



Republic of Rwanda  
Ministry of Education



# CURRICULUM

Short course



## SHORT COURSE OF MUSIC INSTRUMENT REPAIR

**MPAMIR0001**



Republic of Rwanda  
Ministry of Education



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# MPAMIR0001-Short course of Music Instrument Repair

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## List of abbreviations

<b>CV</b>	Curriculum Vitae
<b>IBT</b>	Industrial Based Training
<b>LO</b>	Learning outcome
<b>MINEDUC</b>	Ministry of Education
<b>MINISPORTS</b>	Ministry of Sports
<b>MoH</b>	Ministry of Health
<b>NST1</b>	National Strategy for Transformation
<b>PPE</b>	Personal Protective Equipment
<b>PSG</b>	Paris Saint Germain
<b>RDB</b>	Rwanda Development Board
<b>RP</b>	Rwanda Polytechnic
<b>RQF</b>	Rwandan Qualification Framework
<b>RDB</b>	Rwanda Development Board
<b>RTB</b>	Rwanda TVET Board
<b>TSS</b>	Technical Secondary Schools
<b>TVET</b>	Technical and Vocational Education and Training
<b>UR-CMHS</b>	University of Rwanda - College of Medicine and Health Sciences

## Foreword

The global rapid changes in the labour market tend to call for appropriate training and skills development through outcome-based training approaches. Skills development and employment promotion are central to Rwanda's transformative Vision 2050, aiming to secure high standards of living for all Rwandans. In a bid to transform Rwanda into a knowledge-based economy, the National Strategic Transformation (NST1) calls for socio-economic transformation through TVET skills development. The Rwanda TVET Board (RTB) was established to promote quality education in Technical and Vocational Education and Training from level one (1) to five (5), aimed at fast-tracking the socio-economic development of the country.

For fast-tracking economic development, RTB is adopting the approach of delivering short courses that cater to all categories of people, equipping them with relevant and tailored skills and competences needed for the labour market. This is in response to the labour market requirements, with the aim of subsequently propelling our economy to the next step. These short courses are delivered through different approaches, namely; Industrial Based Training (IBT), Dual Training, and School-Based Training.

RTB is excited to introduce a new short course curriculum in music and performing arts to help the music industry to reach your goals of having a good status of music instrument and music equipment.

I wish to sincerely extend my appreciation to the people who contributed to the development of this document.

**Dipl- Eng.Paul UMUKUNZI**

**Director General, RTB**

## Acknowledgments

RTB expresses its heartfelt appreciation to the essential institutions involved, specifically RDB, Ministry of Education for their remarkable contributions to this accomplishment. Additionally, RTB acknowledges with gratitude the valuable efforts of individuals who actively participated in shaping this curriculum:

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# GENERAL INTRODUCTION

The short course curriculum offers a cohesive and significant set of skills necessary for becoming a repair Trainer. It has been carefully crafted, considering the training requirements, work environment, goals, and methods for implementing the training.

Each module within the curriculum outlines the expected outcomes upon completion of the training, directly influencing the selection of both theoretical and practical learning activities. These competencies serve as the focal points for training, as each one must be acquired to attain certification.

Moreover, the curriculum serves as the basis for evaluating learning. The tools for assessing progress and understanding are developed based on this document.

Comprising three parts, the curriculum begins with a section of general interest, explaining the program's nature, objectives, key concepts, and definitions used throughout the document. The second part details the program, purpose, rationale, and the modules it includes. The third part focuses on the training package, encompassing the module sequencing, descriptions, and course structure.

The core of the curriculum lies in the pages that describe each module. These pages provide information such as the module's title, duration of training, credit allocation, the context in which the competency is applied, prerequisite competencies, learning outcomes, and performance criteria.

Within each module, a course structure is outlined, specifying the learning outcomes in terms of knowledge, skills, and attitude, along with the related learning content for each unit. Additionally, suggested learning activities and resources are provided to aid in the learning process.

Lastly, each module incorporates assessment specifications and guidelines, ensuring a comprehensive evaluation of the acquired knowledge and skills.

## PROGRAMME DETAILS

### 2.1 Description

**Title:** Short course of Music Instrument Repair

**Level:** N.A

**Credits:** 80

**Sector:** Arts and Craft

**Issue date:** June, 2024

**Review**

**date:**

This curriculum provides the skills, knowledge and attitudes for a learner to be competent in a range of routine tasks and activities that require the application of a limited range of basic practical skills in a defined context. Repairing Centres (KAZI NI KAZI). These are the primary places where repairing trainers practice in Rwanda. They work in dedicated repairing centres assisting technician with exercise routines, demonstrating proper techniques, and guiding them through workouts.

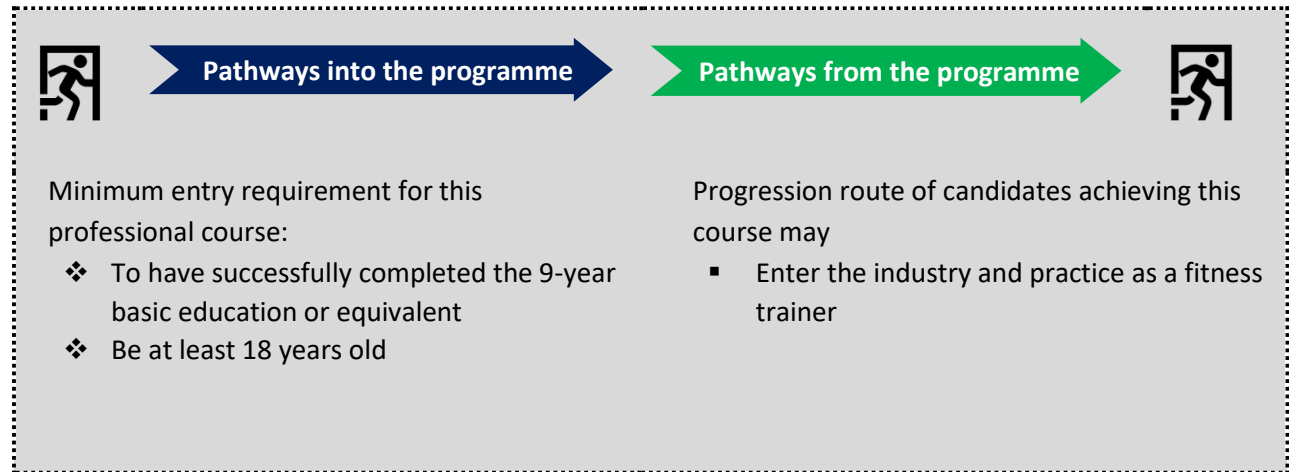
At the end of this programme, qualified learners will be able to:

- Describe occupational and learning process
- Maintain SHE at workplace
- Apply computer literacy
- Create business
- Apply Basic entrepreneurship
- Apply Basic fundamental of electronic
- Apply Basic fundamental of electricity
- Repair music instrument
- Repair music equipment
- Industrial attachment program

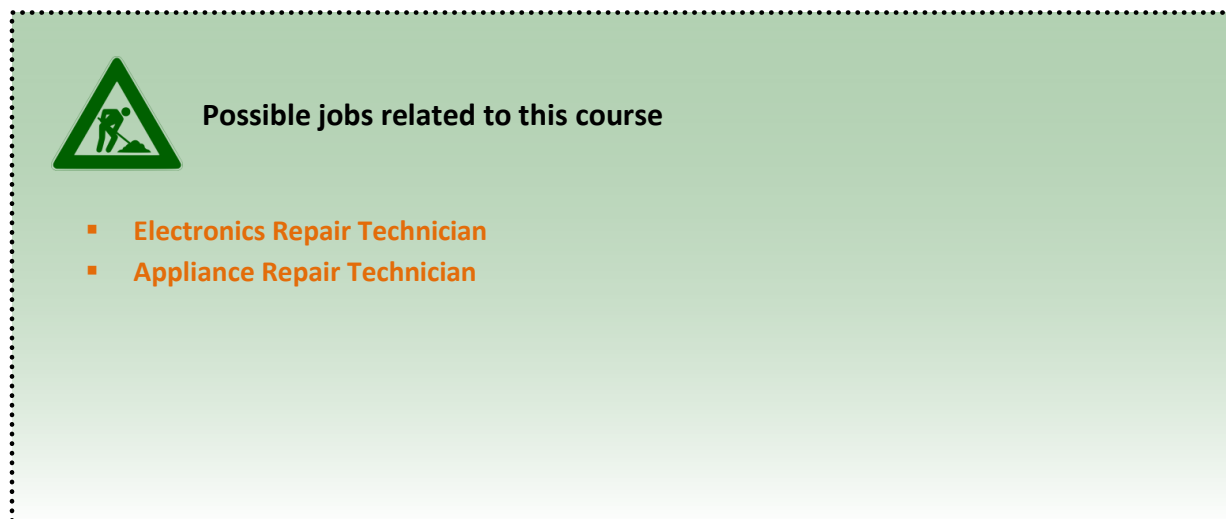
### 2.2 Minimum entry requirements

The minimum entry requirements to this short course programmer is to have broad knowledge, skills and attitude of repairing services background. And to have completed Nine years Basic Education and above or Equivalent Certification, or any other equivalent qualification.

## 2.3 Information about pathways



## 2.4 Job related information



## 2.5 Employability skills and life skills

Through the generic modules, individuals with this qualification have acquired the life and employability skills to meet the following industry or enterprise requirements:

### Communication

- Documenting technical work in plain English
- Questioning, clarifying and evaluating information
- Reading and reviewing a range of reports
- Using specialist language in written and oral communication
- Writing in a range of styles to suit different audiences

### Teamwork

- Working collaboratively with team members
- Referring matters to nominated person as required
- Working as a member of a team and applying knowledge of one's own role to achieve team goals
- Working with diverse persons and groups

### Health, hygiene and safety

- Know the standard health and safety practices and regulations in the workplace;
- Maintain hygiene and personal cleanliness;
- Identify unsafe situations;
- Respond to emergencies and accidents at work;
- Prevent communicable diseases
- Rwanda environmental protection, practices rules and regulations

### Problem solving

- Checking reports for accuracy and correcting errors as required
- Collecting, comparing and contrasting data for informed decision making
- Using problem solving tools and techniques to solve reconciling problems

## Computer skills

- Operate a computer
- Use word processing applications in the production of workplace or personal documents
- Create and use spreadsheets and charts through the use of spreadsheet software
- Design electronic presentations
- Send, receive and manage electronic mail (email), as well as to collaborate online using chat rooms, intranets and instant messaging.

## Integration of the workplace

- Know how to apply for and present themselves for employment;
- Demonstrate behaviour and attitudes that are appropriate for the workplace and understand that workplaces have policies and procedures that need to be followed;
- Take initiative and responsibility for own work and know how to work under and respect supervision;
- Know the rights and responsibilities of workers and employers and explore ways to exercise rights in the workplace.

## Initiative and enterprise

- Contributing to solutions to workplace challenges
- Designing reports to effectively present workplace information

## Self-management

- Managing own time and priorities and dealing with contingencies
- Operating within industry standards, legislation and regulations
- Taking responsibility as required by work role and ensuring all organisational policies and procedures are followed

## Learning

- Acquiring and applying knowledge of products, services and organisational policies and procedures
- Applying knowledge of the industry to workplace activities
- Learning new ideas, skills and techniques
- Seeking appropriate technical help with stand-alone and online computerised systems.

No	Code	Complementary competencies	Credit
1	CCMOL001	OCCUPATIONAL AND LEARNING PROCESS	3
2	CCMAS001	SAFETY, HEALTH AND ENVIRONMENT AT WORKPLACE	3
3	CCMBE001	ENTREPRENEURSHIP	3
5	CCMCL001	INFORMATION AND COMMUNICATION TECHNOLOGY	3
Total			12

## 2.6 Information about competencies

	No	Code	Core competencies	Credit
General	1	GENPD001	APPLY PROFESSIONAL DEVELOPMENT AND DISTRIBUTION SKILLS	5
	2	GENFE001	APPLY BASIC FUNDAMENTAL OF ELECTRICITY	5
	3	GENF001	APPLY BASIC FUNDAMENTAL OF ELECTRONICS	6
SPECIFIC	4	MPAER001	REPAIR MUSIC EQUIPMENT	11
	5	MPAIR001	REPAIR MUSIC INSTRUMENT	11
	6	MPAIA001	INDUSTRIAL ATTACHMENT PROGRAM	30
Total				68

- ❖ Number of competencies: **10**
- ❖ Core competencies :**6**
- ❖ Complementary competencies: **4**
- ❖ The total number of Credits: **80**

## 2.8 Allocation of Learning Hours for modules

NO	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
1	BASIC FUNDAMENTAL OF ELECTRICITY	Apply basic concept of electricity	5	15	20
		Perform electrical measurement	5	15	20
		Apply electrical safety precaution	3	7	10
Total hours			13	37	50
2	BASIC FUNDAMENTAL OF ELECTRONICS	Apply passive components	7	18	25
		Apply Active components	7	18	25
		Use electronic measuring instrument	3	7	10
Total hours			17	43	60
3	MUSIC INSTRUMENT REPAIRING	Perform Pre -repair activities of music instruments	5	10	15
		Repair string instruments	5	15	20
		Repair Aerophones instruments	7	18	25
		Repair percussive instruments	7	18	25
		Repair electrophone instruments	7	18	25
Total hours			31	79	110
4	MUSIC EQUIPMENT REPAIRING	Pre -repair activities of music equipment	5	10	15
		Repair Console Mixer	7	18	25
		Repair power amplifier	7	18	25
		Repair loudspeaker	5	15	20

		Repair microphone	5	15	20
		Document the work done	2	3	5
Total hours			31	79	110



## TRAINING PACKAGE

The training package includes the flowchart, the modules, the course structure, and the assessment guidelines.

### 3.1 Course structure

The course structure describes the learning outcomes. These learning outcomes are the essential skills and knowledge to be acquired. The contents to be covered for each learning outcome are prescriptive. The Learning Activities contain a series of suggestions, usually with several options, that will guide the learner and the trainer.

### 3.2 Flowchart

The flowchart of sequencing of learning is a schematic representation of the order of acquisition of the competencies. It provides an overall planning of the entire training programme and shows the relationship between the modules. This type of planning is to ensure consistency and progression of learning. For each module, the flowchart shows the learning that is already in place, the learning that is to take in parallel or later. The positions defined will have a decisive impact on all subsequent pedagogical choices. The flowchart of the sequence of learning of the modules of the training programme is presented on the following page.

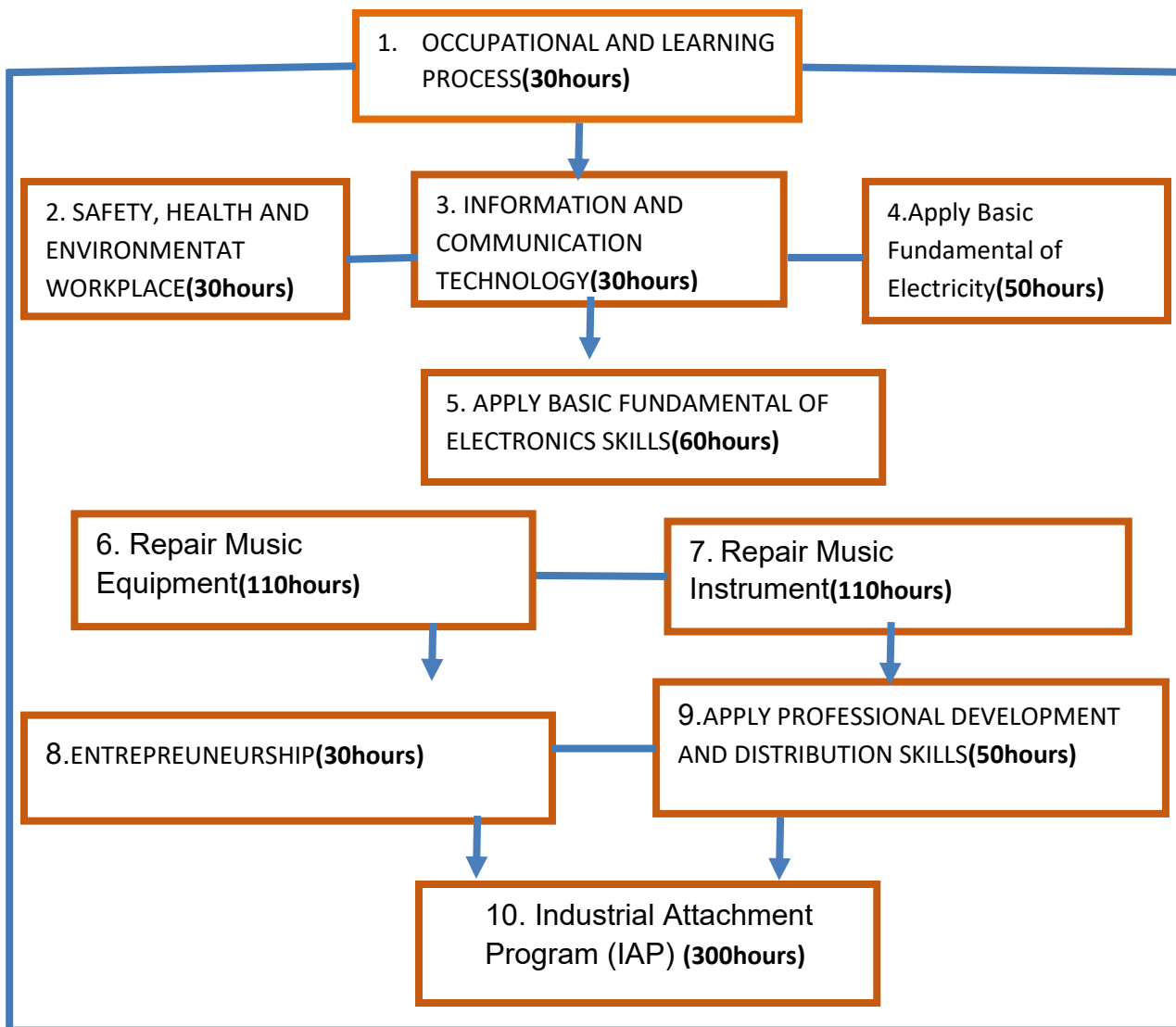
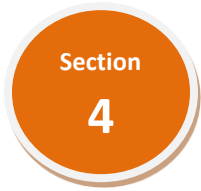


Figure 1: Flowchart



# ASSESSMENT GUIDELINES

## 4.1 Assessment Methodology

To assess knowledge, practical, and application skills through a jury system of continuous evaluation that encourages learners to display understanding of the principles in application to set practical tasks and their attendant theory to assess self-learning.

## 4.2 Portfolio

A portfolio is a collection of learner work representing learner performance. It is a folder (or binder or even a digital collection) containing the learner’s work as well as the learner’s evaluation of the strengths and weaknesses of the work. Portfolios reflect not only work produced (such as papers and assignments, direct demonstration, indirect demonstration, products, documents), but also it is a record of the activities undertaken over time as part of learner learning. The portfolio is meant to show learner growth, development, and achievements in the education system. It also shows that you have met specific learning goals and requirements. A portfolio is not a project; it is an ongoing process for the formative assessment. The portfolio output (formative assessment) will be considered only as enough for complementary and general modules. Besides, it will serve as a verification tool for each candidate that he/she attended the whole training before he/she undergoes the summative assessment for specific modules.

There are two types of assessment (Formative Assessment and Summative/Integrated Assessment). Each assessment has its own rule for passing to be declared competent.

### Formative Assessment

- This is applied on all types of modules (e.g. General and Specific modules)
- A trainee to be competent for a formative module must have at least 70% on checked items or “yes” in indicators (e.g. questions, indicators in the checklist)
- Each trainee should be competent on all formative assessments to be declared competent on that module
- All formative assessment should be declared competent before taking the summative/integrated assessment

### **Summative/Integrated Assessment**

- All Summative/Integrated assessment should match with the content of the module in the curriculum.
  - Summative/Integrated Assessment is always in practical, giving it as a theoretical type of assessment is not acceptable.
  - During Summative/Integrated assessment, assessor panel members should be three (3).
  - This Summative/Integrated assessment can be seen in specific modules and the Trainee can be declared competent by the following rules:
    - ✓ **For YES or NO scoring of indicators in Summative/Integrated Checklist**
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**CCMOLOO1**

## OCCUPATION AND LEARNING PROCESS

**Competence: DESCRIBE OCCUPATION AND LEARNING PROCESS**

RQF Level: N/A

Learning Hours



Credits: 3

Sector: All

Program: All

Module Type: Complementary

Curriculum: DUAL TRAINING SHORT COURSE

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kigali June, 2024

<b>Purpose statement</b>	This module covers the necessary knowledge, skills and right attitudes required to describe the occupation and learning process. It is developed for trainees who undergo TVET short course training in Rwanda. Upon completion of this module, the learner will be able to portray his/her occupation, explain the training and learning process and elaborate personal learning plans.				
<b>Learning assumed to be in place</b>	N/A				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	100%
	<ul style="list-style-type: none"> <li>Group project and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual project /Work</li> </ul>	50%			
	Summative Assessment		N/A		

## Elements of Competency and Performance Criteria

Elements of competency	Performance Criteria
1. Portray the occupation	1.1. The rules and regulations are appropriately adhered to in line with the team and training context
	1.2. The occupation is properly described in line with related sector and trades
	1.3. The short course/program outcomes are adequately explained in line with the qualification pathways
2. Explain the training and learning process	2.1. Facilitation technics are effectively explained in line with Competence Based Training and dual training system
	2.2. Learning methods are properly described according to VARK technic
	2.3. Assessment procedures are adequately described in line with Competence Based Assessment guidelines

3. Elaborate the personal learning plans	3.1. The apprentice/learner values, skills and interests are properly identified based on self-assessment practices
	3.2. Learning goals are correctly set in line with personal values, skills and interests assessed
	3.3. The plans to attain learning goals are properly developed in line with personal values, skills and interests assessed

## Course content

<b>Learning outcomes</b>	<b>At the end of the module the learner will be able to:</b> <ol style="list-style-type: none"> <li>1. Portray the occupation and learning process</li> <li>2. Explain the training and leaning process</li> <li>3. Develop personal learning plans</li> </ol>
<b>Learning outcome 1: Portray the occupation</b>	<b>Learning hours: 6</b>

### Indicative Content

<ul style="list-style-type: none"> <li>● <b>Adherence to the rules and regulations</b> <ul style="list-style-type: none"> <li>✓ Introduction of oneself identification <ul style="list-style-type: none"> <li>✚ Elements of a good Introduction. (Names, Academic background, Audible voice, Interests/hobbies, Career interests, Advocate for his/her abilities, skills, Location).</li> <li>✚ Application of non-verbal communication cues. (Body language, Eye contact, Gestures Posture, Facial expressions).</li> <li>✚ Sharing expectations about the training (Hobbies/interests, Background and career interests Advocate for his/her abilities, skills, and interests).</li> </ul> </li> <li>✓ Integration of learners in a team</li> <li>✓ Learning place's rules and regulations</li> </ul> </li> <li>● <b>Description of the occupation</b></li> </ul>
--

- ✓ Definition of terms
- ✓ Rationale of the short course
- ✓ Importance of the occupation in own sector
- ✓ Characteristics of the occupation
- ✓ Place of the occupation in the sector
- ✓ Working conditions in the occupation
- ✓ The job positions within the trade
- Explanation of the short course outcomes
  - ✓ Explanation of the content of the training programme (modules)
  - ✓ Duration
  - ✓ Flowchart
  - ✓ Program related pathways
    - ✚ Minimum entry requirement for the profession short course
    - ✚ Progression route of the candidates achieving the short course
  - ✓ Timetable

Equipment	✓ Computer, projector, chalk board
Materials	<ul style="list-style-type: none"> <li>✓ Flip chart</li> <li>✓ Chalk</li> <li>✓ Marker pen</li> </ul>
Tools	✓ Trainer manual
Facilitation techniques	<ul style="list-style-type: none"> <li>✓ Brainstorming</li> <li>✓ Group discussions and presentation</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>✓ Written assessment</li> <li>✓ Oral presentation</li> </ul>
<b>Learning outcome 2: explain the training and learning process</b>	<b>Learning hours: 8</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• Explanation of the training process           <ul style="list-style-type: none"> <li>✓ Introduction to Competence Based Training (CBT)               <ul style="list-style-type: none"> <li>✚ Key terms definitions</li> </ul> </li> </ul> </li> </ul>	

- ✚ Concept of CBT
- ✚ Importance of CBT in TVET schools
- ✚ CBT vs traditional teaching
- ✓ Dual training system
  - ✚ Training process at school
  - ✚ Training process at the workplace
- Explanation of learning process
- ✓ Overview of learning methods
  - ✚ Active learning
  - ✚ Collaborative/cooperative learning
  - ✚ Spaced repetition
  - ✚ Mind Mapping
  - ✚ Technological-based Learning
  - ✚ Reflective reasoning
- ✓ Student role in the learning
- ✓ Experiential learning cycle
- ✓ Assess one's learning style
  - ✚ Types of learning style
  - ✚ Tools to assess learning style (VARK)
- Description of the assessment procedures
  - ✓ Competence Based Assessment guidelines
    - ✚ Definition of assessment
    - ✚ Types of assessments in TVET system
    - ✚ Assessment tools
    - ✚ Passing lines
    - ✚ Evidence gathering and portfolio building
    - ✚ Certification process

Resources required for the indicative content

Equipment	<ul style="list-style-type: none"> <li>✓ Chalkboard</li> <li>✓ Projector</li> <li>✓ Computer</li> </ul>
Materials	<ul style="list-style-type: none"> <li>✓ Chalk, flipchart</li> </ul>
Tools	<ul style="list-style-type: none"> <li>✓ Documentation tools related to the qualification</li> </ul>
Facilitation techniques	<ul style="list-style-type: none"> <li>✓ Brainstorming</li> <li>✓ Group discussions</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>✓ Written evidence</li> <li>✓ Oral evidence</li> </ul>

<b>Learning outcome 3: Develop personal learning plans</b>	<b>Learning hours: 8</b>
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<b>Indicative content</b>
<ul style="list-style-type: none"> <li>• Identification of apprentice/learner's values, skills and interests <ul style="list-style-type: none"> <li>✓ Key terms definitions <ul style="list-style-type: none"> <li>✚ Values</li> <li>✚ Skills</li> <li>✚ Interests</li> </ul> </li> <li>✓ Values, skills and interests' assessment</li> <li>✓ Relating values, skills and interests to the occupation/trade</li> </ul> </li> <li>• Setting learning goals <ul style="list-style-type: none"> <li>✓ Characteristics of goals <ul style="list-style-type: none"> <li>✚ Specific</li> <li>✚ Measurable</li> <li>✚ Achievable</li> <li>✚ Realistic</li> <li>✚ Time bounded</li> </ul> </li> <li>✓ Types of goals <ul style="list-style-type: none"> <li>✚ Short term</li> <li>✚ Long term</li> <li>✚ Process for setting goals</li> </ul> </li> </ul> </li> <li>• Development of plans to attain learning goals</li> </ul>

- ✚ Develop Plans
- ✚ Prepare Long Term Plans
- ✚ Prepare short term plans
- ✚ Develop strategies to achieve plans
- ✚ Resources
- ✚ Timing

## References

1. Work Readiness Training Programme – Trainer’s Manual, Akazi Kanoze – Youth Livelihoods Project
2. Work Readiness Training Programme – Participant’s Manual, Akazi Kanoze – Youth Livelihoods Project.
3. Work Readiness Training Program – TVET Complementary Modules, Internship, Akazi Kanoze II Project
4. <https://teaching.berkeley.edu/active-learning-strategies>
5. <https://www.business-in-a-box.com/business-plan>



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<b>Purpose statement</b>	This module describes the skills, knowledge and attitudes required to respect and apply personal and workplace hygiene, safe, health and sanitation. It also covers the personal protective attitudes required in the sector. Moreover, the module describes the skills, knowledge and attitudes required to maintain personal hygiene, safety and health, to sustain a safe and healthy environment at workplace, and ensure environmental sustainability.				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	100%
	<ul style="list-style-type: none"> <li>Group project and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual project /Work</li> </ul>	50%			
	Summative Assessment		N.A		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Maintain personal hygiene, safety and health</b>	<b>3.3.</b> Personal hygiene, safety and Health habits are properly sustained according to the World Health Organisation recommendations
	<b>3.4.</b> Safe nutritional behaviour and food safety is effectively demonstrated with regards to World Health Organisation recommendations
	<b>3.5.</b> Safe reproductive health practices are applied in line with the comprehensive sexuality education program
	<b>3.6.</b> The contamination and spread of pandemic diseases are effectively prevented in accordance with the World Health Organization guidelines
	<b>3.7.</b> Work clothing and personal protective Equipment are correctly used in line with the workplace regulations.
<b>2. Sustain a safe and healthy environment at the workplace</b>	2.1. Workplace unsafe situation is properly avoided in line with workplace regulations
	2.2. Hazards are properly controlled with respect to methods of hazard control and SHE signs in the workplace

	2.3. Workplace health and safety risks are effectively assessed and controlled with respect to risk assessment steps
	2.4. Workplace emergencies are promptly handled in line with policy and regulations
<b>3. Ensure environmental sustainability</b>	3.1. Environmental laws, standards and regulations are properly identified in line with working context
	3.2. Best practices to keep the environmental clean are properly applied according to environmental laws, standards and regulations
	3.3. Climate change adaptation and mitigations measures are described in line with environmental laws, standards and regulations.

## Course content

<b>Learning outcomes</b>	<b>At the end of the module the learner will be able to:</b> <ol style="list-style-type: none"><li>1. Maintain personal hygiene, safety and health</li><li>2. Sustain a safe and healthy environment at Work Place</li><li>3. Ensure environmental sustainability</li></ol>
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<b>Learning outcome 1: Maintain personal hygiene, health and safety</b>	<b>Learning hours: 15</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"><li>• Maintenance of Personal hygiene, safety and Health habits<ul style="list-style-type: none"><li>✓ Key terms definitions<ul style="list-style-type: none"><li>✚ Hygiene</li><li>✚ Safety</li><li>✚ Health</li><li>✚ Sanitation</li></ul></li><li>✓ Relationship between Water, Sanitation and Hygiene</li><li>✓ Personal hygiene<ul style="list-style-type: none"><li>✚ Hand hygiene (hand washing technic, WASH)</li><li>✚ Body hygiene;</li><li>✚ Clothes hygiene</li><li>✚ Mouth hygiene</li><li>✚ Hair cutting</li><li>✚ Foot hygiene</li></ul></li><li>✓ Measures to ensure hygiene<ul style="list-style-type: none"><li>✚ Edible products hygiene</li><li>✚ Cross infection reduction</li><li>✚ Ensuring safe water at 'point of use</li><li>✚ Water distribution</li></ul></li><li>✓ Aspects of good personal safety health</li><li>✓ Measures to ensure sanitation practices<ul style="list-style-type: none"><li>✚ Household sanitation</li><li>✚ Safe disposal of wastes</li><li>✚ Control of wastewater and rainwater</li></ul></li></ul></li><li>• Demonstration of Safe nutritional behaviour<ul style="list-style-type: none"><li>✓ Balanced diet<ul style="list-style-type: none"><li>✚ Source of balanced diet</li><li>✚ Benefits of balanced diet</li><li>✚ Consequences of unbalanced diet</li><li>✚ Consequences of unbalanced diet</li></ul></li><li>✓ Prevention of food contamination<ul style="list-style-type: none"><li>✚ Main types of food contamination</li><li>✚ Ways to prevent food contamination</li></ul></li><li>✓ Healthy nutrition for adolescents and youth</li></ul></li><li>• Application of safe reproductive health practices</li></ul>	

- ✓ Human reproduction system
    - ✚ Female
    - ✚ Male
  - ✓ Puberty and sexual development
    - ✚ Physiological changes
    - ✚ Sexual Maturation (Puberty)
  - ✓ Reproductive system hygiene
  - ✓ Menstrual hygiene management
    - ✚ Materials used to collect menstruation blood
    - ✚ Materials needed for menstrual waste management
  - ✓ Healthy habits for safe menstruation
    - ✚ Self-counselling
    - ✚ Drinking water
    - ✚ Physical activity
    - ✚ Warm bottle/towels
    - ✚ pain killer if necessary
  - ✓ Male circumcision
    - ✚ Definition of male circumcision
    - ✚ Basic information on voluntary medical male circumcision (VMMC)
    - ✚ Benefits of male circumcision
    - ✚ When to do VMMC
    - ✚ Where to get VMMC
  - ✓ Prevention and treatment of HIV/AIDS and other STI's
    - ✚ Classification of STI's
    - ✚ Mode of transmission of STI's
    - ✚ STIs prevention strategies
  - ✓ Prevention of unwanted pregnancy
    - ✚ Meaning of Unwanted pregnancy and abortion
    - ✚ Types of unwanted pregnancies
    - ✚ Types of acceptable abortion in Rwanda
    - ✚ Methods of birth control (description, use and side effects)
  - ✓ Gender Based Violence
    - ✚ Meaning of GBV
    - ✚ Forms of GBV
    - ✚ Responses to GBV
    - ✚ Legal aspect of GBV in Rwanda
    - ✚ consequences Sexual Behaviour
    - ✚ Causes of Gender Based Violence
  - ✓ Youth Friendly services
    - ✚ Girl's room (location, equipment, staffing)
    - ✚ Youth corner (location, Friendly staff, Equipment, Accessibility, Services affordability, Service delivery)
    - ✚ Youth centre (location, Friendly staff, Equipment, Accessibility, Services affordability)
    - ✚ Youth clubs (Location, Health, Size of youth club, Norms, regulations and activities in the club)
  - ✓ PAC (Parent Adolescent Communication)
    - ✚ Basic information on PAC
    - ✚ Steps of PAC (5W: Who, Where, What, When and Why)
- Prevention of the contamination and spread of pandemic diseases
    - ✓ Description of pandemic diseases

- ✚ Concept of “pandemic disease”
  - ✚ Types of pandemic diseases in the region
  - ✚ Causes of each of the pandemic diseases found in the region
  - ✚ Symptoms /signs
  - ✚ Mode of contamination and spread
  - ✓ Guidelines for prevention of contamination and spread of pandemic diseases found in the region
  - ✓ Guidelines for treatment
- Use of work clothing and Personal Protective Equipment
    - ✓ Assessment and selection of Personal Protective Equipment as per occupation/trade
      - ✚ Breathing Protection Respirators
      - ✚ Skin & Body Protection Equipment
      - ✚ Eye Protection
      - ✚ Hearing Protection
      - ✚ Feet protection
      - ✚ Hands protection
      - ✚ Head protection
    - ✓ Role of Personal Protective Equipment
    - ✓ Cleaning and storage of PEEs

**Resources required for the learning outcome**

<b>Equipment</b>	Food treatment equipment, Flipcharts stand, Food storing equipment, PPEs, Projector, Computer
<b>Materials</b>	Markers, Water, Soaps, Soaps used for food preparation, Food items, Flipcharts, Balanced nutritional sample, Food treatment materials
<b>Tools</b>	First Aids kit, hygiene kit, tools for preparing food.
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, individualized, Trainer guided, Group discussion
<b>Formative assessment methods</b>	Written assessment, Oral presentation, Performance assessment

**Learning outcome 2: Sustain a safe and healthy environment at workplace**

**Learning hours: 7**

**Indicative content**

- Avoiding unsafe situation at workplace
  - ✓ Meaning of unsafe situation at work place
  - ✓ Common types of unsafe working conditions
  - ✓ Cause of unsafe working environment
  - ✓ Technics to identify unsafe situation
  - ✓ Addressing unsafe conditions at workplace

- Controlling hazards at the workplace
  - ✓ Key terms definition
  - ✓ Methods of identifying workplace hazards in line with occupation
    - ✚ Interviews
    - ✚ Brainstorming
    - ✚ Checklists
    - ✚ Assumption Analysis.
    - ✚ Cause and Effect Diagrams
    - ✚ Nominal Group Technique (NGT)
    - ✚ Affinity Diagram
  - ✓ Types of hazards in the workplace
    - ✚ Safety
    - ✚ Physical
    - ✚ Chemical
    - ✚ Biological
    - ✚ Other health hazards
  - ✓ Controlling hazard at the workplace
    - ✚ Methods of hazard control
    - ✚ SHE signs in the workplace
    - ✚ Setting up workplace safety signs Illumination
    - ✚ Practical Problem-Solving Model
  - ✓ Control measures to avoid hazard
    - ✚ Basics for survival and how to maintain them in emergency
    - ✚ Steps in Hierarchy of Hazards
  
- Assessing and reporting workplace risks
  - ✓ Types of risks at workplace
  - ✓ Steps of risk assessment
  - ✓ Elements of good quality risk statement
  - ✓ Principles for effective verbal intervention
  - ✓ Addressing risks in a workplace
  
- Handling workplace emergencies
  - ✓ Types of emergencies at workplace
    - ✚ Chemical spills,
    - ✚ Explosions,
    - ✚ Machinery malfunction,
    - ✚ Dangerous gas releases.
    - ✚ Exposure to toxins
    - ✚ Severe injury,
    - ✚ Fire
    - ✚ Earthquake,
    - ✚ Severe storm,
    - ✚ Violence
  - ✓ Importance of emergencies identification
  - ✓ Characteristics of emergency control
    - ✚ Scrambled control
    - ✚ Opportunistic control
    - ✚ Tactical control

- ✚ Strategic control
  - ✓ Different warning time for emergencies
    - ✚ Before
    - ✚ During and
    - ✚ After
  - ✓ Different phases of an emergency
    - ✚ Preparedness
    - ✚ Response
    - ✚ Recovery
  - ✓ Actions related to different time and phases of an emergency:
    - ✚ Prevent/Prepare
    - ✚ Control/Protect
    - ✚ Recover/Rebuild
  - ✓ Categories of equipment needed in emergencies
    - ✚ Recover/Rebuild
    - ✚ Equipment for personnel;
    - ✚ Equipment for basic needs supply
    - ✚ Technical materials, tools and consumables;
    - ✚ Equipment for vector control;
    - ✚ Items used in monitoring and surveillance;
    - ✚ Laboratory equipment and materials;
    - ✚ Maps, reports and other materials for information management
    - ✚ Administrative and office items
  - ✓ Possible Immediate Reactions to emergency
    - ✚ Physical reaction (First aid treatment, Call form help, Take the patient emergently to hospital)
    - ✚ Emotional reaction (Personal counselling, Stay close with the patient)
  - ✓ Guidelines of an emergency protocol
    - ✚ Stay calm
    - ✚ Take command
    - ✚ Assess the situation
    - ✚ Provide protection
    - ✚ Preserve the scene
    - ✚ Follow procedure
  - ✓ Emergency Command Structure
  - ✓ Principles of Early Intervention
    - ✚ Safety
    - ✚ Calmness
    - ✚ Efficacy
    - ✚ Connectedness
    - ✚ Hope
  - ✓ Response to the Emergency
  - ✓ Items to survey in monitoring the risk or hazard:
    - ✚ Noise levels
    - ✚ Lighting
    - ✚ Air contaminants
    - ✚ Chemicals
    - ✚ Radiation
    - ✚ Air quality
    - ✚ Biohazards
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- ✚ Air Temperature
- ✚ Asbestos
- ✚ Vibration

✓ Responsive Leadership Style in addressing specific problem:

- ✚ Attitude of Open Communication
- ✚ Availability
- ✚ Awareness of Reactions
- ✚ Acknowledgment of loss
- ✚ Appreciation of efforts

Resources required for the learning outcome	
<b>Equipment</b>	Computer, Projector Fire extinguishers equipment, Emergencies alarms, Disaster Blaster, game board, ambulance, Alarm signals, computer, Projector
<b>Materials</b>	<b>Flip charts, Pictures,</b> Flipcharts, paper, pen , marker pen
<b>Tools</b>	Visual Aids, First aid kits
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, individualized, Trainer guided, Group discussion, Case study, Field study
<b>Formative assessment methods</b>	Written assessment ,Oral presentation , Performance assessment

Learning outcome 3: Ensure environmental sustainability	Learning hours: 8
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Identifying environmental laws, standards and regulations in Rwanda</b></li> <li>✓ Concepts of sustainable environment and development               <ul style="list-style-type: none"> <li>✚ Environment</li> <li>✚ Development</li> <li>✚ Sustainable environment</li> <li>✚ Sustainable development</li> <li>✚ Economic and social development vs environment development</li> </ul> </li> <li>✓ Types of environments</li> <li>✓ Rwanda's environmental features               <ul style="list-style-type: none"> <li>✚ Natural environment</li> <li>✚ Geophysical features</li> <li>✚ Natural resources and biodiversity</li> <li>✚ Human environment</li> <li>✚ Environmental ecosystem</li> </ul> </li> <li>✓ Environmental problems               <ul style="list-style-type: none"> <li>✚ Degradation of natural resources and biodiversity</li> </ul> </li> </ul>	

- ✚ Energy crisis
- ✚ Various types of pollutions disasters
- ✚ Poor consideration of environmental dimension by socio-economic sectors
- ✓ Fundamental principles of protection, conservation and promotion of the environment in Rwanda
  - Applying the best practices to keep the environment clean
- ✓ Definition of wastes
- ✓ Categories of waste
  - ✚ Based on physical state
  - ✚ Based on source
  - ✚ Based on the biological properties of wastes
  - ✚ Based on environment impact
- ✓ Principles of waste management
  - ✚ Wastes reduction
  - ✚ Reuse of wastes
  - ✚ Recycling wastes
  - ✚ Waste disposal (Methods of wastes disposal)
  - ✚ Circular economy
- ✓ Provisions of waste management in environmental law
  - Description of climate change adaptation and mitigation measures
- ✓ Basic concepts of geography climate
  - ✚ Climate change
  - ✚ Global warming
  - ✚ Weather
  - ✚ climate
- ✓ Geographical climate elements
  - ✚ Radiation
  - ✚ Air pressure humidity
  - ✚ Humidity
  - ✚ Temperature
  - ✚ Wind speed and direction
  - ✚ Precipitation
  - ✚ Cloud cover
  - ✚ Sun shine
- ✓ Climate system elements
  - ✚ Atmosphere
  - ✚ Hydrosphere
  - ✚ Cryosphere
  - ✚ Biosphere
- ✓ Basics of hydro-geography
  - ✚ Hydrological cycle
  - ✚ Water balance equation
  - ✚ Virtual water
- ✓ Climate factors:
  - ✚ Geographic latitude
  - ✚ Altitude
  - ✚ Land and water pattern
  - ✚ Relief

- ✚ Vegetation cover (land use)
- ✚ Exposition
- ✓ Climate Change Causes:
  - ✚ Greenhouse Gases
  - ✚ Nature Contributions
  - ✚ Human Contributions
- ✓ Effects of climate change
- ✓ Climate change hazards and their impacts
  - ✚ Causes of climate hazards
  - ✚ Types of climate hazards
  - ✚ Impacts of climate change related hazards
- ✓ Measures for mitigation and adaptation
  - ✚ Concepts
    - Mitigation
    - Adaptation
  - ✚ Mitigation and adaptation measures to climate change
- ✓ Environment and climate change policy

#### Resources required for the indicative content

<b>Equipment</b>	Pictures, Climate and Weather measuring devices, World Map, Computer, Projector, Flipchart stand
<b>Materials</b>	Flipcharts, paper, cards, map, pen , marker pen
<b>Tools</b>	Climate and Weather measuring devices, Climate and Weather measuring devices, isual Aids, environmental regulations, Rwanda Environmental Policy
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work Individualized, Trainer guided, Group discussion
<b>Formative assessment methods</b>	Written assessment, Oral presentation, Performance assessment

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Republic of Rwanda  
Ministry of Education



RTB | RWANDA  
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## INFORMATION AND COMMUNICATION TECHNOLOGY

**CCMCL302**

**Apply computer literacy**

### Competence

**RQF Level:**

N/A

**Learning Hours**



30

**Credits:**

3

**Sector:**

All

**Trade:**

All

**Module Type:**

Complementary

**Curriculum:**

Dual Training short course

kigali June, 2024

<b>Purpose statement</b>	This module describes the skills and knowledge required to operate a computer, to use word processing applications in the production of workplace documents, to create and use spreadsheets and charts through the use of spreadsheet software, to design electronic presentations, and to send, receive and manage electronic mail (email), as well as to collaborate online using chat rooms, intranets and instant messaging.					
<b>Delivery modality</b>	<b>Training delivery</b>		<b>100%</b>	<b>Assessment</b>		<b>Total 100%</b>
	Theoretical content		30%	Formative assessment	50%	100%
	Practical work:		70%		50%	
	• Group work and presentation	20%				
	• Individual Work	50%				
			Summative Assessment		NA	

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>4.</b> Apply computer basics	<b>1.1.</b> Computer basics are properly described according to their classifications
	<b>1.2.</b> Various connectors and ports are properly identified according to their types
	<b>1.3.</b> Computer operations are appropriately described according to their role
	<b>1.4.</b> Desktop's elements are appropriately used according their version
<b>5.</b> Use a current Word processing package	<b>5.1.</b> Text is convenient formatted according to their document
	<b>5.2.</b> Table is properly created and edited according to the numerical data and presentation of text in
	<b>5.3.</b> Text is conveniently edited according to their document
	<b>2.4 .</b> Header, footer and footnotes are appropriately inserted according to the document
	<b>2.5 .</b> Document is appropriately saved according to the keeping of data
	<b>2.6.</b> Document is suitable printed according to the selected print options
	<b>3.1 .</b> Basic Excel tasks are properly used in Excel

<b>6. Use current spreadsheet package</b>	<b>3.2.</b> Sheets are properly managed in Excel workbook according to their location
	<b>3.3.</b> Cells and their content are conveniently formatted to their design
	<b>3.4.</b> Functions and operations are properly used according to their conditions
	<b>3.5.</b> Excel worksheet are suitable printed according to their selected print options
<b>4. Use current power point presentations version</b>	<b>4.1.</b> New power point presentation is properly created to its document
	<b>4.2.</b> Slide is properly managed according to their presentation of information
	<b>4.3.</b> Graphics are properly inserted according to their perspective steps
	<b>4.4.</b> Word documents is suitable converted to PowerPoint presentation
	<b>4.5.</b> Presentation is properly animated according to its design
	<b>4.6.</b> Presentation is properly used in different view
	<b>4.7.</b> Presentation is suitable printed according to their selected print options
<b>5. Use Internet/Intranet (outlook)</b>	<b>5.1.</b> Website is properly described according to their needs
	<b>5.2.</b> Search engines are properly used in different types
	<b>5.3.</b> instant messaging is properly used in communication technology
	<b>5.4.</b> Favourites are properly managed using internet explorer
	<b>5.5.</b> The internet is conveniently browsed using the hyperlinks
	<b>5.6.</b> Files are downloaded and uploaded using internet according to its steps

## Course content

### Learning outcomes

### At the end of the module the learner will be able to:

1. Apply computer basics
2. Use a current Word processing package
3. Use current spreadsheet package
4. Use current power point presentations
5. Use Internet/Intranet (outlook)

### Learning outcome 1: Apply computer basics

Learning hours: 10

### Indicative content

- Description of the computer basics
  - ✓ Introduction to computer
  - ✓ Classification of a computer
    - + Microcomputers
      - ❖ Personnel computers types
    - + Minicomputers
    - + Mainframe computers
    - + Supercomputers
- Identification of various connectors and ports
  - ✓ Computer connectors
  - ✓ Computer ports
- Description of computer operations
  - ✓ Input
    - + Input devices
  - ✓ Output
    - + Output devices
  - ✓ Store
    - + Storage devices (Primary and secondary storage)
  - ✓ Process
    - + CPU (Control Unit, ALU, Register)
- Use of desktop's elements
  - ✓ Windows and its elements
    - + Desktop
    - + Task bar

- ✚ Start menu
- ✚ Minimize, maximize, close buttons

### Resources required for the learning outcome

<b>Equipment</b>	Whiteboard, Projector, Computers, PDA,
<b>Materials</b>	Markers, flipchart, chalk,
<b>Tools</b>	Screwdriver
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, Practical exercises, Individualized, Trainer guided, Group discussion
<b>Formative assessment methods</b>	Written assessment, Oral presentation, Performance assessment

**Learning outcome 2: Use a current Word processing package**

**Learning hours: 5**

### Indicative content

- **Formatting a text**
  - ✓ Text formatting
    - ✚ Font style
    - ✚ Font size and font color
    - ✚ Text change case
    - ✚ Text effects
    - ✚ Format painter
  - ✓ Paragraph formatting
    - ✚ Borders and shading
    - ✚ Line and paragraph
    - ✚ Spacing
    - ✚ Alignment
    - ✚ Lists (Bulleted, Numbered, Multilevel)
- **Creating and Edit a table**
  - ✓ Inserting a table
  - ✓ Inserting a column, Inserting a row

- ✓ Merging cells
- ✓ Deleting table
- ✓ Splitting cells and drawing a table
- **Editing document(Text)**
  - ✓ Search/Find, replace
  - ✓ Deleting a range of text
  - ✓ Undo & Redo command
- **Inserting header, Footer and Footnotes**
  - ✓ Footnotes
  - ✓ Header and footer
  - ✓ Automatic page numbering
  - ✓ Total number of pages
- **Saving a document**
  - ✓ File management
  - ✓ Creation of files and folders
  - ✓ File naming and file formats
- **Printing a document**
  - ✓ Page setup
  - ✓ Printer options
  - ✓ Printing one or more copies
  - ✓ Printing selected pages
  - ✓ Printing one side or both sides
  - ✓ Printing in black/white or color
  - ✓ Print page ranges
  - ✓ Print the current documents

### Resources required for the indicative content

<b>Equipment</b>	Computers( Desktop Laptop), Printer, Projector
<b>Materials</b>	Papers
<b>Tools</b>	Microsoft office( word, excel...) installed in each computer
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, Practical exercise ,Individualized ,Trainer guided ,Group discussion
<b>Formative assessment methods</b>	Written assessment ,Performance assessment , Product based assessment

## Indicative content

- **Use basic Excel tasks**

- ✓ Basic Excel tasks
  - ✚ Open **and** Close
  - ✚ New document
  - ✚ Undo and Redo
  - ✚ sheet
  - ✚ Selecting a cell and Validating a cell
  - ✚ Deleting cell contents, Modifying cell contents
  - ✚ Selecting group of cells
  - ✚ Increase and reduce
  - ✚ Delete row and column **and** Duplicate cell

- **Management of sheets in Excel workbook**

- ✓ Selecting a sheet
- ✓ Renaming a sheet and inserting new sheets
- ✓ Moving a sheet in a workbook

- **Formatting cells and their contents**

- ✓ Formatting text and cells
- ✓ Choosing font, size, color
- ✓ Adjusting row height
- ✓ Alignment of cell, rotating text, wrapping text and number format
- ✓ Inserting rows
- ✓ Merging cells
- ✓ Creating borders
- ✓ Patterns

- **Use some functions and perform mathematical operations**

- ✓ Numbers and mathematical operations
- ✓ Logical function (**IF**)

- **Printing an Excel worksheet**

- ✓ Page setup
- ✓ Print options
- ✓ Page setup
- ✓ Print preview
- ✓ Print dialogue box
- ✓ Print one or more copies
- ✓ Print in black/white or color

✓ Print page ranges ,printing selection, Print current worksheet	
<b>Resources required for the indicative content</b>	
<b>Equipment</b>	Computer ( Desktop, Laptop), Projector, Printer
<b>Materials</b>	Papers
<b>Tools</b>	Microsoft office ( excel, word...) installed in each computer
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, Practical exercise ,Individualized ,Trainer guided ,Group discussion
<b>Formative assessment methods</b>	Written assessment ,Performance assessment ,Product based assessment

<b>Learning outcome 4: Use current power point presentations</b>	<b>Learning hours:</b> 5
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Creation a new presentation</b> <ul style="list-style-type: none"> <li>✓ Creating new presentation</li> <li>✓ Blank presentation and Design template</li> </ul> </li> <li>• <b>Management of a slide</b> <ul style="list-style-type: none"> <li>✓ Creating a slide</li> <li>✓ Inserting a slide</li> <li>✓ Modifying a slide</li> </ul> </li> <li>• <b>Insertion of graphics</b> <ul style="list-style-type: none"> <li>✓ Clip Art and Word Art,</li> <li>✓ Library Images,</li> <li>✓ Inserting image from file</li> </ul> </li> <li>• <b>Conversion word documents to PowerPoint presentation</b> <ul style="list-style-type: none"> <li>✓ Copy, cut, move</li> <li>✓ Import file</li> <li>✓ Process of conversion</li> </ul> </li> <li>• <b>Animation of a presentation document</b> <ul style="list-style-type: none"> <li>✓ Animation</li> </ul> </li> </ul>	

- ✓ Custom animation
- ✓ Slide transition
- **Use of different presentation view**
  - ✓ Normal view
  - ✓ Slide sorter view
  - ✓ Slide show
- **Printing a presentation document**
  - ✓ Print preview
  - ✓ Printing a copy or multiple copies
  - ✓ Printing one slide on a page
  - ✓ Printing more slides on a page

### Resources required for the indicative content

<b>Equipment</b>	Computer ( Desktop, Laptop), Projector, Printer
<b>Materials</b>	Papers
<b>Tools</b>	Microsoft office ( Power point, excel, word...) installed in each computer
<b>Facilitation techniques</b>	Demonstration and simulation Individual and group work, Practical exercise ,Individualized ,Trainer guided ,Group discussion
<b>Formative assessment methods</b>	Written assessment , Performance assessment ,Product based assessment

### Learning outcome 5: Use Internet/Intranet (outlook)

**Learning hours: 5**

#### Indicative content

- **Description of a website**
  - ✓ Introduction to a website
    - ✚ Definition of terms: internet, web browser, Website, Webpage, Search engine)
  - ✓ Types of website
    - ✚ Dynamic
    - ✚ Static
  - ✓ Parts of website address
    - ✚ HTTP
    - ✚ WWW
    - ✚ Domain name of website
    - ✚ Domain name suffix

- **Use search engines (example Google)**
  - ✓ Search engines types
  - ✓ Role of search engines
  - ✓ Some examples of search engine
- **Use instant messaging (chatting)**
  - ✓ Steps to create a chat account
  - ✓ Chatting options
  - ✓ Instant messaging with or no webcam, calling and sending files
- **Management favourites using internet explorer**
  - ✓ Favourites types
  - ✓ Creation of favourites
- **Browsing on internet using the hyperlinks**
  - ✓ Definition of hyperlink
  - ✓ Basic parts of web browser
  - ✓ Examples of web browser
    - ✚ Google Chrome.
    - ✚ Mozilla Firefox.
    - ✚ Microsoft Edge.
    - ✚ Internet Explorer.
    - ✚ Safari
- **Downloading and uploading files using internet**
  - ✓ Definition of terms:
    - ✚ Downloading
    - ✚ File attachment
    - ✚ Uploading
  - ✓ Steps of downloading files
  - ✓ Tips of uploading files

### Resources required for the indicative content

<b>Equipment</b>	Computer ( Desktop, Laptop), Projector, Modem,Router
<b>Materials</b>	Internet
<b>Tools</b>	E-mail
<b>Facilitation techniques</b>	Demonstration and simulation, Individual and group work, Practical exercise ,Individualized ,Trainer guided ,Group discussion
<b>Formative assessment methods</b>	Written assessment , Oral assessment, Performance assessment ,Product based assessment

## References:

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2. [https://www.cs.cmu.edu/~fgandon/lecture/uk1999/computers\\_types/](https://www.cs.cmu.edu/~fgandon/lecture/uk1999/computers_types/)
3. [https://www.tutorialspoint.com/computer\\_fundamentals/computer\\_types.htm](https://www.tutorialspoint.com/computer_fundamentals/computer_types.htm)
4. <https://business.tutsplus.com/tutorials/quickly-format-basic-text-styles-microsoft-word--cms-34133>
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## BASIC FUNDAMENTAL OF ELECTRICITY

**MIRFE001**

**Apply basic fundamental of electricity**

**Competence**

**RQF Level: Short course**

**Learning Hours**



**Credits: 5**

**Sector: Art and Craft**

**Trade: Music and Performing Arts**

**Module Type: General**

**Curriculum: MPAMIR0001 Short course of Music Instrument Repair**

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kigali June, 2024

<b>Purpose statement</b>	This module describes the knowledge, skills and attitude required to apply basic principles of electricity. It is intended to be pursued by learner who undergo the short course trainings in Music stage lighting and Music instrument repair. At the end of this module, the learner will be able to Describe basic concepts of electricity, perform electrical measurement, and to implement electrical safety precautions.				
<b>Learning assumed to be in place</b>	N/A				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> <li>Group work and presentation 30%</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual work 40%</li> </ul>				
	Summative Assessment		50%		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Describe basic concepts of electricity</b>	6.1. Electrical signals are properly differentiated according to their characteristics
	6.2. Electrical quantities are effectively categorised according to their types
	6.3. Electrical conductors are appropriately identified according to their properties
<b>2. Perform electrical measurement</b>	2.1. Electrical voltage is accurately measured according to voltage measurement tools
	2.2. Electrical current is correctly assessed using current measurement tools
	2.3. Electrical power is precisely quantified through the use of power measuring tools
<b>3. Implement electrical</b>	3.1. Personal Protective Equipment are properly worn based on types of electrical hazards at the workplace

<b>safety precautions</b>	3.2. Safety symbols are adequately applied based on their types and application considerations
	3.3. Electrical tools, material and equipment are properly protected based on protection process

## Knowledge, Skills, and Attitude

<b>Knowledge</b>	<b>✓ Skills</b>	<b>Attitude</b>
<ul style="list-style-type: none"> <li>✓ Definition of electrical term</li> <li>✓ Differentiate electrical quantity</li> <li>✓ Explain electrical signal</li> <li>✓ Differentiate electrical cables</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cable joining skills</li> <li>✓ Cable termination skills</li> <li>✓ Skills of Electrical material connection</li> <li>✓ Skills of grounding</li> <li>✓ Skills of cable selection</li> </ul>	<ul style="list-style-type: none"> <li>✓ Analytical Thinking</li> <li>✓ Creativity / Innovation</li> <li>✓ Collaboration and Teamwork</li> <li>✓ Continuous Learning</li> <li>✓ Commitment to Excellence</li> <li>✓ Attention to Standards</li> <li>✓ User-Centric Thinking</li> <li>✓ Time Management</li> <li>✓ Professionalism</li> <li>✓ Honesty</li> <li>✓ Self-motivation</li> <li>✓ Punctuality</li> </ul>

## Course content

### Learning outcomes

At the end of the module the learner will be able to:

1. Description of electrical concept
2. Perform electrical measurement
3. Implement electrical safety precautions

### Learning outcome 1: Description of electrical concept

Learning hours: 20

### Indicative content

#### • Introduction to electricity

- ✓ Importance of electricity in music instrument repair
- ✓ Electrical Charge
- ✓ Electrical field
- ✓ Electrical current and circuit
  - ✚ Definition and properties of electric current
  - ✚ Electrical resistance and Ohm's law
  - ✚ Series and parallel circuits
  - ✚ Kirchhoff's laws
  - ✚ Joule's Law (Power Dissipation)

#### • Differentiation of electrical signal

- ✓ Electrical signal characteristics
  - ✚ DC signal
  - ✚ AC signal

#### • Categorization of electrical quantities

- ✓ Current
- ✓ Voltage










- ✓ Resistance
- ✓ Power
- ✓ Energy
- ✓ Capacitance
- ✓ Inductance
- ✓ Frequency






- **Identification of electrical conductors**

- ✓ Definitions
  - ✚ Insulator
  - ✚ Conductor
  - ✚ Semi-conductor
- ✓ Color Coding
- ✓ Electrical conductor properties

### Resources required for the learning outcome

<b>Equipment</b>	PPE, powered electrical screw driver, multi-meter, , wattmeter, phase sequence tester, Digital multimeter.
<b>Materials</b>	Cables, wires, drawing papers, chock, probes,gloves
<b>Tools</b>	Electrical knife, phase tester, electrical screw driver set, plier set
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Individual and group work</li> <li>▪ Group discussion</li> <li>▪ Jig Saw</li> <li>▪ Brain storming</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Oral based assessment</li> </ul>

<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Describe electrical concept</li> <li>2. Perform electrical measurement</li> <li>3. Implement electrical safety precautions</li> </ol>
<b>Learning outcome 2: Perform electrical measurement</b>	<b>Learning hours: 20</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• Measurement of electrical voltage             <ul style="list-style-type: none"> <li>✓ Measuring Equipment                 <ul style="list-style-type: none"> <li> Digital Multimeter (DMM)</li> <li> Voltmeter</li> </ul> </li> <li>✓ Set Up the Measurement Instrument                 <ul style="list-style-type: none"> <li> Calibration</li> <li> Probes connecting</li> </ul> </li> </ul> </li> <li>• Measurement of electrical current             <ul style="list-style-type: none"> <li>✓ Measuring Equipment                 <ul style="list-style-type: none"> <li> Ammeter</li> <li> Digital Multimeter (DMM)</li> <li> Clamp Meter</li> </ul> </li> <li>✓ Set Up the Measurement Instrument                 <ul style="list-style-type: none"> <li> Calibration</li> <li> Probes connecting</li> </ul> </li> </ul> </li> </ul>	

- Measurement of electrical power
  - ✓ Measuring equipment
    -  **Wattmeter**
    -  Power Analyser
    -  Digital Multimeter (DMM)
  - ✓ Set Up the Measurement Instrument
    -  Calibration
    -  Probes connecting

### Resources required for the learning outcome

<b>Equipment</b>	PPE, powered electrical screw driver, multi-meter, wattmeter, phase sequence tester, Digital multimeter, wattmeter
<b>Materials</b>	Cables, drawing papers, probes, Marker pen
<b>Tools</b>	Phase tester, screw driver set, plier set
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Individual and group work</li> <li>▪ Group discussion</li> <li>▪ Jig Saw</li> <li>▪ Brain storming</li> <li>▪ Practical work</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Oral based assessment</li> <li>▪ Practical based assessment</li> </ul>


<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Describe electrical concept</li> <li>2. Perform electrical measurement</li> <li>3. Implement electrical safety precaution</li> </ol>
<b>Learning outcome 3: Apply electrical safety precaution</b>	<b>Learning hours: 10</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>● <b>Wearing PPEs at the workplace</b> <ul style="list-style-type: none"> <li>✓ Identification of electrical workplace hazards <ul style="list-style-type: none"> <li>✚ Definition of electrical hazards</li> <li>✚ Sources of electrical hazards</li> <li>✚ Types of electrical hazards</li> </ul> </li> <li>✓ Management of electrical hazard <ul style="list-style-type: none"> <li>✚ Risk Assessment</li> <li>✚ Engineering Controls</li> <li>✚ Administrative Controls</li> </ul> </li> <li>✓ Avoiding electrical hazard <ul style="list-style-type: none"> <li>✚ Safe Work Practices</li> <li>✚ Maintenance and Inspections</li> <li>✚ Compliance with Regulations</li> <li>✚ Electrical Safety Training</li> </ul> </li> <li>✓ Types of PPEs <ul style="list-style-type: none"> <li>✚ Arc flash protection</li> <li>✚ Shock protection</li> <li>✚ Head Protection</li> <li>✚ Eye and Face Protection</li> <li>✚ Hearing Protection</li> </ul> </li> </ul> </li> </ul>	


 Foot Protection

- **Application of Electrical safety symbols**

- ✓ Definition of electrical symbols


- ✓ Electrical symbols

-  Shock Hazard Symbol


-  Arch flash hazard symbol


-  Grounding Symbol

-  High Voltage Symbol


-  Power On/Off Symbol

-  Earth Ground Symbol

-  No access symbol

-  No water symbol

-  Battery Symbol


-  Protective Earthling Symbol


-  Wear PPE symbol


-  Lockout/Tag out Symbol

-  Electrical Hazard Symbol


- ✓ Key considerations for the adequate application of safety symbols

-  Location and visibility

-  Size and legibility

-  Consistent standardization

-  Specific application areas

-  Regular inspection and maintenance

- **Protection of electrical tools, material and equipment**

- ✓ Inspection Before Use

- ✓ Proper Storage

- ✓ Regular Maintenance

- ✓ Electrical Protection Devices

-  Fuse

-  Circuit breaker

✓ Transportation

### Resources required for the learning outcome

<b>Equipment</b>	PPEs, powered electrical screw driver, multi-meter, wattmeter, phase sequence tester, Digital multimeter
<b>Materials</b>	Cables, drawing papers, probes ,marker pen, gloves
<b>Tools</b>	Electrical knife, phase tester, electrical screw driver set, plier set
<b>Facilitation techniques</b>	<ul style="list-style-type: none"><li>▪ Group discussion</li><li>▪ Individual and group work</li><li>▪ Group discussion</li><li>▪ Brain storming</li></ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"><li>▪ Written assessment</li><li>▪ Oral based assessment</li><li>▪ Practical based assessment</li></ul>

### References:

1. C. R. Robertson, Electronic, Electrical, Fundamental Principles, 3rd Editio. Amsterdam: Elsevier Ltd., 2008.
2. D. M. Buchla, Experiments in electronics fundamentals and electric circuits fundamentals to accompany, Fourth Edi. Prentice Hall, 2010.
3. Sean Westcott and J. R. Westcott, Basic Electronics: Theory & Practice. Dulles, Virginia, 2015.
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## BASIC FUNDAMENTAL OF ELECTRONICS

**MIRFE001**

**Apply basic Fundamental of Electronic  
competence**

**RQF Level: Short course**

**Learning Hours**



**Credits: 6**

**Sector: Art and Craft**

**Trade: Music and Performing Arts**

**Module Type: Specific**

**Curriculum: ARCMSL0001 Short course of Music and Performing Arts**

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**Kigali, June 2024**

<b>Purpose statement</b>	This module describes the knowledge and skills required to apply basic electronic fundamentals. At the end of this module, trainees will be able to use electronic measuring instrument, utilize passive components and operate active components				
<b>Learning assumed to be in place</b>	NA				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> <li>Group work and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual work</li> </ul>	40%			
	Summative Assessment		50%		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Use electronic measuring instrument</b>	1.1. Measuring instruments are clearly described based on their types
	1.2. Digital multimeter is adequately manipulated according to its functions
	1.3. Electronic workshop equipment is adequately operated according to their functions
<b>2. Utilise passive components</b>	2.1. Passive components are clearly described in accordance with their types and features
	2.2. Passive components are properly measured respecting measuring steps
	2.3. Passive components circuits are properly implemented according to their types and applications
<b>3. Operate active components</b>	3.1. Active components are clearly described in accordance with their types and features, and working principles
	3.2. Active components are properly tested based on their testing techniques

	3.3. Active components circuits are properly implemented according to their applications
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## Knowledge, Skills, and Attitude

Knowledge	✓ Skills	Attitude
<ul style="list-style-type: none"> <li>✓ Safety precautions, and security</li> <li>✓ Technical Symbols and diagrams</li> <li>✓ Interpret circuit diagrams</li> <li>✓ Industrial codes and standards</li> <li>✓ Basic of electronic fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>✓ Proper use of measurement tools</li> <li>✓ Creating circuit diagram</li> <li>✓ Analytical skills</li> <li>✓ Diagnostic skills</li> <li>✓ Communication skills</li> <li>✓ Collaborative skills</li> <li>✓ Task management skills</li> </ul>	<ul style="list-style-type: none"> <li>✓ Analytical Thinking</li> <li>✓ Creativity / Innovation</li> <li>✓ Collaboration and Teamwork</li> <li>✓ Continuous Learning</li> <li>✓ Commitment to Excellence</li> <li>✓ Attention to Standards</li> <li>✓ User-Centric Thinking</li> <li>✓ Time Management</li> <li>✓ Professionalism</li> <li>✓ Honesty</li> <li>✓ Self-motivation</li> <li>✓ Punctuality</li> </ul>

## Course content

<b>Learning outcomes</b>	At the end of the module the learner will be able to:  <ol style="list-style-type: none"><li>1. Use electronic measuring instrument</li><li>2. Utilise passive components</li><li>3. Operate active components</li></ol>
<b>Learning outcome 1: Use electronic measuring instruments</b>	<b>Learning hours: 10</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"><li>• <b>Description of measuring instrument</b><ul style="list-style-type: none"><li>✓ Analog measuring instruments</li><li>✓ Digital measuring instruments</li></ul></li><li>• <b>Operation of a digital multimeter</b><ul style="list-style-type: none"><li>✚ Turn on the Multimeter</li><li>✚ Select the Measurement Function:</li><li>✚ Set the Measurement Range</li><li>✚ Connect the Test Leads</li><li>✚ Take the Measurement</li><li>✚ Read the Display</li></ul></li><li>• <b>Operating electronic workshop equipment</b><ul style="list-style-type: none"><li>✓ Soldering station<ul style="list-style-type: none"><li>✚ Power On the Soldering Station</li><li>✚ Select the Proper Soldering Iron Tip</li><li>✚ Clean the Soldering Iron Tip</li><li>✚ Set the Temperature</li><li>✚ Soldering Technique</li></ul></li></ul></li></ul>	

- ✓ AC/DC power supply
- ✚ Types of AC/DC power supply

### Resources required for the learning outcome

<b>Equipment</b>	Multimeter, oscilloscope, power supply, function generator, Computer, projector, glue gun
<b>Materials</b>	Passive components, active components, soldering tin, glue, wires
<b>Tools</b>	Breadboard, PCB, soldering iron, desoldering pump, cutter,
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Individual and group work</li> <li>▪ Practical exercise</li> <li>▪ Group discussion</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance assessment</li> <li>▪ Project based assessment</li> </ul>

### Course content

<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Use electronic measuring instruments</li> <li>2. Utilise passive components</li> <li>3. Operate active components</li> </ol>
<b>Learning outcome 2: Utilise passive components</b>	<b>Learning hours: 25</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Introduction to electronics components</b> <ul style="list-style-type: none"> <li>✓ Passive component definition</li> <li>✓ Active component definition</li> </ul> </li> <li>• <b>Description of Passive components</b></li> </ul>	

- ✓ Description of resistors
  - ✚ Types of resistors
  - ✚ Resistor color code
  - ✚ Resistor connections
- ✓ Description of capacitors
  - ✚ Types of capacitors
  - ✚ Measuring of capacitance
  - ✚ Capacitor connections
- ✓ Description of Inductor
  - ✚ Types of inductor
  - ✚ Inductor connections
- **Measurement of passive components**
  - ✓ Resistor measuring steps
  - ✓ Capacitor measuring steps
  - ✓ Inductor measuring steps
- **Implement passive components circuits**
  - ✓ Soldering
  - ✓ Desoldering
  - ✓ RL circuit
  - ✓ RLC circuit
  - ✓ Voltage Divider Circuits
  - ✓ Filters circuit
  - ✓ Application of passive component circuit

### Resources required for the learning outcome

<b>Equipment</b>	Multimeter, oscilloscope, variable DC power supply, Computer, projector, glue gun
<b>Materials</b>	Passive components, active components, soldering tin, glue, wires
<b>Tools</b>	Soldering iron, desoldering pump, cutte
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Demonstration and simulation</li> <li>• Individual and group work</li> <li>• Trainer guided</li> <li>• Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> </ul>





	<ul style="list-style-type: none"> <li>▪ Product based assessment</li> <li>▪ Project based assessment</li> <li>▪ Oral based assessment</li> </ul>
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<b>Learning outcomes</b>	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Use electronic measuring instrument</li> <li>2. Utilise passive components</li> <li>3. Operate active components</li> </ol>
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<b>Learning outcome 3: Apply Active components</b>	<b>Learning hours: 25</b>
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**Indicative content**

<ul style="list-style-type: none"> <li>• <b>Description of active components</b> <ul style="list-style-type: none"> <li>✓ Description of diode <ul style="list-style-type: none"> <li>✚ Diode types</li> <li>✚ Working principle of diodes</li> <li>✚ Application of diode</li> </ul> </li> <li>✓ Description of transistors <ul style="list-style-type: none"> <li>✚ Transistor types</li> <li>✚ Working principle</li> <li>✚ Application</li> </ul> </li> <li>✓ Description of integrated circuits (IC) <ul style="list-style-type: none"> <li>✚ Types of integrated circuit (IC)</li> <li>✚ Working principle of IC</li> <li>✚ Application of IC</li> <li>✚ Classification of IC</li> </ul> </li> </ul> </li> <li>• <b>Testing of active components</b> <ul style="list-style-type: none"> <li>✓ Diode measuring process</li> <li>✓ Transistor measuring process</li> <li>✓ Integrated circuit (IC) measuring process</li> </ul> </li> <li>• <b>Implementation of active components circuits</b></li> </ul>	
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✓ Prototyping power supply circuit  Transformer  Rectifier  Filter  Regulator	
<b>Resources required for the learning outcome</b>	
<b>Equipment</b>	Multimeter, oscilloscope, power supply, Computer, projector, glue gun
<b>Materials</b>	Passive components, active components, soldering tin, glue, wires
<b>Tools</b>	Breadboard, PCB, soldering iron, desoldering pump, cutter,
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Demonstration and simulation</li> <li>▪ Individual and group work</li> <li>▪ Trainer guided</li> <li>▪ Practical exercise / Experiments based exercises</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Experiments assessment</li> <li>▪ Group work activities</li> <li>▪ Oral presentation</li> <li>▪ Project based assessment</li> </ul>

## References:

1. T. L. Floyd, Electronic Devices: Electron Flow version, vol. 9th, Prentice Hall, 2012.
2. M. Tooley, Electronic Circuits: Fundamentals and Applications, vol. 3rd, Elsevier Ltd, 2006.
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## MUSIC INSTRUMENT REPAIRING

**MIRMIR001**

**Repair Music Instruments**

**RQF Level:** Short course

**Learning Hours**



**Credits:** 11

**Sector:** Art and Craft

**Trade:** Music and Performing Arts

**Module Type:** Specific

**Curriculum:** ARCMSP0001 Short course of Music and Performing Arts

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Kigali June, 2024

<b>Purpose statement</b>	This module describes the knowledge, skills and attitude required to repair music instruments. It is intended to be pursued by learner in Music and performing arts who undergo the short course training in Music instrument repair. At the end of this module, the learner will be able to perform Pre- repair activities of music instruments, repair string instruments, repair aerophone instruments, repair percussive instrument and repair electrophone instruments as well.				
<b>Learning assumed to be in place</b>	Apply fundamental of electricity. Apply fundamental of electronics				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> <li>Group work and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual work</li> </ul>	40%			
	Summative Assessment		50%		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Perform Pre - repair activities of music instruments</b>	1.1. Workplace is properly prepared according to the work to be done
	1.2. Tools, materials and equipment are properly selected based on their types and usage
	1.3. Music instrument is correctly pre-tested based on testing method
<b>2. Repair string instruments</b>	2.1. String instruments are properly described based on their types and specifications
	2.2. String instrument is correctly disassembled based on disassembling process
	2.3. Defected parts of string instrument are correctly tested based on testing techniques
	2.4. Defected parts of string instrument are correctly replaced or repaired according to the identified faults

	2.5. String instrument is correctly re-assembled based on re-assembling process
<b>3. Repair Aerophones instruments</b>	3.1. Aerophone instruments are properly described based on their types and specifications
	3.2. Aerophone instrument is correctly disassembled based on disassembling steps
	3.3. Defected parts of aerophone instrument are correctly tested based on testing techniques
	3.4. Defected parts of aerophone instrument are correctly replaced or repaired according to the identified faults
	3.5. Aerophone instrument is correctly re-assembled based on re-assembling process.
<b>4. Repair percussive instruments</b>	4.1. Percussive instrument is properly described based on their types and specification
	4.2. Percussive instrument is correctly disassembled based on disassembling steps.
	4.3. Defected parts of percussive instrument are correctly tested based on testing techniques.
	4.4. Defected parts of percussive instrument are correctly replaced or repaired according to the identified faults.
	4.5. Percussive instrument is correctly re-assembled based on re-assembling process.
<b>5. Repair electrophone instruments</b>	5.1. Electrophone instrument is properly described based on their types and specification.
	5.2. Electrophone instrument is correctly disassembled based on disassembling steps.
	5.3. Defected parts of electrophone instrument are correctly tested based on testing techniques.
	5.4 Defected parts of electrophone instrument are correctly replaced or repaired according to the identified faults.
	5.5. Electrophone instrument is correctly re-assembled based on re-assembling process.

## Knowledge, Skills, and Attitude

<b>Knowledge</b>	<b>✓ Skills</b>	<b>Attitude</b>
<ul style="list-style-type: none"> <li>✓ Explain the music theory.</li> <li>✓ Discuss music history.</li> <li>✓ Distinguish different music instruments.</li> <li>✓ Knowledge to electrical fundamental and electronic fundamental.</li> <li>✓ Knowledge in soldering techniques.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Research skills</li> <li>✓ Communication skills</li> <li>✓ Interpersonal skills</li> <li>✓ Problem-solving skills</li> <li>✓ Component Selection and Sourcing skills</li> <li>✓ Assembly and Soldering skills</li> </ul>	<ul style="list-style-type: none"> <li>✓ Analytical Thinking</li> <li>✓ Creativity / Innovation</li> <li>✓ Collaboration and Teamwork</li> <li>✓ Continuous Learning</li> <li>✓ Time Management</li> <li>✓ Honesty</li> <li>✓ Self-motivation</li> <li>✓ Punctuality</li> </ul>

## Course content














<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Pre -repair activities of music instruments,</li> <li>2. Repair string instruments,</li> <li>3. Repair aerophone instruments,</li> <li>4. Repair percussive instrument,</li> <li>5. Repair electrophone instruments</li> </ol>
<b>Learning outcome 1: Pre -repair activities of music instruments</b>	<b>Learning hours: 15hours</b>
<b>Indicative content</b>	


- **General introduction**
  - ✓ Key concept
  - ✓ Application of music instruments
- **Preparation of workplace**
  - ✓ Cleaning techniques
  - ✓ Lighting and Ventilation
- **Selection of tools, materials and equipment**
  - ✓ Repairing tools
    - ✚ Soldering iron
    - ✚ Desoldering pump
  - ✓ Cleaning tools
  - ✓ Cleaning materials
  - ✓ Cleaning equipment
  - ✓ Material
    - ✚ Consumables
    - ✚ Non consumables
- **Pre-testing of musical instrument**
  - ✓ Visual inspection
  - ✓ Mechanical Functionality test

### Resources required for the learning outcome

<b>Equipment</b>	Digital multi-meter, Guitar, Synthesizer, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Speaker stand tripod, Microphone stand. Brush, sponge, hammer
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> <li>▪ Oral based assessment</li> </ul>

<b>Learning outcome 2: Repair string instruments</b>	<b>Learning hours: 20hours</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Description of string instruments</b> <ul style="list-style-type: none"> <li>✓ Types of string instruments <ul style="list-style-type: none"> <li> Violin</li> <li> Cello</li> <li> Double bass</li> <li> Guitar</li> <li> Harp</li> <li> Lute</li> <li> Mandolin</li> <li> Ukulele</li> </ul> </li> <li>✓ Specifications of synthesizer <ul style="list-style-type: none"> <li> Number of strings</li> <li> String material</li> <li> Tuning</li> <li> Body shape and size</li> <li> Woods</li> </ul> </li> </ul> </li> </ul>	

 Scale length


 Bridge design


- **Disassembling string instrument**

- ✓ Disassembling steps
- ✓ Cleaning techniques(Blowing)

- **Testing defected parts of string instrument**

- ✓ String instrument's functionality parts
- ✓ Testing techniques

 Current measurement

 Voltage measurement

 Visual test

 Functionality test

- **Replacing defected parts of string instruments**

- ✓ Identification of defective Parts
- ✓ Replacement process
- ✓ Post-replacement checks










- **Re-assembling string instrument**

- ✓ Re-assembling process
- ✓ Functionality test

### Resources required for the learning outcome

<b>Equipment</b>	Digital multi-meter, Guitar, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, sponge.
<b>Facilitation techniques</b>	▪ Group discussion

	<ul style="list-style-type: none"> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>

<b>Learning outcome 3: Repair Aerophone instruments</b>	<b>Learning hours: 25hours</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Description of aerophones instruments</b> <ul style="list-style-type: none"> <li>✓ Types of aerophones instruments <ul style="list-style-type: none"> <li> Woodwinds</li> <li> Brass instruments</li> <li> Free aerophones</li> <li> Reed organs</li> </ul> </li> <li>✓ Specifications of aerophones instruments <ul style="list-style-type: none"> <li> Air Column Length</li> <li> Material</li> <li> Bore</li> <li> Reed (for woodwinds only)</li> <li> Valves/ Keys</li> </ul> </li> </ul> </li> <li>• <b>Disassembling aerophone instruments</b> <ul style="list-style-type: none"> <li>✓ Disassembling steps</li> <li>✓ Cleaning techniques(Blowing)</li> </ul> </li> <li>• <b>Testing defected parts of aerophone instruments</b></li> </ul>	

- ✓ Aerophone instruments functionality parts
- ✓ Testing techniques
- **Replacing defected parts of aerophone instruments**
  - ✓ Identification of defective Parts
  - ✓ Replacement process
  - ✓ Post-replacement checks
- **Re-assembling aerophone instruments**
  - ✓ Re-assembling process
  - ✓ Functionality test

### Resources required for the learning outcome

<b>Equipment</b>	Digital multi-meter, wood winds, brass, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>





**Learning outcome 4: Repair percussive instruments**


**Learning hours: 25hours**


**Indicative content**

- **Description of percussive instruments**
  - ✓ Types percussive instruments
    - ✚ Idiophones
    - ✚ Membranophones
    - ✚ Auxiliary Percussion
  - ✓ Specifications of percussive instruments
    - ✚ Material
    - ✚ Size
    - ✚ Tuning
- **Disassembling percussive instruments**
  - ✓ Disassembling steps
  - ✓ Cleaning techniques(Blowing)
- **Testing defected parts of percussive instruments**
  - ✓ Percussive instruments functionality parts
  - ✓ Testing techniques
- **Replacing defected parts of percussive instruments**
  - ✓ Identification of defective Parts
  - ✓ Replacement process
  - ✓ Post-replacement checks
- **Re-assembling percussive instruments.**
  - ✓ Re-assembling process
  - ✓ Functionality test

Resources required for the learning outcome	
<b>Equipment</b>	Digital multi-meter, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>

Learning outcome 5: Repair electrophone instruments	Learning hours: 25hours
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Description of electrophone instruments</b> <ul style="list-style-type: none"> <li>✓ Types of electrophone instruments               <ul style="list-style-type: none"> <li> Theremin</li> <li> Synthesizers</li> <li> Electronic drums</li> <li> Electronic keyboards</li> </ul> </li> <li>✓ Specifications of electrophone instruments</li> </ul> </li> </ul>	

 Sound Production

 Timbre (Tone Color)

 Playing Mechanisms

- **Disassembling electrophone instruments**
  - ✓ Disassembling steps
  - ✓ Cleaning techniques(Blowing)
- **Testing defected parts of electrophone instruments**
  - ✓ Electrophone instruments functionality parts
  - ✓ Testing techniques
- **Replacing defected parts of electrophone instruments**
  - ✓ Identification of defective parts
  - ✓ Replacement process
  - ✓ Post-replacement checks
- **Re-assembling electrophone instruments**
  - ✓ Re-assembling process
  - ✓ Functionality test

### Resources required for the learning outcome

<b>Equipment</b>	Digital multi-meter, synthesizer, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"><li>▪ Group discussion</li><li>▪ Trainer guided.</li><li>▪ Demonstration</li><li>▪ Practical exercise</li></ul>

<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>
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**Integrated/Summative assessment**

**Integrated situation**

XXXX Church is in Muhanga District, needs to hire a trained technician that will repair their music instruments. Those music instruments were used in live concert after 1 hours some of them had damaged due to change in voltage. As hired technician you are required to repair the following damaged equipment:

1. Aerophone instruments
2. String instruments
3. Electrophone instruments and
4. Percussive instruments.

That equipment’s must be submitted back to the church within 8 hours, together with related invoice and technical / repair report.

**Resources**

<b>Tools</b>	Pliers, screwdrivers, Allen key, soldering pump, soldering iron, brush, Microscope magnifier, Magnifying lamp,
<b>Equipment</b>	Digital multi-meter, headphones, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials/ Consumables</b>	Electronics components, Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner, Jumper wire.

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
1.Pre -repair activities of music instruments (20%)	1.1. Workplace is properly prepared according to the work to be done	Selection of cleaning tools, materials and equipment			2
		Cleaning tools, materials and equipment are used			2
		The workplace is cleaned			3
		Lighting and ventilation are ON			3
	1.2. Tools, materials and equipment are properly selected based on their types and usage	Tools, materials and equipment are selected			2
		Tools, materials and equipment are arranged			2
		Tools, materials and equipment are used			2
	1.3. Pre-testing is correctly performed based on testing method	Visual inspection is done			2
		Mechanical functionality test is done			2
	2.Repair string instruments (20%)	2.1. String instruments is properly described based on their types and specification	The type of string instruments is identified		
Specification of string instruments identified					1
2.2. String instruments is correctly disassembled based on disassembling steps		The user manual is referred on			1
		The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1

	2.3. Defected parts of string instruments are correctly tested based on testing techniques	Visual test is done			2
		Voltage measurement is done			2
		Current measurement is done			2
	2.4. Defected parts of string instruments are correctly replaced or repaired according to the identified faults	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2
		New components are correctly soldered or fitted in			2
	2.5. String instruments is correctly re-assembled based on re-assembling process	Functionality testing is done			1
		string instruments is re-assembled			1
	3.Repair percussive Instruments (20%)	3.1. Percussive Instruments is properly described based on their types and specification	The type of percussive Instruments is identified		
Specification of percussive Instruments is identified					1
The user manual is referred on					1
3.2. Percussive Instruments is correctly disassembled based on disassembling steps.		The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
3.3. Defected parts of percussive Instruments are correctly tested		Visual test is done			2
		Voltage measurement is done			2

	based on testing techniques.	Current measurement is done			2
	3.4. Defected parts of percussive Instruments are correctly replaced or repaired according to the identified faults.	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2
		New components are correctly soldered or fitted in			2
	3.5. Percussive Instruments is correctly re-assembled based on re-assembling process	Functionality testing is done			1
		Percussive Instruments is re-assembled			1
4.Repair Aerophone instruments (20%)	4.1. Aerophones instruments is properly described based on their types and specification	The type of aerophone instruments is identified			1
		Specification of aerophone instruments identified			1
		The user manual is referred on			1
	4.2. Aerophone instruments is correctly disassembled based on disassembling process.	The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
	4.3. Defected parts of aerophone instruments are correctly tested based on testing techniques	Visual test is done			2
		Voltage measurement is done			2
		Current measurement is done			2

	4.4. Defected parts of aerophone instruments are correctly replaced or repaired according to the identified faults	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2
		New components are correctly soldered or fitted in			2
	4.5. Aerophone instruments is correctly re-assembled based on re-assembling process	Functionality testing is done			1
		Aerophone instruments is re-assembled			1
5.Repair Electrophone instruments  (20%)	5.1. Electrophone instruments is properly described based on their types and specification	The type of electrophone instruments is identified			1
		Specification of electrophone instruments is identified			1
		The user manual is referred on			1
	5.2. Electrophone instruments is correctly disassembled based on disassembling steps	The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
	5.3. Defected parts of electrophone instruments are correctly tested based on testing techniques	Visual test is done			2
		Voltage measurement is done			2
		Current measurement is done			2
	5.4. Defected parts of electrophone instruments are correctly replaced or	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2

	repaired according to the identified faults	New components are correctly soldered or fitted in			2
	5.5. Electrophone instruments is correctly re-assembled based on re-assembling process	Functionality testing is done			1
		Electrophone instruments is re-assembled			1
<b>Total marks</b>		.....			
<b>Percentage Weightage</b>		100%			
<b>Minimum Passing line % (Aggregate):</b>		70%			

## References

1. [Musical-Instrument-Booklet-A.pdf \(simplelivingcreativelearning.com\)](#)
2. [RepairProceduresHandbook.pdf \(davidbaileymusicstudio.com\)](#)
3. [Instrument Repair.pdf \(gvsu.edu\)](#)
4. [Understanding the Fundamentals of Music.pdf \(archive.org\)](#)
5. [basic of music instruments repair - Search Images \(bing.com\)](#)
6. [Basic Music Theory for Beginners – The Complete Guide \(iconcollective.edu\)](#)
7. [🎵 If you're interested in learning to play one, feel free to explore further<sup>123</sup>](#)
8. [basic of music instruments - Search \(bing.com\)](#)
9. [Repair DJ Controller after using the wrong power adapter? - DJ Controller - iFixit](#)



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## MUSIC EQUIPMENT REPAIRING

**MIRME001**

**Repair Music Equipment**

**RQF Level:** Short course

**Learning Hours**



**110**

**Credits:** 11

**Sector:** Art and Craft

**Trade:** Music and Performing Arts

**Module Type:** Specific

**Curriculum:** ARCMPA0001 Short course of Music and Performing Arts

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Kigali, June 2024

<b>Purpose statement</b>	<p>This module describes the knowledge, skills and attitude required to repair music instruments.</p> <p>It is intended to be pursued by learner at TVET certificate in music and performing arts. At the end of this module, the learner will be able to Pre -repair activities of music equipment, Repair Console Mixer, Repair power amplifier, repair loudspeaker, Repair microphone and Document the work done.</p>					
<b>Learning assumed to be in place</b>	<p>Apply fundamental of electricity.</p> <p>Apply fundamental of electronics</p>					
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>		<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	50%	
	Practical work:			70%		70%
	• Group work and presentation	30%				
	• Individual work	40%				
		Summative Assessment		50%		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Pre -repair activities of music equipment</b>	1.1. Workplace is properly prepared according to the work to be done.
	1.2. Tools, materials and equipment are properly selected based on their types and usage.
	1.4. Pre-testing is correctly performed based on testing method.
<b>4. Repair Console Mixer</b>	4.1. Console mixer is properly described based on their types and specification.
	4.2. Console mixer is correctly disassembled based on disassembling steps.
	4.3. Defected parts of console mixer are correctly tested based on testing techniques
	4.4. Defected parts of console mixer are correctly replaced or repaired according to the identified faults



	4.5. Console mixer is correctly re-assembled based on re-assembling process.
<b>3. Repair power amplifier</b>	3.1. Power amplifier is properly described based on their types and specification.
	3.2. Power amplifier is correctly disassembled based on disassembling steps.
	3.3. Defected parts of Power amplifier are correctly tested based on testing techniques.
	3.4. Defected parts of Power amplifier are correctly replaced or repaired according to the identified faults.
	3.5. Power amplifier is correctly re-assembled based on re-assembling process.
<b>4. Repair loudspeaker</b>	4.1. Loudspeaker is properly described based on their types and specification.
	4.2. Loudspeaker is correctly disassembled based on disassembling process.
	4.3. Defected parts of loudspeaker are correctly tested based on testing techniques.
	4.4. Defected parts of loudspeaker are correctly replaced or repaired according to the identified faults.
	4.5. Loudspeaker is correctly re-assembled based on re-assembling process.
<b>5. Repair microphone</b>	5.1. Microphone is properly described based on their types and specification.
	5.2. Microphone is correctly disassembled based on disassembling steps.
	5.3. Defected parts of microphone are correctly tested based on testing techniques.
	5.4. Defected parts of microphone are correctly replaced or repaired according to the identified faults.
	5.5. Microphone is correctly re-assembled based on re-assembling process.
<b>6. Document the work done</b>	6.1. A technical report is correctly developed based on the work done.
	6.2. Diagnosing form is correctly developed based on form template.
	6.3. The invoice is accurately developed based on the work to be done.

## Knowledge, Skills, and Attitude

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Knowledge	✓ Skills	Attitude
<ul style="list-style-type: none"> <li>✓ Music theory</li> <li>✓ Music history</li> <li>✓ Familiarity with different equipment</li> <li>✓ Knowledge to electrical fundamental and electronic fundamental.</li> <li>✓ Knowledge in soldering techniques.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Research skills</li> <li>✓ Communication skills</li> <li>✓ Interpersonal skills</li> <li>✓ Problem-solving skills</li> <li>✓ Component Selection and Sourcing skills</li> <li>✓ Assembly and Soldering skills</li> </ul>	<ul style="list-style-type: none"> <li>✓ Analytical Thinking</li> <li>✓ Creativity / Innovation</li> <li>✓ Collaboration and Teamwork</li> <li>✓ Continuous Learning</li> <li>✓ Time Management</li> <li>✓ Honesty</li> <li>✓ Self-motivation</li> <li>✓ Punctuality</li> </ul>

## Course content

<b>Learning outcomes</b>	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> <li>6. Pre -repair activities of music instruments,</li> <li>7. Repair Console Mixer,</li> <li>8. Repair power amplifier,</li> <li>9. Repair loudspeaker,</li> <li>10. Repair microphone</li> <li>11. Document the work done.</li> </ol>
<b>Learning outcome 1: Pre -repair activities of music equipment</b>	<b>Learning hours: 15hours</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>General introduction</b> <ul style="list-style-type: none"> <li>✓ Key concept</li> <li>✓ Application of music equipment</li> <li>✓ Connectors cable               <ul style="list-style-type: none"> <li> XLR Cables</li> <li> TRS Cables</li> </ul> </li> </ul> </li> </ul>	

- ✚ TS Cables:
- ✚ RCA Cables
- ✚ Speaker Cables
- ✚ MIDI Cables
- ✚ USB cables

- **Preparation of workplace**

- ✓ Cleaning techniques
- ✓ Lighting and Ventilation

- **Selection of tools, materials and equipment**

- ✓ Repairing tools
  - ✚ Soldering iron
  - ✚ Desoldering pump
- ✓ Cleaning tools
- ✓ Cleaning materials
- ✓ Cleaning equipment
- ✓ Material
  - ✚ Consumables
  - ✚ Non consumables





- **Perform Pre-testing.**


- ✓ Visual inspection
- ✓ Mechanical Functionality test

### Resources required for the learning outcome


<b>Equipment</b>	Digital multi-meter, wireless microphone, Wired microphone, Audio Connectors, Audio Mixers, Power amplifier, Sound card, Protector, loudspeakers, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.

<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Speaker stand tripod, Microphone stand. Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> <li>▪ Oral based assessment</li> </ul>

<b>Learning outcome 2: Repair Console Mixer</b>	<b>Learning hours: 25hours</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Description of console mixer</b> <ul style="list-style-type: none"> <li>✓ Types of console mixer <ul style="list-style-type: none"> <li> Analogy mixers</li> <li> Digital mixers</li> </ul> </li> <li>✓ Specifications of console mixer <ul style="list-style-type: none"> <li> Number of channels</li> <li> Mic preamps</li> </ul> </li> </ul> </li> </ul>	

 EQ (Equalization)

 Aux sends.

 Main outputs

- **Disassembling console mixer**
  - ✓ Disassembling steps
  - ✓ Cleaning techniques(Blowing)
- **Testing defected parts of console mixer**
  - ✓ Console mixer functionality parts
  - ✓ Testing techniques
- **Replacing defected parts of console mixer**
  - ✓ Identification of Defective Parts
  - ✓ Replacement process
  - ✓ Post-replacement checks
- **Re-assembling console mixer**
  - ✓ Re-assembling process
  - ✓ Functionality test

### Resources required for the learning outcome

<b>Equipment</b>	Digital multi-meter, console mixer, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"><li>▪ Group discussion</li><li>▪ Trainer guided.</li><li>▪ Demonstration</li></ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"><li>▪ Written assessment</li><li>▪ Performance based assessment</li></ul>

- Product based assessment
- Project based assessment.

### Learning outcome 3: Repair power amplifier

Learning hours: 25hours

#### Indicative content

- **Description of power amplifier**
  - ✓ Types of power amplifier
    - ✚ Audio amplifier
    - ✚ RF amplifier
    - ✚ DC power amplifier
    - ✚ Class A amplifier
    - ✚ Class B amplifier
    - ✚ Class A&B amplifier
  - ✓ Specifications of power amplifier
    - ✚ Power output
    - ✚ Impedance
    - ✚ Frequency response
    - ✚ Total harmonic distortion (THD)
    - ✚ Signal to noise ratio (S/N Ratio)
- **Disassembling power amplifier**
  - ✓ Disassembling steps
  - ✓ Cleaning techniques(Blowing)
- **Testing defected parts of power amplifier**
  - ✓ power amplifier functionality parts
  - ✓ Testing techniques
- **Replacing defected parts of power amplifier**
  - ✓ Identification of Defective Parts

- ✓ Replacement process
- ✓ Post-replacement checks
- **Re-assembling power amplifier**
  - ✓ Re-assembling process
  - ✓ Functionality test

**Resources required for the learning outcome**

<b>Equipment</b>	Digital multi-meter, Power amplifier, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>

**Learning outcome 4: Repair Loudspeaker**

**Learning hours: 20hours**

**Indicative content**

- **Description of loudspeaker**

- ✓ Headphones
  - ✚ Active Noise Cancellation (ANC) Headphones
  - ✚ Passive Noise Isolation (Passive) Headphones
- ✓ Types of loudspeakers
  - ✚ Full range speaker
  - ✚ Three-way speakers
  - ✚ High-end speakers
- ✓ Specifications of loudspeaker
  - ✚ Frequency response
  - ✚ Impedance
  - ✚ Sensitivity
  - ✚ Power handling
  - ✚ Woofer size
  - ✚ Cross-over frequency (multi-way speakers)

- **Disassembling loudspeaker**

- ✓ Disassembling steps
- ✓ Cleaning techniques(Blowing)

- **Testing defected parts of loudspeaker**

- ✓ Loudspeaker's functionality parts
- ✓ Testing techniques

- **Replacing defected parts of loudspeaker**

- ✓ Identification of Defective Parts
- ✓ Replacement process
- ✓ Post-replacement checks

- **Re-assembling loudspeaker**

- ✓ Re-assembling process
- ✓ Functionality test

**Resources required for the learning outcome**

<b>Equipment</b>	Digital multi-meter, Computer, loudspeakers, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Speaker stand tripod, Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> </ul>

<b>Learning outcome 5: Repair Microphone</b>	<b>Learning hours: 20hours</b>
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**Indicative content**

- **Description of microphone**
  - ✓ Types of microphones
    - ✚ Dynamic microphones
    - ✚ Condenser microphones
    - ✚ Ribbon microphones
  - ✓ Specifications of microphone
    - ✚ Frequency response
    - ✚ Polar pattern
    - ✚ Sensitivity
    - ✚ Signal to noise ratio (S/N Ratio)
- **Disassembling microphone**

- ✓ Disassembling steps
- ✓ Cleaning techniques(Blowing)
- **Testing defected parts of microphone**
  - ✓ microphone functionality parts
  - ✓ Testing techniques
- **Replacing defected parts of microphone**
  - ✓ Identification of Defective Parts
  - ✓ Replacement process
  - ✓ Post-replacement checks
- **Re-assembling microphone**
  - ✓ Re-assembling process
  - ✓ Functionality test

**Resources required for the learning outcome**

<b>Equipment</b>	Digital multi-meter, wireless microphone, Wired microphone, soldering station, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials</b>	Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner / WD40, Jumper wire, Coaxial cables, TRS jack, Bananas, Electronic components, connectors.
<b>Tools</b>	Wire strippers, Screwdrivers, Pliers, Cable cutters, Spanners, Safety knife, Hex keys, Torch, soldering iron, Audio editing Software, Audio Cable test, Microphone stand. Brush, sponge.
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion</li> <li>▪ Trainer guided.</li> <li>▪ Demonstration</li> <li>▪ Practical exercise</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Performance based assessment</li> <li>▪ Product based assessment</li> <li>▪ Project based assessment.</li> <li>▪ Oral based assessment</li> </ul>

**Learning outcome 6: Document the work done**

**Learning hours: 5hours**

**Indicative content**

- **Developing technical report**
  - ✓ Report's purpose
  - ✓ Element of repair report
    - ✚ Introduction
    - ✚ Body
    - ✚ Conclusion and recommendations
- **Developing Diagnosing form**
  - ✓ Diagnosing form template
- **Developing invoice**
  - ✓ Proforma invoice
  - ✓ invoice

**Resources required for the learning outcome**

<b>Equipment</b>	Computer (Desktop or Laptop), Printer
<b>Materials</b>	Papers, Flash disk, Pens
<b>Tools</b>	calculator
<b>Facilitation techniques</b>	<ul style="list-style-type: none"><li>▪ Practical exercise</li><li>▪ Trainer guided.</li><li>▪ Group discussion</li></ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"><li>▪ Written assessment</li><li>▪ Product based assessment</li></ul>

**Integrated/Summative assessment**

**Integrated situation**

XXXX Church is in Gasabo District, Kigali city needs to hire a trained technician that will repair their music equipment's. Those music equipment's were used in live concert after 2 hours some of them

had damaged due to change in voltage. As hired technician you are required to repair the following damaged equipment:

5. Console mixer
6. Power amplifier
7. Microphones and
8. Loudspeakers.

Those equipment's must be submitted back to the church within 8 hours, together with related invoice and technical / repair report.

### Resources

<b>Tools</b>	Pliers, screwdrivers, Allen key, soldering pump, soldering iron, brush, Microscope magnifier, Magnifying lamp,
<b>Equipment</b>	Digital multi-meter, headphones, PPE, Soldering station gun, Oscilloscope, DC power supply, Hot air blower, Glue gun machine.
<b>Materials/ Consumables</b>	Electronics components, Glue gun stick, soldering tin, Solder paste, Paste flux, Liquid flux, PCB cleaner, Jumper wire.

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
1.Pre -repair activities of music equipment (15%)	1.1. Workplace is properly prepared according to the work to be done	Selection of cleaning tools, materials and equipment			1
		Cleaning tools, materials and equipment are used			1
		The workplace is cleaned			1
		Lighting and ventilation are ON			2
	1.2. Tools, materials and equipment are properly selected based on their types and usage	Tools, materials and equipment are selected			2
		Tools, materials and equipment are arranged			2
		Tools, materials and equipment are used			2

	1.3. Pre-testing is correctly performed based on testing method	Visual inspection is done			2
		Mechanical functionality test is done			2
2.Repair console mixer (20%)	2.1. Console mixer is properly described based on their types and specification	The type of console mixer is identified			1
		Specification of console mixer identified			1
	2.2. Console mixer is correctly disassembled based on disassembling steps	The user manual is referred on			1
		The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
	2.3. Defected parts of console mixer are correctly tested based on testing techniques	Visual test is done			2
		Voltage measurement is done			2
		Current measurement is done			2
	2.4. Defected parts of console mixer are correctly replaced or repaired according to the identified faults	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2
		New components are correctly soldered or fitted in			2
	2.5. Console mixer is correctly re-assembled based on re-assembling process	Functionality testing is done			1
Console mixer is re-assembled				1	
3.Repair power amplifier	3.1. Power amplifier is properly described	The type of power amplifier is identified			1

(20%)	based on their types and specification	Specification of power amplifier is identified			1
		The user manual is referred on			1
	3.2. Power amplifier is correctly disassembled based on disassembling steps.	The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
	3.3. Defected parts of Power amplifier are correctly tested based on testing techniques.	Visual test is done			2
		Voltage measurement is done			2
		Current measurement is done			2
	3.4. Defected parts of Power amplifier are correctly replaced or repaired according to the identified faults.	Di-soldering /removal of defected part			2
		Device ratings and specifications are respected			2
		New components are correctly soldered or fitted in			2
	3.5. Power amplifier is correctly re-assembled based on re-assembling process	Functionality testing is done			1
		Power amplifier is re-assembled			1
	4.Repair Loudspeaker  (20%)	4.1. Loudspeaker is properly described based on their types and specification	The type of loudspeaker is identified		
Specification of loudspeaker identified					1
The user manual is referred on					1
4.2. Loudspeaker is correctly disassembled based on disassembling process.		The cover is unscrewed using appropriate tools			1
		The cover is removed			1
		Adequate labelling disconnection techniques are applied			1
		Visual test is done			2

	4.3. Defected parts of loudspeaker are correctly tested based on testing techniques	Voltage measurement is done			2	
		Current measurement is done			2	
	4.4. Defected parts of loudspeaker are correctly replaced or repaired according to the identified faults	Di-soldering /removal of defected part			2	
		Device ratings and specifications are respected			2	
		New components are correctly soldered or fitted in			2	
	4.5. Loudspeaker is correctly re-assembled based on re-assembling process	Functionality testing is done			1	
		Loudspeaker is re-assembled			1	
	5.Repair microphone (20%)	5.1. Microphone is properly described based on their types and specification	The type of microphone is identified			1
			Specification of microphone is identified			1
The user manual is referred on					1	
5.2. Microphone is correctly disassembled based on disassembling steps		The cover is unscrewed using appropriate tools			1	
		The cover is removed			1	
		Adequate labelling disconnection techniques are applied			1	
5.3. Defected parts of microphone are correctly tested based on testing techniques		Visual test is done			2	
		Voltage measurement is done			2	
		Current measurement is done			2	
5.4. Defected parts of microphone are correctly replaced or repaired according to the identified faults		Di-soldering /removal of defected part			2	
		Device ratings and specifications are respected			2	
		New components are correctly soldered or fitted in			2	
		Functionality testing is done			1	

	5.5. Microphone is correctly re-assembled based on re-assembling process	microphone is re-assembled			1
6.Document the work done (5 %)	6.1. A technical report is correctly developed based on the work done	Technical report format is respected			1
		Repair steps contents are followed			1
	6.2. Diagnosing form is correctly developed based on form template	Diagnosing Template form is filled			1
	6.3. The invoice is accurately developed based on the work to be done	Cost estimation is done			1
		Invoice format is respected			1
<b>Total marks</b>		100			
<b>Percentage Weightage</b>		100%			
<b>Minimum Passing line % (Aggregate):</b> 70%					

## References

1. [Instrument Repair Services | Ellis Music](#)
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4. [H. L. Davidson, Consumer electronics troubleshooting & repair handbook, S. Grillo, Ed., New York San Francisco Washington DC: McGraw-Hill, 1999.](#)
5. [B. Cordell, Designing audio power amplifier, Chicago: Mc GrawHill, 2011.](#)
6. [Roland, "Fullcompass.com," 2018. \[Online\]. Available: https://www.fullcompass.com/common/files/33840-RolandJUNODSSeriesOwnersManual.pdf.](#)



Republic of Rwanda  
Ministry of Education



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TVET BOARD

**CCMCB001**

## ENTREPRENEURSHIP

**Competence: Create a Business**

RQF Level: N/A

Learning Hours



Credits: 3

Sector: All

Program: All

Module Type: Complementary

Curriculum: DUAL TRAINING SHORT COURSE

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Kigali june,2024

<b>Purpose statement</b>	This module covers the knowledge, skills and attitudes needed to create business. It describes the necessary knowledge, skills and right attitudes required to determine the basic aspects of entrepreneurship, generate a business idea, prepare a business plan and perform core business operations.				
<b>Learning assumed to be in place</b>	N/A				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	100%
	<ul style="list-style-type: none"> <li>• <b>Group project and presentation</b> 20%</li> <li>• <b>Individual project /Work</b> 50%</li> </ul>				
			Summative Assessment		N/A

## Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Describe basic aspects of Entrepreneurship</b>	1.1 Concepts associated with Entrepreneurship are properly explained in accordance to the business context
	1.2 Entrepreneurial characteristics are properly described with regards to building a successful and sustainable business
	1.3 Importance of Entrepreneurship is appropriately explained in line with economic development, job creation, and societal progress
	1.4 Entrepreneurial cycle is clearly described referring to the various stages and processes that entrepreneurs go through in the creation, development, and growth of a new venture
<b>2 Generate business idea</b>	2.1 Business environment is effectively assessed according to business environment trends

	2.2 Business idea proposal is properly developed in terms of identified needs and requirements
	2.3 Business idea feasibility is correctly analysed according to market demand, potential competition, financial feasibility, and other environmental relevant factors /trends
<b>3 Prepare a business plan</b>	3.1 Business plan elements are correctly identified according to the updated business plan format
	3.2 A business plan is adequately written in line with a business idea
	3.3 Business contingency plan is properly established in line with the business plan
	3.4 Business plan is clearly presented according to the purpose of presentation
<b>4 Perform core business operations</b>	4.1 Core business operations are correctly described in line with the business type
	4.2 Activities to be accomplished before business operations are clearly identified according to the form of business
	4.3 Conducive working environment is effectively created in workplace context
	4.4 Business operations are effectively monitored and evaluated according to the business plan

Course content	
<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Describe basic aspects of Entrepreneurship</li> <li>2. Generate a business idea</li> <li>3. Prepare a business plan</li> <li>4. Perform core business operations</li> </ol>
<b>Learning outcome 1: Describe basic aspects of Entrepreneurship</b>	<b>Learning hours: 3</b>
Indicative content	
<ul style="list-style-type: none"> <li>• <b>Concepts associated with Entrepreneurship</b> <ul style="list-style-type: none"> <li>✓ Business</li> <li>✓ Entrepreneurship</li> </ul> </li> </ul>	

- ✓ Intrapreneurship
- ✓ Entrepreneur
- ✓ Intrapreneur
- ✓ Enterprise
- ✓ Invention
- ✓ Innovation
- ✓ Creativity

- **Characteristics of good entrepreneurs**

- ✓ Creativity
- ✓ Responsibility
- ✓ Curious
- ✓ Goal oriented
- ✓ Independent
- ✓ Risk taker
- ✓ Action oriented
- ✓ Positive attitude

- **Importance of Entrepreneurship**

- ✓ Acceleration of economic growth
- ✓ Promoting innovation
- ✓ Promoting social changes
- ✓ Promoting research and development
- ✓ Developing and improving existing enterprises

- **Entrepreneurial cycle**

- ✓ Idea generation
- ✓ Opportunity evaluation
- ✓ Planning
- ✓ Company information/Launch
- ✓ Growth

**Resources required for the learning outcome**

Equipment	✓ Projector, Computer
Materials	✓ Flip Chart, Markers, Notebooks
Tools	✓ Reference books

Facilitation techniques	<ul style="list-style-type: none"> <li>✓ Brainstorming</li> <li>✓ Small group discussion on the characteristics of entrepreneur</li> <li>✓ Case studies of successful entrepreneurs</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>✓ Written assessment</li> </ul>

**Learning outcome 2: Generate business idea**

**Learning hours: 9 hours**

**Indicative content**

- **Business environment analysis**
  - ✓ Business environment analysis tools
    - ✚ SWOT analysis (Strengths, Weakness, Opportunity and Threats)
    - ✚ PESTEL (Political, Economic, Social, Technological, Environmental and Legal)
- **Development of business idea proposal**
  - ✓ Definition of concepts business idea generation
  - ✓ Methods of business idea generation
    - ✚ Focus groups
    - ✚ Brainstorming
    - ✚ Creative problem-solving
    - ✚ The SCAMPER (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, and Reverse) technique
    - ✚ Role-playing
    - ✚ Saving discussions for later
    - ✚ Storyboarding
    - ✚ Questioning assumptions and
    - ✚ Building on theory
  - ✓ Process of business idea generation to implementation
    - ✚ Defining the problem/opportunity
    - ✚ Research and inspiration
    - ✚ Idea screening
    - ✚ Developing a prototype/testing
    - ✚ Idea optimization
- **Business idea feasibility analysis**
  - ✓ Meaning of business feasibility study
  - ✓ The purpose of business feasibility study

- ✓ Components of business feasibility study:
  - ✚ Product feasibility
  - ✚ Market feasibility
  - ✚ Organizational feasibility
  - ✚ Financial feasibility
  - ✚ Recommendations and conclusion
- ✓ Analysing steps involved in feasibility analysis:
  - ✚ Step 1. Conduct a preliminary analysis
  - ✚ Step 2. Prepare a projected income statement
  - ✚ Step 3. Conduct a market survey
  - ✚ Step 4. Plan business organization and operations
  - ✚ Step 5. Prepare balance sheet
  - ✚ Step 6. Review and analyse all data
  - ✚ Step 7. Make "go/no go" decision

**Resources required for the indicative content**

Equipment	✓ Projector, Computer
Materials	✓ Flip Chart, Markers
Tools	✓ Reference book, Internet
Facilitation techniques	<ul style="list-style-type: none"> <li>✓ Brainstorming on entrepreneurs' competences</li> <li>✓ Large group discussion on entrepreneur competences</li> <li>✓ Guest speaker listening</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>✓ Written assessment</li> <li>✓ Oral presentation</li> </ul>

**Learning outcome 3: Prepare a business plan**      **Learning hours: 13 hours**

**Indicative content**


- **Elements of a business plan**
  - ✓ Definition of the business plan concepts
    - ✚ Meaning of the term business plan
    - ✚ Importance of the business plan
  - ✓ The needs of the business plan:


 Internal use

 External use


- **Description of the elements of a business plan**

- ✓ Title/cover page

-  Logo


-  Name of the business


-  Business owner and contact


-  Location of the business


- ✓ Executive summary (summary of a business)

- ✓ Description of the business


-  History of the business


-  Structure of the business

-  Type of the business


-  Mission, vision, goals and objectives of the business


-  Business competitive advantage

-  Needs of the market the business intends to satisfy


-  SWOT analysis of the business


- ✓ Production of a business plan

-  Premises and plant location


-  Equipment and machinery required

-  Production process planning


-  Raw materials


-  Competing technologies

-  Manufacturing and operations

-  Quality control and ongoing service

-  Labour requirements

-  Utilities and office consumables

-  Packaging equipment required

-  Suppliers

- ✓ Marketing plan

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- ✚ Market research (Customer description)

- ✚ Market analysis

- ✚ Competition analysis

- ✚ Description of target market

- ✚ Defining marketing objectives

- ✚ Market intermediaries

- ✚ 5ps of marketing mix

- ✚ Developing market strategies

- ✚ Ongoing market evaluation

- ✚ Elaborating marketing budget

- ✓ **Business staff plan**

- ✚ Job analysis

- ✚ Job description

- ✚ Job specifications

- ✚ Organizational structure

- ✓ **Financial plan**

- ✚ Estimating total cost (start-up costs, operating costs, administrative costs)

- ✚ Source of funds

- ✚ Projected cash flow statement for the first three years

- ✚ Projected income: profit and loss statement for the first three years

- ✚ Projected balance sheet for the first three years

- ✚ Calculating payback period

- ✚ Projected sales plan

- ✚ Loan payment plan

- ✓ **Implementation plan**

- ✚ Meaning of implementation plan

- ✚ Elements of implementation plan

- ✓ **Appendices (supporting documents)**

- **Writing a business plan**

- ✓ Design of business plan introductory part

- ✓ Design of business production plan

- ✓ Design of marketing plan

- ✓ Development of business staffing requirement plan

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- ✓ Design of business financial plan
  - ✓ Design implementation plan
  - **Establish business contingency plan**
    - ✓ Definition of business contingency plan
    - ✓ Purpose of contingency plan
    - ✓ Importance of contingency plan:
      - ✚ Reduces the risk of uncertainty
      - ✚ Helps the continuity of work
      - ✚ Increases credit availability
      - ✚ Prevents panic
    - ✓ Identification of business risks
      - ✚ Meaning of business risk
      - ✚ Types of business risk
      - ✚ Risk control
  - **Development of contingency plan**
    - ✓ Steps of contingency planning
      - ✚ Make list of risks
      - ✚ Weigh risks based on severity and likelihood
      - ✚ Identify important risks
      - ✚ Create contingency plan for the biggest risk
      - ✚ Get approval for your contingency plan
      - ✚ Distribute contingency plan
      - ✚ Monitor contingency plan
      - ✚ Create new contingency plan if necessary
  - **Business plan presentation**
    - ✓ Purpose of business plan presentation
      - ✚ Financing support
      - ✚ Strategic orientation
      - ✚ Attracting investors
    - ✓ Parties to present the business plan:
      - ✚ Shareholders
      - ✚ Stakeholders
    - ✓ Strategies to prepare business plan presentation
- 
-

- ✚ Connect with your audience
- ✚ Paint a picture in your audience' minds
- ✚ Put credibly content
- ✚ Use statistics and data
- ✓ Techniques to present your business plan
  - ✚ Only write key points
  - ✚ Don't read them, speak about them
  - ✚ Use visualization, pictures, symbols, colors, tables
  - ✚ Make it short, concise, not more than 10 min
  - ✚ React positively to questions
  - ✚ Use body language, voice, appearance
  - ✚ Try to convince
  - ✚ Integrating comments, suggestions and remarks in the business plan
  - ✚ Planning to maintain and enforce relationship with stakeholders (audience) for further collaboration.

#### Resources required for the indicative content

Equipment	✓ White board, case study
Materials	✓ Markers, flip chart, pens
Tools	✓ Reference books, feasibility study template
Facilitation techniques	<ul style="list-style-type: none"> <li>✓ Case study on successful entrepreneurs</li> <li>✓ Group work to discuss case scenarios</li> <li>✓ Brainstorming on the competences lacking in unsuccessful entrepreneur</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>✓ Written assessment</li> <li>✓ Oral presentation</li> </ul>

#### Learning outcome 4: Perform core business operations

Learning hours: 5 hours

#### Indicative content

- **Description of core business operations**
  - ✓ Decide the business legal structure
    - ✚ Sole proprietorship
    - ✚ Partnership (General or Limited)
    - ✚ Corporation (C and S)

✚ Limited Liability Company (LLC)

✓ Business physical operations

✚ Location and facility

✚ Operational / production equipment and maintenance

✚ Employees

✚ Professional assistance

✓ Business regulations and guidelines

✚ Business formation

✚ Taxes

✚ Intellectual property

✚ Legal documents

✚ Insurance

✓ Business financial operations

✚ Accounting system (Income statement, balance sheet and cash flow statement)

✚ Bookkeeping & Bookkeeping Records (Gross receipts, purchase receipts, expense receipts, tax, employment, sales

✓ Day-to-day operations management

✚ Production process

✚ Production standards

✚ Product fulfillment process

✚ Inventory management

✚ Billing and collection process

• **Activities to be accomplished before starting business operations**

✓ Legalize the business

✓ Identify business location requirements

✓ Working place layout

✓ Workplace equipment, materials and tools

✓ Determine raw materials for initial storage

✓ Production equipment and machinery

✓ Production consumables

✓ Estimate start-up finances

✓ Quantity of financial needs

- ✓ Sources finances
- ✓ Allocation of financial resources

- **Creation of conducive working environment**

- ✓ Set of business ethical conduct
    - ✚ Objectives of ethical conduct in a business
    - ✚ Rules and regulations of the business
    - ✚ Positive attitude required to business members
    - ✚ Sanctions proposed by the law in business
  - ✓ Types of unethical behaviour in a business
    - ✚ Mistreating employees
    - ✚ Financial misconduct
    - ✚ Misrepresentation
  - ✓ Techniques of encouraging a positive ethical behaviour in business
    - ✚ Rewards
    - ✚ Expectations
    - ✚ Training
    - ✚ Policies
    - ✚ Assignment of responsibilities to employees
    - ✚ Motivation
    - ✚ Matching personal characteristics with business requirements
  - ✓ Methods of handling unethical conduct in business
    - ✚ Set of conventional principles
    - ✚ Set clear and transparent policies
    - ✚ Keep the code updated
    - ✚ Ethics should be involved in day- to -day activities
    - ✚ Document the dishonest behaviour
    - ✚ Endow company's employees
    - ✚ Deal with payment fraud
  - ✓ Ways to address unethical behaviour at the workplace
    - ✚ Create a code of conduct
- 
-

- ✚ Lead by example
- ✚ Reinforce consequences for unethical behaviour
- ✚ Show employees appreciation
- ✚ Welcome an ethics speaker
- ✚ Create checks and balances
- ✚ Hire for values

✓ Importance of positive ethical conduct in the business

- ✚ Increase the overall morale
- ✚ Enhance the performance of an organization

✓ Responsibility assignment matrix

- ✚ Responsible, Accountable, Consulted and Informed (RACI)

- **Maintenance of good relationship with customers and suppliers**

Methods used to maintain good relationship with Customers and Suppliers:

- ✚ Communicate
- ✚ Exceed expectation
- ✚ Ask for feedback
- ✚ Connect
- ✚ Show appreciation
- ✚ Understand the needs of your suppliers
- ✚ Be a great customer
- ✚ Communication
- ✚ Timely feedback
- ✚ Choose suppliers that align to your values
- ✚ Loyalty

✓ Importance of maintaining good customers and suppliers' relationship to the business:

- ✚ Increase customer life time value
- ✚ Reduce customer churn
- ✚ Improve customer loyalty

- **Monitoring and evaluation of the business**

- **Preparation of a daily report of business activities**

- ✓ Meaning of business daily report
  - ✓ Purpose of business daily report
  - ✓ Format of daily report of business activities
-

- ✓ Importance of business daily report to the business
  - **Organization of employees' meeting**
    - ✓ Meaning of effective employees' meeting
    - ✓ Purpose of employees' meeting
    - ✓ Meaning of customer inquiries and needs
    - ✓ Ways of gathering customer's inquiries and needs
    - ✓ Elements of preparing effective employees' meeting
      - ✚ Setting meeting objectives
      - ✚ Preparing meeting requirements
      - ✚ Running employees' meeting
    - ✓ Ways to make employee meeting successful
      - ✚ Facilitate brainstorming session
      - ✚ Stand up
      - ✚ Set meeting goals together
      - ✚ Offer incentives and rewards
      - ✚ Set a clear framework in advance
  - **Consultation of business plan**
    - ✓ Purpose of consulting business plan during a business operation
      - ✚ Create an effective strategy for growth
      - ✚ Determine the future financial needs
      - ✚ Attract investors and leaders
    - ✓ Critical parts of the business plan to be considered while running business
      - ✚ Executive summary
      - ✚ Business description
      - ✚ Market analysis and strategy
      - ✚ Marketing and sales plan
      - ✚ Competitive analysis
      - ✚ Management and organization
      - ✚ Description of product and services description
      - ✚ Operating plan
    - ✓ Using business plan as tool
      - ✚ Internal communication
      - ✚ Communication with partners
- 
-

✚ Communication with financial institutions

#### Resources required for the indicative content

Equipment	✓ White board, Case study
Materials	✓ Markers, Flip chart, Pens
Tools	✓ Reference books, Feasibility study template
Facilitation techniques	✓ Case study on successful entrepreneurs ✓ Group work to discuss case scenarios ✓ Brainstorming on the competences lacking in unsuccessful entrepreneur
Formative assessment methods	✓ Written assessment ✓ Oral presentation

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<b>Purpose statement</b>	This module describes the skills, knowledge, and attitudes required to apply professional development and distribution skills. At the end of this module, the trainee will be able to develop personal brand strategy, gain proficiency in digital distribution and marketing, apply project management principles and financial planning skills, develop comprehension of copyright laws and intellectual property rights.				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> <li>Group project and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual project /Work</li> </ul>	50%			
			Summative Assessment	50%	

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Develop personal brand strategy</b>	1.1. Brand strategy is properly created according to portfolio development
	1.2. Strategies for building and maintaining professional relationships are effectively set according to both online and offline network
	1.3. Digital platforms on social media are well created according to the target audience
<b>2. Gain proficiency in digital distribution and marketing</b>	2.1. Digital distribution platforms are properly used according to the market trends
	2.2. Marketing campaigns tailored to specific audiences are effectively conducted based on analysis of the target market.
	2.3. Marketing performance is adequately tracked by the use of analytic tools focusing on metrics and insight

<b>3. Apply project management principles and financial planning skills</b>	3.1. The project is effectively planned according to industry standards
	3.2. Financial literacy is effectively applied according to the specific requirement of the creative project
	3.3. Contractual and legal comprehension is well developed according to the industry standard and legal guidelines
<b>4. Develop comprehension of copyright laws and intellectual property rights.</b>	4.1. The fundamentals of copyright law are appropriately applied according to legal standards and industry practices.
	4.2. The intellectual property rights are properly applied in accordance with legal frameworks and industry norms
	4.3. The process of licensing creative works and managing intellectual property rights is effectively conducted with respect to regulatory guidelines and best practices.

## Course content

<b>Learning outcomes</b>	<b>At the end of the module the learner will be able to:</b> <ol style="list-style-type: none"> <li>1. Develop personal brand strategy</li> <li>2. Gain proficiency in digital distribution and marketing</li> <li>3. Apply project management principles and financial planning skills</li> <li>4. Develop comprehension of copyright laws and intellectual property rights</li> </ol>
<b>Learning outcome1: Develop personal brand strategy</b>	<b>Learning hours: 10</b>

### Indicative content

- **Developing portfolio**
  - ✓ **Biography**
    - ✚ Personal background and education.
    - ✚ Career highlights and achievements.
    - ✚ Artistic influences and unique style.
  - ✓ **Curriculum Vitae (CV)**
    - ✚ Contact information and professional summary.
    - ✚ Education and training.
    - ✚ Performance history and experience
    - ✚ Awards, recognitions, and affiliations
  - ✓ **Electronic Press Kit (EPK)**
    - ✚ High-quality photos and videos
    - ✚ Sample works (audio and video recordings).
    - ✚ Contact information and social media links.
  - ✓ **Portfolio Presentation**
    - ✚ Integration of the biography, CV, and EPK.
    - ✚ Use of visual design principles.
    - ✚ Consistent branding and professional appearance.
  - ✓ **Supplementary Materials**
    - ✚ Letters of recommendation and testimonials.
    - ✚ Project descriptions and case studies.
    - ✚ Professional headshots and artistic photos

- Setting of online and offline network
  - ✓ Online and off line network
    - ✚ Hybrid Events
    - ✚ Professional Associations and Groups
    - ✚ Collaborative Projects and Tools
    - ✚ Community Building and Networking
    - ✚ Blended Learning and Development
  - ✓ **The Importance of Networking**
    - ✚ Career Advancement
    - ✚ Access to Resources and Opportunities
    - ✚ Building a Supportive Community
    - ✚ Learning and Skill Development
    - ✚ Personal Branding and Visibility
  
- Creation of digital platforms
  - ✓ Types of Digital Platforms
  - ✓ Creating a Digital Platform Presence
  - ✓ Using Digital Platforms for Professional Development
  - ✓ Enhancing Collaboration with Digital Tools
  - ✓ Building and Engaging Online Communities
  - ✓ Audience Demographics
    - ✚ Audience age range
    - ✚ Gender composition
    - ✚ Income levels
    - ✚ Education background
    - ✚ Geographic segmentation
  - ✓ Audience interests
    - ✚ Discovering interests
    - ✚ Hobbies and activities
    - ✚ Life style preference
  - ✓ Audience behaviour
  - ✓ Audience personas
  - ✓ Audience analytics

### Resources required for the learning outcome

<b>Equipment,</b>	Computers, projector, flipchart stand, blackboard
<b>Materials</b>	Papers, Pens, Flipchart, markers, chalks, internet
<b>Tools</b>	

<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>● Brainstorming</li> <li>● Individual and collective research</li> <li>● Field visit</li> <li>● Group discussion</li> <li>● Presentation</li> </ul>
<b>Formative assessment methods</b>	<ul style="list-style-type: none"> <li>● Written evidence</li> <li>● Oral evidence</li> <li>● Product evidence</li> </ul>

<b>Learning outcome 2: Gain proficiency in digital distribution and marketing</b>	<b>Learning hours: 15</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>● Using digital distribution platforms <ul style="list-style-type: none"> <li>Market trends analysis <ul style="list-style-type: none"> <li>✚ Market Size and Growth Potential</li> <li>✚ Competitive Analysis</li> <li>✚ Customer Analysis</li> <li>✚ Industry Trends and External Factors</li> <li>✚ SWOT Analysis</li> </ul> </li> <li>✓ Platforms selection <ul style="list-style-type: none"> <li>✚ Platforms specification</li> <li>✚ Platforms analysis</li> <li>✚ Platforms integration</li> </ul> </li> <li>✓ Content strategy alignment</li> <li>✓ Performance monitoring</li> <li>✓ Adaptation to the market changes</li> </ul> </li> <li>● Conducting marketing campaigns <ul style="list-style-type: none"> <li>✓ Audience Segmentation</li> <li>✓ Market Analysis for Campaign Planning</li> <li>✓ Personalized Content Creation</li> <li>✓ Campaign Implementation and Optimization</li> <li>✓ Evaluation and ROI Analysis</li> </ul> </li> <li>● Tracking market performance <ul style="list-style-type: none"> <li>✓ Types of Market Performance Metrics</li> <li>✓ Digital Platforms for Tracking Market Performance</li> <li>✓ Creating a Market Performance Dashboard</li> <li>✓ Using Technical and Fundamental Analysis</li> <li>✓ Staying Informed with Financial News and Reports</li> </ul> </li> </ul>	

Resources required for the indicative content	
Equipment,	<ul style="list-style-type: none"> <li>• Computers, projector, flipchart stand, blackboard</li> </ul>
Tools	
Materials	<ul style="list-style-type: none"> <li>• Papers, Pens, Flipchart, markers, chalks, internet</li> </ul>
Facilitation techniques	<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Individual and collective research</li> <li>• Field visit</li> <li>• Group discussion</li> <li>• Presentation</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>• Written evidence</li> <li>• Written evidence</li> </ul>

Learning outcome 3: Apply project management principles and financial planning skills	Learning hours: 15
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Planning industry standards project</b> <ul style="list-style-type: none"> <li>✓ Project Scope Definition</li> <li>✓ Work Breakdown Structure (WBS)</li> <li>✓ Resource Planning and Allocation</li> <li>✓ Risk Management and Contingency Planning</li> </ul> </li> <li>• <b>Application of financial literacy</b> <ul style="list-style-type: none"> <li>✓ Budgeting and Financial Planning</li> <li>✓ Credit and Debt Management</li> <li>✓ Investment Principles and Strategies</li> <li>✓ Financial Decision-Making</li> <li>✓ Financial Planning for Major Life Events</li> </ul> </li> <li>• <b>Developing contracts</b> <ul style="list-style-type: none"> <li>✓ Contractual Terms and Agreements</li> <li>✓ Compliance with Legal Regulations and Standards</li> <li>✓ Negotiation and Drafting Contracts</li> <li>✓ Risk Assessment and Mitigation</li> <li>✓ Contract Management and Administration</li> </ul> </li> </ul>	

Resources required for the indicative content	
Equipment,	Computers, projector, flipchart stand, blackboard
Tools	
Materials	Papers, Pens, Flipchart, markers, chalks, internet
Facilitation techniques	<ul style="list-style-type: none"> <li>● Brainstorming</li> <li>● Individual and collective research</li> <li>● Field visit</li> <li>● Group discussion</li> <li>● Presentation</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>● Written evidence</li> <li>● Written evidence</li> <li>● Product evidence</li> </ul>

Learning outcome 4: Develop comprehension of copyright laws and intellectual property rights.	Learning hours: 10
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>● <b>Application of copyright laws</b> <ul style="list-style-type: none"> <li>✓ Copyright Ownership</li> <li>✓ Registering Copyrights</li> <li>✓ Copyrighted Material</li> <li>✓ Copyright Infringement</li> <li>✓ International Copyright Laws</li> </ul> </li> <li>● <b>Application of intellectual properties</b> <ul style="list-style-type: none"> <li>✓ Types of Intellectual Property Rights</li> <li>✓ Legal Frameworks for IP Protection:</li> <li>✓ Enforcement of IP Rights</li> <li>✓ IP Management and Strategy</li> <li>✓ Ethical and Industry Norms in IP</li> </ul> </li> <li>● <b>Conducting licensing process</b> <ul style="list-style-type: none"> <li>✓ Licensing Agreements:</li> <li>✓ Regulatory Guidelines and Compliance</li> <li>✓ Negotiation and Drafting of Licensing Contracts</li> <li>✓ IP Management and Enforcement</li> <li>✓ Monetization and Revenue Models</li> </ul> </li> </ul>	

Resources required for the indicative content	
Equipment,	Computers, projector, flipchart stand, blackboard
Tools	
Materials	Papers, Pens, Flipchart, markers, chalks, internet
Facilitation techniques	<ul style="list-style-type: none"> <li>● Research</li> <li>● Practical exercises</li> <li>● Group discussion</li> <li>● Field visit</li> <li>● Presentation</li> </ul>
Formative assessment methods	<ul style="list-style-type: none"> <li>● Written evidence</li> <li>● Written evidence</li> <li>● Product evidence</li> </ul>

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## INDUSTRIAL ATTACHMENT PROGRAM

MIRIA001

Integrate the workplace

### Competence

RQF Level: Short course

Learning Hours



300

Credits: 30

Sector: ALL

Trade: ALL

Module Type: Specific

Curriculum: Short course

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Issue Date: June, 2024

<b>Purpose statement</b>	This module describe knowledge, skills and attitudes required for a trainee to integrate the workplace. It is intended to be learnt by a trainee pursuing short course training in Rwanda TVET schools. Upon completion, the trainee will be able to investigate and secure IAP place, apply and prepare for IAP, develop his/her competences at the workplace as well as transferring IAP skills in real life situations.				
<b>Learning assumed to be in place</b>	All competences related to the shortcourse				
<b>Delivery modality</b>	<b>Training delivery</b>	<b>100%</b>	<b>Assessment</b>	<b>Total 100%</b>	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> <li>Group work and presentation</li> </ul>				
	<ul style="list-style-type: none"> <li>Individual work</li> </ul>	40%			
	Summative Assessment		50%		

### Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
<b>1. Investigate and secure IAP place</b>	1.1. Importance of industrial attachment is properly identified in line with one's occupation
	1.2. Resources in the community or nationwide are appropriately used to find IAP information.
	1.3. Industrial attachment place is properly selected based on training package
<b>2. Apply for IAP</b>	2.1. IAP Application letter is effectively written with respect to its format and highlighting the applicant interest, relevant skills, and how the attachment aligns with career goal

	2.2. A neat CV is correctly written based on its components and showing the applicant achievements, work experience (if any), and other relevant qualifications.
	2.3. Application documents are properly submitted following guidelines and deadlines set by the host organization.
<b>3. Prepare for IAP</b>	3.1. Communication skills are effectively worked on to get ready for selection activities, such as interviews, assessments, or presentations.
	3.2. Communication is regularly maintained with the IAP host company to confirm the attachment details such as start date, duration, and any specific requirements.
	3.3. The roles, responsibilities, and expectations during the attachment period are properly reviewed in order to maximize the attachment experience.
<b>4. Develop one's competences at the workplace</b>	4.1. One's skills gaps are appropriately identified based on labour market/workplace demand.
	4.2. Strategies to fill professional gaps are properly established in line with labour market opportunities
	4.3. Effective workplace behaviours are properly demonstrated based on Industrial attachment agreement
	4.4. Workplace experience is regularly documented based on IAP logbooks completeness
<b>5. Transfer IAP skills</b>	5.1. IAP achievement/experience is adequately assessed based on IAP and self - assessment procedures
	5.2. A personal portfolio is properly created and organised based on work samples, projects, and other achievements from the attachment program
	5.3. Transferable competencies are effectively identified in accordance to desired career goals, path and future roles alignment
	5.4. Opportunities are courageously identified to showcase and apply new competences gained from IAP




	5.5. Relationship with IAP hosting organisation is properly maintained for further opportunities.
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## Knowledge, Skills, and Attitude

Knowledge	Skills	Attitude
<ul style="list-style-type: none"> <li>✓ Identify importance of industrial attachment</li> <li>✓ Describe industries that match with one's trade and aspirations</li> <li>✓ Distinguish relevant documents needed for IAP application</li> <li>✓ Describe ways for IAP document submission</li> <li>✓ Enumerate roles and responsibilities during IAP period</li> <li>✓ Identify self-assessment techniques</li> <li>✓ Differentiate elements of a competency development plan</li> <li>✓ Distinguish IAP logbooks</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use possible resources to gather IAP information</li> <li>✓ Select IAP place based on training package</li> <li>✓ Compose application letter and CV for IAP application</li> <li>✓ Submit IAP application document</li> <li>✓ Prepare for and perform interview</li> <li>✓ Apply effective communication skills</li> <li>✓ Apply self-assessment techniques for skills gap identification</li> <li>✓ Develop a competency Development Plan</li> <li>✓ Carry out IAP tasks</li> <li>✓ Identify opportunities for learning and growing during IAP</li> </ul>	<ul style="list-style-type: none"> <li>✓ Demonstrate professional conduct, time management, and workplace etiquette.</li> <li>✓ Enhance adaptability to new situations and environments.</li> <li>✓ Develop problem-solving skills, critical thinking, and decision-making abilities while solving IAP challenges</li> <li>✓ Collaborate, work in teams, while fulfilling IAP tasks</li> <li>✓ Being more motivated, dedicated, and passionate about the future career</li> <li>✓ Being self-confidence towards successful</li> </ul>

<ul style="list-style-type: none"> <li>✓ Identify transferable competences aligned to his future roles and career path</li> <li>✓ Identify application areas for IAP gained experience</li> </ul>	<ul style="list-style-type: none"> <li>✓ Document IAP activities</li> <li>✓ Build a portfolio for gained experience from IAP</li> <li>✓ Showcase and apply IAP skills</li> </ul>	<p>completion of the industrial attachment</p> <ul style="list-style-type: none"> <li>✓ Network with others</li> </ul>
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## Course content

<b>Learning outcomes</b>	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Investigate and secure IAP place</li> <li>2. Apply for IAP</li> <li>3. Prepare for IAP</li> <li>4. Develop one’s competences at the workplace</li> <li>5. Transfer IAP skills</li> </ol>
<b>Learning outcome 1: Investigate and secure IAP place</b>	<b>Learning hours: 10</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Explanation of the importance of industrial attachment</b> <ul style="list-style-type: none"> <li>✓ Benefits of IAP <ul style="list-style-type: none"> <li> Practical experience</li> <li> Skills development</li> <li> Career exploration</li> </ul> </li> </ul> </li> </ul>	

- ✚ Networking and connection

- ✚ Employability and competitive advantage

- **Using resources in the community or nationwide to find IAP information**

- ✓ Resources to find internship in the community and at national level

- ✚ Job announcements

- ✚ Newspapers

- ✚ Advertisements

- ✚ Recruitment agencies

- ✚ Internet websites

- ✓ Identification of contact persons

- **Selection of industrial attachment place based on training package**

- ✓ Key terms definitions

- ✚ Firm

- ✚ Sector

- ✚ Industry

- ✚ Company

- ✚ Organization

- ✚ Factory

- ✚ Enterprise

- ✚ Business

- ✓ Industry classification

- ✓ Industry sectors

- ✓ Industries/companies organizational structure

- ✚ Purpose of organizational structure

- ✚ Benefits to use organizational chart

- ✓ Factors influencing industry selection

- ✚ Geographical location

- ✚ Non geographical factors

- ✚ Industry size
- ✚ Mean of industrial size
- ✚ Industrial size determination
- ✓ Industrial attachment place selection criteria
  - ✚ Training package
  - ✚ Tasks related to the field.
  - ✚ Working hours

### Resources required for the learning outcome

<b>Equipment</b>	Computer, Projector, chalk board, flipchart stand
<b>Materials</b>	Papers, flipcharts, chinks, pens, marker pens,
<b>Tools</b>	Reference books, Pictures, sample of newspapers, Power Point presentations on mapping the industries related to own career
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>• Individual and group work</li> <li>• Group discussion and presentation</li> <li>• Learning through interaction of guest speakers (Practitioners)</li> <li>• Learning through field visits on the relevant institutions</li> <li>• Case study</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Oral presentation</li> </ul>

<b>Learning outcomes</b>	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Investigate and secure IAP place</li> <li>2. Apply for IAP</li> <li>3. Prepare for IAP</li> <li>4. Develop one's competences at the workplace</li> <li>5. Transfer IAP skills</li> </ol>
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**Learning outcome 2: Apply for IAP**

**Learning hours: 10**

**Indicative content**

- **Writing an IAP Application letter**
  - ✓ Formats of application letter
  - ✓ Content/highlights of IAP application letter
    - ✚ The applicant interest,
    - ✚ Relevant skills,
    - ✚ Aligning industrial attachment with career goals
      - Setting of career goals
- **Writing a CV for IAP application**
  - ✓ CV format
  - ✓ IAP CV content
    - ✚ Applicant identification
    - ✚ Applicant achievements,
    - ✚ Work experience (if any),
    - ✚ other relevant qualifications
  - ✓ Attachments
    - ✚ Academic transcripts or certificates
    - ✚ Reference letters from instructors or previous employers (if available)
- **Submission of Application documents**
  - ✓ Online application/submission
  - ✓ Email submission
  - ✓ Postal/Courier Submission
  - ✓ In-Person Submission

Resources required for the learning outcome	
<b>Equipment</b>	Computer, Projector, chalk board, flipchart stand
<b>Materials</b>	Papers, flipcharts, chalks, pens, marker pens, internet
<b>Tools</b>	Reference books, Pictures, Power Point presentations
<b>Facilitation techniques</b>	Group discussion and presentation, Individual work, guided practice
<b>Formative assessment methods /(CAT)</b>	Written assessment Product based assessment

<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Investigate and secure IAP place</li> <li>2. Apply for IAP</li> <li>3. Prepare for IAP</li> <li>4. Develop one's competences at the workplace</li> <li>5. Transfer IAP skills</li> </ol>
<b>Learning outcome 3: Prepare for IAP</b>	<b>Learning hours: 10</b>

Indicative content	
<ul style="list-style-type: none"> <li>• <b>Getting ready for IAP selection activities,</b> <ul style="list-style-type: none"> <li>✓ Interview preparation               <ul style="list-style-type: none"> <li>✚ Interviewing tips:                   <ul style="list-style-type: none"> <li>○ what to do before</li> <li>○ what to do during interview</li> <li>○ what to do after the interview</li> </ul> </li> </ul> </li> <li>✓ Typical questions asked during an interview</li> <li>✓ Presentation skills</li> </ul> </li> <li>• <b>Maintaining Communication with the IAP</b> <ul style="list-style-type: none"> <li>✓ Confirmation email</li> </ul> </li> </ul>	

- ✓ Polite follow up
- ✓ Next step inquiry
- ✓ Additional information/updates provision
  - ✚ Start date
  - ✚ Duration
  - ✚ Any specific requirements
- ✓ Continued interest expression
- **Review of roles, responsibilities and expectations during the attachment period**
  - ✓ Key parties involved in IAP and their roles
    - ✚ Training institution
    - ✚ Industry/company
  - ✓ Key roles involved in running IAP
    - ✚ Industrial attachment coordinator roles
    - ✚ Company Supervisor roles
    - ✚ School supervisor/Trainer roles
    - ✚ Trainee roles
  - ✓ Trainee's expectations from IAP

### Resources required for the learning outcome

<b>Equipment</b>	▪ Computer, Projector, chalk board, flipchart stand
<b>Materials</b>	▪ Papers, flipcharts, chalks, pens, marker pens, internet
<b>Tools</b>	▪ Reference books, Pictures, Power Point presentations
<b>Facilitation techniques</b>	▪ Group discussion and presentation, Individual work, guided practice
<b>Formative assessment methods /(CAT)</b>	▪ Written assessment ▪ Oral assessment

<b>Learning outcomes</b>	At the end of the module the learner will be able to: <ol style="list-style-type: none"> <li>1. Investigate and secure IAP place</li> </ol>
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	<ol style="list-style-type: none"> <li>2. Apply for IAP</li> <li>3. Prepare for IAP</li> <li>4. Develop one's competences at the workplace</li> <li>5. Transfer IAP skills</li> </ol>
<b>Learning outcome 4: Develop one's competences at the workplace</b>	<b>Learning hours: 240</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>● <b>Identification of One's skills gaps</b> <ul style="list-style-type: none"> <li>✓ Key terms definition <ul style="list-style-type: none"> <li>✚ Skills gap</li> <li>✚ Professional gaps</li> <li>✚ Labor market</li> </ul> </li> <li>✓ Techniques for identifying professional gaps <ul style="list-style-type: none"> <li>✚ SWOT analysis</li> <li>✚ Benchmarking competences</li> </ul> </li> <li>✓ Identifications of workplace challenges</li> </ul> </li>   <li>● <b>Establishment of strategies to fill professional gaps at the workplace</b> <ul style="list-style-type: none"> <li>✓ Developing a competency Development Plan <ul style="list-style-type: none"> <li>✚ Elements of a Competency Development Plan</li> <li>✚ Sample of a format for a Competency Development Plan</li> <li>✚ Implementation of a competency Development Plan</li> </ul> </li> <li>✓ Labor market opportunities for learning and growth <ul style="list-style-type: none"> <li>✚ On-job-training/workshops/seminars</li> <li>✚ Volunteering projects/tasks</li> <li>✚ Job shadowing</li> </ul> </li> <li>✓ Strategies to overcome workplace challenges</li> </ul> </li> </ul>	

- **Demonstration of effective workplace behaviors**
  - ✓ Workplace behaviors/attitudes
  - ✓ Workplace habits
  - ✓ Managing personal life at workplace
    - ✚ Common situations to balance work and personal life
    - ✚ Tips to manage personal and work lives
  - ✓ Performing workplace tasks
  
- **Documentation of Workplace experience**
  - ✓ IAP logbooks
    - ✚ Trainee logbook
    - ✚ School supervisor logbook
    - ✚ Company supervisor logbook
  - ✓ Trainee logbook completeness

### Resources required for the learning outcome

<b>Equipment</b>	▪ Computer, Projector, chalk board, flipchart stand
<b>Materials</b>	▪ Papers, flipcharts, chalks, pens, marker pens, internet
<b>Tools</b>	▪ Reference books, Pictures, Power Point presentations, copies of logbooks
<b>Facilitation techniques</b>	▪ Group discussion and presentation, Individual work, guided practice
<b>Formative assessment methods /(CAT)</b>	▪ Written assessment ▪ Oral assessment

<b>Learning outcomes</b>	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Investigate and secure IAP place</li> <li>2. Apply for IAP</li> <li>3. Prepare for IAP</li> <li>4. Develop one's competences at the workplace</li> </ol>
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	5. Transfer IAP skills
<b>Learning outcome 5: Transfer IAP skills</b>	<b>Learning hours: 30</b>
<b>Indicative content</b>	
<ul style="list-style-type: none"> <li>• <b>Assessment of IAP achievement/experience</b> <ul style="list-style-type: none"> <li>✓ Interview <ul style="list-style-type: none"> <li> Description of the work carried out during IAP</li> <li> Description of competences acquired during IAP</li> <li> Description of challenges encountered during IAP period</li> <li> Explanation of approaches used to address challenges</li> </ul> </li> <li>✓ Evaluation and recommendations from IAP supervisors</li> <li>✓ Self -evaluation vis-à-vis developed goals and Competency development plan</li> </ul> </li> <li>• <b>Creation and organization of a personal portfolio</b> <ul style="list-style-type: none"> <li>✓ Definition of IAP portfolio</li> <li>✓ Elements of an IAP portfolio</li> <li>✓ IAP portfolio arrangement <ul style="list-style-type: none"> <li> Methods of documents arrangement</li> <li> Ways for keeping safe storage</li> </ul> </li> </ul> </li> <li>• <b>Identification of transferable competencies from IAP</b> <ul style="list-style-type: none"> <li>✓ Key terms definition <ul style="list-style-type: none"> <li> Skills transfer</li> <li> Transferable skills</li> </ul> </li> <li>✓ Types of transferable skills <ul style="list-style-type: none"> <li> Social skills</li> <li> Professional skills</li> </ul> </li> <li>✓ Ways to identify transferable skills from IAP</li> </ul> </li> </ul>	

- **Identification of opportunities to showcase and apply new competences gained from IAP**
  - ✓ IAP portfolio sharing
  - ✓ Job application and interviews
  - ✓ Entrepreneurial-ventures
  - ✓ Continuous Learning and Professional Development
  - ✓ Community Engagement and Volunteering
  - ✓ Mentoring and Knowledge Sharing
- **Maintaining Relationship with IAP hosting organization**
  - ✓ Express gratitude
    - ✚ Sending a thank-you letter
  - ✓ Stay in touch
  - ✓ Seek feedback and recommendations
  - ✓ Provision of updates and opportunities
  - ✓ Attending networking events
  - ✓ Offering assistance and collaboration

### Resources required for the learning outcome

<b>Equipment</b>	<ul style="list-style-type: none"> <li>▪ Computer, Projector, chalk board, flipchart stand</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>▪ Papers, flipcharts, chalks, pens, marker pens, internet</li> </ul>
<b>Tools</b>	<ul style="list-style-type: none"> <li>▪ Reference books, Pictures, Power Point presentations, copies of logbooks and IAP work evidences</li> </ul>
<b>Facilitation techniques</b>	<ul style="list-style-type: none"> <li>▪ Group discussion and presentation, Individual work, guided practice</li> </ul>
<b>Formative assessment methods /(CAT)</b>	<ul style="list-style-type: none"> <li>▪ Written assessment</li> <li>▪ Oral assessment</li> <li>▪ Product based assessment</li> </ul>

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# GLOSSARY

**Assessment:** A process of gathering and judging evidence in order to decide whether a person has attained a standard of performance.

**Assessment criteria:** Statements which describe performances and place them in context with sufficient precision to allow valid and reliable assessment.

**Best practice:** Management practices and work processes that lead to outstanding or top-class performance and provide examples for others.

**Competency standard:** An industry-determined specification of performance which sets out the skills, knowledge and attitudes required to operate effectively in employment. Competency standards are made up of units of competency, which are themselves made up of elements of competency, together with performance criteria, a range of variables, and an evidence guide.

**Competency:** means the ability to apply knowledge, skills and personal, social and methodological skills in the workplace or during learning, as well as in personal and professional development. This ability or capacity is acquired through leaning, exposure to the tasks and series of training allowing one to perform specific task autonomously. Reason why in the context of the CBE Framework competencies are described as responsibility and independence.

**Competency-based assessment (or CBA):** The gathering and judging of evidence in order to

decide whether a person has achieved a standard of competency.

**Complementary competencies:** Set of knowledge, skills and attitudes which are not directly linked to a specific occupation or industry, but which are important for work, education and life in general, such as communication, mathematics, organizational aptitude, and computer literacy, interpersonal and analytical competency.

**Core modules:** Modules leading to competencies' acquisition that an industry sector has agreed upon as essential for a person to be accepted as competent at a particular level. All modules may be core, but in many cases competency at a level will involve core modules plus optional or specialization modules. Core competencies are normally those central to work in a particular industry.

**Credential:** Formal certification issued for successful achievement of a defined set of outcomes, e.g. successful completion of a course in recognition of having achieved particular knowledge, skills or competencies; successful completion of an apprenticeship or traineeship.

**Credit:** The acknowledgement that a person has satisfied the requirements of a module.

**Curriculum:** The specifications for a course or subject (module) which describe all the learning experiences a learner undergoes, generally including objectives, content, intended learning outcomes, teaching methodology,

recommended or prescribed assessment tasks, assessment exemplars, etc.

**Evidence guide:** The part of a competency standard which provides a guide to the interpretation and assessment of the unit of competency, including the aspects which need to be emphasized in assessment, relationships to other units, and the required evidence of competency.

**Flexible delivery:** A range of approaches to providing education and training, giving learners greater choice of when, where and how they learn. Flexible delivery may involve distance education, mixed-mode delivery, online education, self-paced learning, self-directed learning, etc.

**Formal education:** Also formal training education or training provided in educational institutions such as schools, universities, colleges, etc. or off the job in a workplace, usually involving direction from a teacher or instructor.

**General competencies:** competencies correspond to larger operations that go beyond the tasks, but generally contribute to their implementation. These activities require more fundamental learning and are generally common to several tasks and transferable to many work situations.

**Generic modules:** Modules leading to the attainment of complementary competencies.

**Informal education:** The acquisition of knowledge and skills through experience, reading, social contact, etc.

**Internship:** An opportunity for a learner to integrate career related experience by participating in planned, supervised work.

**Key competencies:** Any of several generic skills or competencies considered essential for people to participate effectively in the workforce. Key competencies apply to work generally, rather than being specific to work in a particular occupation or industry. The following are key areas of competency which were developed into seven key competencies: collecting, analyzing and organizing information; communicating ideas and information; planning and organizing activities; working with others and in teams; using mathematical ideas and techniques; solving problems; and using technology.

**Knowledge:** means the result of the adoption of information through the learning process. Knowledge is a set of facts, principles, theories and practices related to area of work or study. In CBE context lifelong learning knowledge is described as theoretical and / or factual.

**Learning outcomes:** are statements of what learner knows, understands and can perform, based on the completion of the learning process, defined by knowledge, skill and competency.

**Learning activities:** Suggested activities that can be developed during lesson planning and activity preparation. The choice of learning activities must be tailored according to group size, available material resources and communication tools.

**Learning hours:** Amount of hours required to acquire the competency, including the time allocated to evaluation, which is estimated between 5 and 10% of the total learning time of the competency.

**Learning outcomes:** Statements that indicate what learners will know or be able to do as a result of a learning activity. Learning outcomes

are usually expressed as knowledge, skills, or attitudes.

**Learning unit:** Any of the basic building blocks of a module, which describes the key activities or the elements of the work covered by the module

**Module:** A unit of training which corresponds to one competency and which can be completed on its own or linked to others.

**Occupation:** The principal business of one's life.

**Performance criteria** The part of a competency standard specifying the required level of performance in terms of a set of outcomes which need to be achieved in order to be deemed competent. It describes the quality requirements of the result obtained in labor performance.

**Qualification:** means the formal name for the result of a process of assessment and validation, which is obtained when a competent body determines that an individual has achieved learning outcomes to the standards laid down.

**Quality assurance:** The systems and procedures designed and implemented by an organization to ensure that its products and services are of a consistent standard and are being continuously improved.

**Recognition of prior learning (or RPL):** The acknowledgement of a person's skills and knowledge acquired through previous training, work or life experience, which may be used to grant status or credit in a subject or module.

**Skills:** are the ability to apply knowledge and use the principle of "know how" to perform a specific task and to solve the problem. In the context of the CBE Framework, skills are defined as cognitive (involving the use of logical, intuitive

and creative thinking), practical (including physical skill and use of methods, materials, devices and instruments) and social skills (communication and cooperation skills, emotional intelligence and other).

**Specific competencies:** Competencies that are directly related to the tasks of the occupation in the workplace context. They refer to concrete, practical, and focused aspects

**Traineeship:** A system of vocational training combining off-the-job training at an approved training provider with on-the-job training and practical work experience. Traineeships generally take one to two years and are now a part of the New Apprenticeships system.

**Unit of competency:** A component of a competency standard. A unit of competency is a statement of a key function or role in a particular job or occupation. See also element of competency, performance criteria, range of variables.

**Special Population:** A group of individuals with unique needs and characteristics, such as older adults, pregnant women, individuals with disabilities, or those with chronic medical conditions.

**Exercise Physiology:** The study of how the body responds and adapts to physical activity and exercise.

**Adaptations:** The physiological and structural changes that occur in response to exercise, which may vary among different populations.

**Contraindication:** A specific reason or condition that makes a particular exercise or physical activity unsafe or inappropriate for an individual within a special population.

**Intensity:** The level of effort or workload during exercise, often measured as a percentage of an individual's maximum heart rate or one's perceived exertion.

**Periodization:** A training approach that involves systematically changing exercise variables (intensity, volume, and rest periods) to optimize long-term progress.

**Rest and Recovery:** Essential components of any exercise program to allow the body to heal and adapt to the stresses of training.

**Health-Related Fitness:** A component of overall fitness that focuses on aspects of physical fitness associated with health and well-being, including cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition.

**Fitness Assessment:** The systematic process of measuring an individual's fitness levels, often involving a series of tests and evaluations.

**Health Screening:** A preliminary evaluation to identify any medical or physical conditions that may affect an individual's ability to participate in fitness assessments.

**Anthropometric Measurements:** are a set of standardized Measurements of an individual's body size, shape, and composition, including height, weight, body mass index (BMI), and skinfold thickness.

**Muscular Strength:** The maximum amount of force that a muscle or muscle group can generate during a single contraction, assessed

through exercises like the bench press and leg press.

**Body Composition:** The proportion of lean tissue (muscle, bone, organs) to body fat, assessed through methods such as skinfold thickness measurements, bioelectrical impedance, or dual-energy X-ray absorptiometry (DEXA) scans.

**Aerobic Capacity:** The maximum rate at which an individual's body can consume oxygen during exercise, often measured using a maximal oxygen consumption (VO<sub>2</sub>max) test

**Gym:** The term "gym" is short for "gymnasium," and it refers to a facility or space equipped for physical exercise and fitness activities. Gyms provide a range of exercise equipment, weights, machines, and spaces for various forms of physical training

**Fitness instructor:** Fitness instructor is an expert who leads group exercise classes or training sessions. Fitness instructors are responsible for planning and teaching fitness routines to a group of participants.

**Personal trainer:** Personal trainer is a specific type of fitness professional who works one-on-one with individual clients to create personalized exercise programs and provide ongoing support and motivation. They often assess a client's fitness level, set achievable fitness goals, and monitor progress.

**Fitness instructor:** Fitness instructor is an expert who leads group exercise classes or training sessions. Fitness instructors are responsible for planning and teaching fitness routines to a group of participants.

