Computer, handheld microphone, cordless microphone set, drum mic set, mixing console, speakers, in ear monitors, crossover, equalizer, amplifiers, audio cables, microphone stands, chargeable batteries, charger, headphone, snake cable with junction box, quarter inch jack with balanced cable, low frequency speakers (Sub-woofer), high frequency speakers, walkie talkie, monitor speakers, power cables, flight case, outboard rack, power strips, stereo RCA cables and DI boxes PPE • Gloves, safety boots and safety helmet
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning

Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics
-----------------------------	---

Module Title	Carrying out Live sound production		
Module Code	3521- L2-M2		
Learning Outcome 3	Dismantle the sound equipment		
Duration	Theory: 4 hours	Practical: 18 hours	Total: 22 hours
Assessment Criteria	- Equipment is turned off as per the job requirement following standard procedures - Equipment is disconnected as per the job requirement following standard procedures - Equipment is packed as per the job requirement following standard procedures		
Contents	B3.01 Turning off the equipment Knowledge - Process of turning off live sound equipment - Importance of following the process Skills - Communication skills - Problem solving skills Attitude, safety and environmental concern - Effective time management - Being professional - Being creative - Being focused - Team work - Detail oriented - Being patient - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste B3.02 Disconnecting the equipment Knowledge - Process of disconnecting equipment Skills - Communication skills - Management skills Attitude, safety and environmental concern - Effective time management - Being patient - Attention to details - Being active - Being adaptive - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste		

	B3.03 Packing the equipment Knowledge - Techniques of packing equipment: ➤ Weight distribution ➤ Labelling and inventory Skills - Communication skills - Management skills - Analytical skills - Decision making skills Attitude, safety and environmental concern - Effective time management - Being proactive - Being responsible - Being caring - Being careful - Ensuring appropriate use of PPE - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste
Learning Conditions	Learning Materials - Hand outs - Audio-visuals - Reference books - Manuals - LMS Learning Facilities and Infrastructure - Classroom with adequate facilities - Library - IT lab - Workshop Materials - Pen, pencil, paper, scissors, gaffer tape, masking tape and marker pen Tools - Screw driver set and wire striper. Equipment - Computer, handheld microphone, cordless microphone set, drum mic set, mixing console, speakers, in ear monitors, crossover, equalizer, amplifiers, audio cables, microphone stands, chargeable batteries, charger, headphone, snake cable with junction box, quarter inch jack with balanced cable, low frequency speakers (Sub-woofer), high frequency speakers, walkie talkie, monitor speakers, power cables, flight case, outboard rack, power strips, stereo RCA cables, DI boxes and

	case PPE • Work dress, safety gloves and safety boots
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

MODULE 3
ON
CARRYING OUT AUDIO POST PRODUCTION

MODULE INFORMATION

Occupation	Sound Technician
Competency Area	Carry out audio post production
Module Title	Carrying out audio post production
Module Code	3521- L2-M3
Module Description	This module is structured to provide the learners with knowledge, skills and right attitude required to prepare to perform audio editing, perform audio editing, perform audio mixing and perform audio mastering.
Nominal Duration	195 Hours
Qualification Level	BQF Certificate 2
Pre-requisite	Completed Module 3521-L2-M2
Learning Outcome	1. Prepare to perform audio editing 2. Perform audio editing 3. Perform audio mixing 4. Perform audio mastering

Module Title	Carrying out audio post production		
Module Code	3521- L2-M3		
Learning Outcome 1	Prepare to perform audio editing		
Duration	Theory: 7 hours	Practical: 33 hours	Total: 40 hours
Assessment Criteria	• Audio files are managed as per the job requirement following standard procedures • Digital audio workstation is prepared as per the job requirement following standard procedures • Audio files are imported as per the job requirement following standard procedures • Project file is reviewed as per the job requirement following standard procedures		
Contents	C1.01 Managing audio files Knowledge • Importance of file management • Types of storage platforms (online & offline) Skills • ICT skills • Analytical skills Attitude, safety and environmental concern • Effective time management • Being patient • Attention to details • Being careful • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C1.02 Preparing digital audio workstation Knowledge • Device setting • Project setting • Acoustic treatment • Ways of importing audio files Skills • ICT skills • Analytical skills • Management skills Attitude, safety and environmental concern • Effective time management • Being careful • Being proactive • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C1.03 Importing audio files		

	Knowledge • Audio file formats • Sample rate and bit depth • Project sample rate • Time base settings • Mono vs. Stereo • Tempo syncing • DAW Compatibility Skills • ICT skills • Communication skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Being careful • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C1.04 Reviewing project files Knowledge • Navigating the DAW • Shortcuts and tools of the DAW • Importance of backup and file management Skills • ICT skills • Listening skills • Management skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Being vigilant • Being careful • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand-outs • Audio-visuals • Reference books • Manuals

	• LMS Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Studio Tools • DAW Equipment • Computer, headphones, audio interface, studio speakers and XLR cables
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out audio post production		
Module Code	3521- L2-M3		
Learning Outcome 2	Perform audio mixing		
Duration	Theory: 6 hours	Practical: 30 hours	Total: 36 hours
Assessment Criteria	• Audio trimming is performed as per the job requirement following standard procedures • Noise removal is performed as per job requirement following standard procedures • Gain staging is performed as per job requirement following standard procedures • Audio stems are exported as per the job requirement following standard procedures		
Contents	C2.01 Performing audio trimming Knowledge • Definition of trimming • Importance of trimming audio Skills • ICT skills • Management skills • Listening skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being proactive • Being careful • Attention to details • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C2.02 Performing noise removal Knowledge • Definition of noise • Importance of noise removal • Types of noise • Tools for noise removal • Techniques of noise removal Skills • ICT skills • Listening skills • Analytical skills • Problem solving skills • Decision making skills Attitude, safety and environmental concern • Effective time management		

	• Being patient • Attention to details • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C2.03 Performing gain staging Knowledge • Importance of performing gain staging • Terminologies for audio volume • Definition of headroom Skills • ICT skills • Communication skills • Listening skills • Analytical skills Attitude, safety and environmental concern • Effective time management • Being proactive • Being careful • Attention to details • Being patient • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C2.04 Exporting individual tracks Knowledge • Types of file format and quality • Importance of individual audio tracks Skills • ICT skills • Communication skills • Listening skills • Management skills • Analytical skills Attitude, safety and environmental concern • Effective time management • Being proactive • Being careful • Attention to details • Being patient • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
--	---

Learning Conditions	Learning Materials • Hand-outs • Audio-visuals • Reference books • Manuals • LMS Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Studio Tools • DAW Equipment • Computer, audio interface, studio monitors, headphones and 1/4" jack with balanced cables
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out audio post production		
Module Code	3521- L2-M3		
Learning Outcome 3	Perform audio mixing		
Duration	Theory: 7 hours	Practical: 59 hours	Total: 66 hours
Assessment Criteria	- Equalization is applied as per job requirement following standard procedures - Compression is applied as per the job requirement following stand procedures - Effects is applied as per job requirement following standard procedures - Audio stem is exported as per job requirement following standard procedures		
Contents	C3.01 Applying equalization Knowledge - Types of EQ plugins - Types of EQ settings - Essence of frequencies; ➤ Frequency range ➤ Frequency response analysis Skills - ICT skills - Communication skills - Listening skills - Problem solving skills Attitude, safety and environmental concern - Effective time management - Being professional - Being creative - Being focused - Team work - Attention to details - Being patient - Ensuring to follow OHS rules and regulations - Ensuring proper disposal of waste C3.02 Applying compression Knowledge - Definition of compression - Types of compressors - Process of adjusting Audio compressor parameters - Importance of compression - Advantages of compression - Difference between compressor and limiter Skills - ICT skills		

	• Communication skills • Listening skills • Problem solving skills <i>Attitude, safety and environmental concern</i> • Effective time management • Being professional • Being creative • Being focused • Team work • Attention to details • Being patient • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C3.03 Applying effects <i>Knowledge</i> • Definition of effects • Importance of applying effects • Types of effects • Functions of effects <i>Skills</i> • ICT skills • Communication skills • Listening skills • Decision making skills <i>Attitude, safety and environmental concern</i> • Effective time management • Attention to details • Being patient • Being open to feedback • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C3.04 Exporting audio stem <i>Knowledge</i> • Definition of audio stem • Audio file naming conventions <i>Skills</i> • ICT skills • Listening skills • Analytical skills • Decision making skills <i>Attitude, safety and environmental concern</i> • Effective time management • Being patient • Attention to details
--	--

	• Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • CBLM • Hand-outs • Audio-visuals • Reference books • Manuals Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Studio Tools • DAW Equipment • Computer, audio interface, studio monitors, headphones and 1/4" jack with balanced cables
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

Module Title	Carrying out audio post production		
Module Code	3521- L2-M3		
Learning Outcome 4	Perform audio mastering		
Duration	Theory: 9 hours	Practical: 45 hours	Total: 54 hours
Assessment Criteria	• Audio mastering is prepared as per job requirement following standard procedure • Limiter is applied as per job requirement following standard procedure • Tonal balance is applied as per job requirement following standard procedure • Master audio file is checked as per job requirement following standard procedure • Master audio file is exported as per job requirement following standard procedure		
Contents	C4.01 Preparing for audio mastering <i>Knowledge</i> • Definition of audio mastering • Function of mastering • Importance of mastering audio • Different components of mastering <i>Skills</i> • ICT skills • Communication skills • Listening skills • Problem solving skills • Management skills • Decision making skills • Analytical skills <i>Attitude, safety and environmental concern</i> • Effective time management • Being professional • Being creative • Being focused • Team work • Attention to details • Being patient • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C4.02 Applying limiter <i>Knowledge</i> • Definition of Limiter • Functions of Limiter		

	• Definition of Threshold • Definition of Ceiling • Importance of Ceiling • Definition of Attack • Definition of Release <i>Skills</i> • ICT skills • Communication skills • Listening skills • Problem solving skills • Decision making skills • Analytical skills <i>Attitude, safety and environmental concern</i> • Effective time management • Being professional • Being creative • Being focused • Team work • Attention to details • Being patient • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C4.03 Applying tonal balance <i>Knowledge</i> • Definition of Tonal balance • Importance of Tonal balance • Definition of Mid/Side processing • Process of Mid/Side processing <i>Skills</i> • ICT skills • Communication skills • Listening skills • Decision making skills • Problem solving skills <i>Attitude, safety and environmental concern</i> • Effective time management • Attention to details • Being patient • Being open to feedback • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C4.04 Checking master audio file <i>Knowledge</i>
--	---

	• Loudness standards for various platforms • Various playback systems • Definition of stereo imaging • Importance of using reference tracks Skills • ICT skills • Communication skills • Analytical skills • Decision making skills • Listening skills • Problem solving skills Attitude, safety and environmental concern • Effective time management • Being patient • Attention to details • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste C4.05 Exporting master audio file Knowledge • Definition of dry run • Importance of dry run Skills • ICT skills • Listening skills • Analytical skills • Decision making skills Attitude, safety and environmental concern • Effective time management • Being patient • Attention to details • Ensuring to follow OHS rules and regulations • Ensuring proper disposal of waste
Learning Conditions	Learning Materials • Hand-outs • Audio-visuals • Reference books • Manuals Learning Facilities and Infrastructure • Classroom with adequate facilities • Library • IT lab • Studio

	Tools • DAW Equipment • Computer, audio interface, studio monitors, headphones and 1/4" jack with balanced cables
Underpinning Skills	• Team work • Communication • Problem solving • Interpersonal Relationship • Creativity • Time management
Instructional Methodologies	The trainer shall use <i>inter alia</i>, the following instructional methods: • Lecture • Interactive discussion • Demonstration • Industrial visit/training • Guided practice • Group practice with project-based learning • Individual practice with problem-based learning
Method of Assessment	The trainer shall use <i>inter alia</i>, the following assessment methods: • Practical observation • Oral/viva-voce • Written test • Assignment • Project work • Rubrics

ANNEXURE

Annex I: Time Distribution

Time Duartion					
BQF Certificate Level II					
Module	Learning outcomes	Tasks	Theory (hours)	Practical (hours)	Total (hours)
A. Carry out production sound recording	A1. Apply basic electrical theory	A1.00 Introductory Knowledge	1		1
		A1.1 Use PPE	4	1	5
		A1.2 Test conductor and insulator	1	2	3
		A1.3 Measure resistance	1	2	3
		A1.4 Measure voltage	1	1	2
		A1.5 Measure current	1	1.5	2.5
		A1.6 Verify ohms law	1	2.5	3.5
		A1.7 Verify characteristics of series circuit	1	3	4
		A1.8 Verify the characteristics of paralle circuits	1	3	4
		A1.9 Verify DC and AC circuits	2	4	6
	Sub total duration		14	20	34
	A2. Set up sound equipment	A2.1 Prepare layout plan	4	18	22
		A2.2 Check the equipment	6	18	24
		A2.3 Set up equipment	4	18	22

		A2.4 Test the equipment	2	8	10
	Sub total duration		16	62	78
	A3. Operate sound equipment	A3.1 prepare for recording	3	6	9
		A3.2 Record audio	2	6	8
		A3.3 Review recorded audio	4	6	10
	Sub total duration		9	18	27
	A4. Dismantle the equipment	A4. 1 Disconnect the equipment	1	3	4
		A4. 2 Pack the equipment	1	4	5
		A4. 3 Submit audio files	1	3	4
	Sub total duration		3	10	13
	Total Duration (A)		42	110	152
B. Carry out live sound production	B1. Set up equipment	B1.1 Prepare layout plan	12	18	30
		B1.2 Check the equipment	1	12	13
		B1.3 Set up the equipment	4	24	28
		B1.4 Test the equipment	3	12	15
	Sub total duration		20	66	86
	B2. Operate sound equipment	B2.1 Prepare for production and recording	1	12	13
		B2.2 Perform audio mixing	2	18	20
		B2.3 Apply sound effects	4	18	22
		B2. 4 Record live audio	1	6	7

	Sub total duration		8	54	62
	B3. Dismantle the sound equipment	B3.1 Turn off the equipment	2	6	8
		B3.2 Disconnect the equipment	1	6	7
		B3.3 Pack the equipment	1	6	7
	Sub total duration		4	18	22
	Total Duration (B)		32	138	170
C. Carry out audio post production	C1. Prepare to perform audio editing	C1.1 Manage audio file	1	5	6
		C1.2 Prepare digital audio work station	3	9	12
		C1.3 Import audio files	2	7	9
		C1.4 Review project file (ADR)	1	12	13
	Sub total duration		7	33	40
	C2. Perform audio editing	C2.1 Perform audio trimming	1	5	6
		C2.2 Perform noise removal	2	10	12
		C2.3 Perform gain staging	2	10	12
		C2.4 Export individual tracks	1	5	6
	Sub total duration		6	30	36
	C3. Perform audio mixing	C3.1 Apply equalization (EQ)	2	16	18
		C3.2 Apply compression	2	16	18
		C3.4 Apply effects	2	22	24
		C3.4 Export audio stems	1	5	6
	Sub total duration		7	59	66

	C4. Perform audio mastering	C4.1 Prepare for audio mastering	2	4	6
		C4.2 Apply limiter	2	10	12
		C4.3 Apply tonal balance	2	16	18
		C4.4 Check master audio file	2	10	12
		C4.5 Export master audio file	1	5	6
	Sub total duration		9	45	54
	Total Duration (C)		29	167	196
GRAND TOTAL			103	415	518

Annex II: Assessment Sample

Unit of competency	Drive Light Vehicle
Unit Code	8322-U4-L2
Module Title	Driving Light Vehicle
Module Code	8322-U4-L2-M1
Time Duration	45 min *
Problem or Project: Drive Light Vehicle	
Introduction: Perform pre-operating procedures before starting the vehicle. Drive light vehicle under different environment conditions following standard traffic rules and defensive driving techniques. Perform post operating procedures after parking the vehicle.	
Observation: (How will you be assessed as Competent?) Your performance will be assessed based on the following criteria: • Performance of pre and post operating procedures as per standard practices; • Application of standard procedures while starting the LMV; • Demonstrating the driving skills in different road condition using the system of vehicle control (SOVC); • Demonstrating your adherence to RSTA Rules, Defensive Driving; • The final outcome of your driving skills	
Note: For Assessor/Institute for preparation for assessment. Materials and Equipment for 1 candidate • LMV in good running condition with all necessary vehicle documents Roles and responsibilities of assessors (before/during and after assessment) • Identify in advance the different road environment (rough road, town, simulated night and poor light condition, highway) • During assessment let the candidate demonstrate moving off, reversing, overtaking, and parking.	

Assessor/ Observation Check List

Unit of competency	Drive Light Vehicle		
Unit Code	8322-U4-L2		
Module Title	Driving Light Vehicle		
Module Code	8322-U4-L2-M1		
Problem/Project: Drive Light Vehicle	Psychomotor (Practical) domain level: P2		
Candidate's Name:			
Place of Assessment:		Date of Assessment:	
A. During the demonstration of skills did the candidate do following:	Marks allocated	Marks received	Remarks
1. Check mirror settings, fluid level, tire pressure and required documents.	4		
2. Start LMV according to the procedure of standard starting procedure (Cockpit Drill)	2		
3. Move off and steer LMV wearing seat belts and without stalling the engine*	3		
4. Reverse LMV safely without stalling the engine*	3		
5. Park LMV safely in the centre of given parking area following standard parking procedure	2		
6. Drive LMV on the highway according to the road conditions following the road safety signs.	2		
7. Drive LMV in towns according to the traffic signs and signals.	2		
8. Drive LMV on 4WD safely (if necessary and available)	1		
9. Giving pass and overtake the vehicle safely according to the road and weather condition *	3		
10. Stop LMV safely in a given area according to standard stopping procedure	1		
B. Is the job outcome correct in the following areas?			
Caused no accidents and damages to the vehicle.*	5		
Total marks obtained	28		
The Candidate's performance	Satisfactory:		
	Not Satisfactory:		

Note: The questions marked with * are the critical questions which the trainees must be able to answer. Otherwise, they will be rated unsuccessful even if they perform well in the practical exam. The mark P is for the psychomotor domain level (P1- Simple Routine Assignment; P2- Questions related to Simple Routine Assignment and P3- Questions not related to Simple Routine Assignment)

Oral Questions checklist:

Unit of competency	Drive Light Vehicle			
Unit Code	8322-U4-L2			
Module Title	Driving Light Vehicle			
Module Code	8322-U4-L2-M1			
Problem/Project: Drive Light Vehicle				
Candidate's Name:				
Place of Assessment:		Date of Assessment:		
Questions (and its domain level) to be answered by the trainee / candidate:	Key Answer	Marks allocated	Marks obtained	Remarks
Why do you keep the vehicle in start mode for a few minutes before moving? (Verifying observations) (C1)				
In case of accidents who will you contact first? (contingency questions) (C2)				
While entering intersection, before how many seconds do you have to give signal? (verifying observations) (C3)				
Total Marks Obtained				
The candidate's performance was:		Satisfactory:		
		Not Satisfactory:		
Assessor's Name:		Signature:		

Note: The questions marked with C describes the cognitive level of the questions. C1- Remembering; C2- Functional Understanding and C3- Problem Solving.

Written questions checklist:

Unit of competency	Drive Light Vehicle		
Unit Code	8322-U4-L2		
Module Title	Driving Light Vehicle		
Module Code	8322-U4-L2-M1		
Problem/Project: Drive Light Vehicle			
Candidate's Name:			
Place of Assessment:		Date of Assessment:	
Questions (and its domain level) to be answered by the trainee/ candidate:	Key Answer	Marks Allocated	Marks Obtained

1. List down three types of parking. (Short Answer Question) (C1)	Angle, Straight and Parallel Parking	1	
2. All of the following are honking prohibited places <i>EXCEPT</i> : (C2) a. pedestrian crossing c. traffic jam b. public procession d. curves and bends (Multiple Choice Question)	D	2	
3. According to RSTA Regulations how much is the penalty for drunk driving? (C1)	Nu. 1750	1	
4. Match the following signs in column A with the indications in column B. (Matching Type) (C2) Column A 1.  2.  3.  Column B a. Give way b. Restriction End c. Compulsory Ahead d. Pedestrian Prohibited	1-c, 2-a, 3-d	3	
Total marks obtained			
The Candidate's performance was:	Satisfactory:		
	Not Satisfactory:		
Assessor's Name:		Signature:	
The Candidate's overall result:	Competent:		
	Not Yet Competent:		
Feedback to Candidate:			
(Provide feedback to the candidate on how they could improve – especially if they are not competent)			
I am satisfied with the way assessment was conducted: (Please include reasons if not satisfied)		YES	NO
Candidate Name:			
Signature:			
Date:			

Assessor Name:

Signature:

Training Provider:

Date:

Annex III: Module Recognition

This is to verify that

Mr/Ms.....

has completed module on

.....

Covering following learning outcomes:

1.
2.
3.

Instructor:

Head of the Department:

.....

.....

Signature:

Signature:

Date: / / (dd/mm/yyyy)
.....(dd/mm/yyyy)

Date: / /

Head of the Institute:

Trained Assessor (Institute)/Exam OC:

.....

.....

Signature:

Signature:

Date: / ... / (dd/mm/yyyy)

Date: / /(dd/mm/yyyy)

Annex IV: Lesson Plan

Lesson Plan

Course Title:				NC Level:
Module Code:				Duration:
Module Title:				
Learning Outcome:				
Skill/Task/Topic:				
Terminal Performance Objective:				
<i>(Note: Write narrative statement extracted from TPO of Task Sheet)</i>				
Enabling Objectives (Related knowledge):				
<i>By the end of the lesson learners will be able to:</i>				
i) ii) iii)				
What (Content/Activity)	Who (T/L)	How (Methods/ Media)	Duration (Min.)	Questions
<i>Introduction:</i>				
<i>Main body</i>				
<i>Conclusion</i>				
Projects/Problems:				

Instructional Resources Plan				
Skills/Task/Topic:				
No. of Trainees:				
Sl. No.:	Instructional materials/resources	Specifications	Qty.	Remarks
Prepared by :		Signature	Date:	
Revised by:		Signature	Date:	
Approved by:		Signature	Date:	

Task sheet

TS-1/4: Practical Plan			
Course Title:		N C Level:	
Module code:		Duration:	
Module Title			
Learning outcome			
Skills/Task Title:		Task no:	
Terminal Performance Objective: <i>Given:</i> <i>Cue:</i> <i>Who:</i> <i>What:</i> <i>Within:</i> <i>How well:</i> - - -			
Enabling Objectives (Related Skills): <i>By the end of a lesson, the learners will be able to:</i> i) ii) iii) iv)			
Activities	Who (T/L)	How (methods/ media)	Duration
Project/Assignment: 			

TS-2/4: Tool and Equipment required:							
<i>Sl no.</i>	<i>Particulars</i>	<i>Specifications</i>	<i>Qty.</i>	<i>Remarks</i>			
Training Materials required:							
<i>Sl no.</i>	<i>Particulars</i>	<i>Specifications</i>	<i>Qty.</i>	<i>Rate</i>	<i>Amount</i>	<i>Remarks</i>	
TS-3/4: Performance Guide							
Skill/Task:					Date:		
Directions: Use the following performances criteria to rate the learner. Check YES/NO to indicate whether the learner performed each step as indicated or not?							
Sl. No:	Steps					Yes	No
Note: Critical steps: All * marked steps should be carried out very carefully. For a quality performance guide, all items should be checked "YES"							

TS-4/4: Instruction and Drawing***General Instructions for Trainees***

- i)
- ii)
- iii)
- iv)

Drawing (if any)**Safety Precaution**

- i)
- ii)
- iii)

Prepared by:**Signature****Date:****Revised By:****Signature****Date:****Approved by:****Signature****Date:**

Annex V: Course Plan
Institutes letter head and Logo

(Trade)YEAR PLAN- _____ Semester _____ (Year)

Trade: NC Level:			Schedule																																Total Hours																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Module Code	Module Title	Learning Outcome	Feb.				March				April				May				June				July				Aug.				Sept					Oct.				Nov.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		1	2	3	4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Prepared by:

Verified & Approved by:

Date:

Monthly/Weekly Plan

Month:

Trade:

Trainer:

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 01							
Week 02							
Week 03							
Week 04							
Week 05							

Developed by:

Approved by:

Date



For more information please contact:

Technical Trainers Training and Resource Center (TTTRC), DWPSD

P.O. Box153; Gelephu

Telephone: General Office: 00975-77109569, Principal: 77353535,
official [Email.jwpti.dekiling@gmail.com](mailto:jwpti.dekiling@gmail.com), Principal: karma.dorji@moesd.gov.bt