Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

# CURRICULUM STRUCTURE



## RQF LEVEL 3

# TVET CERTIFICATE III
# in
# Electronics and Telecommunication

Kigali, May 2022

TSVETE3001

TSVETE3001-TVET CERTIFICATE III

# Electronics and Telecommunication

## RQF Level 3 CURRICULUM

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# List of Abbreviations

| | |
|---|---|
| CV | Curriculum Vitae |
| DACUM | Developing a Curriculum |
| EDPRS | Economic Development and Poverty Reduction Strategy |
| IAP | Industrial Attachment Program |
| IPRC | Integrated Polytechnics Regional College |
| MINEDUC | Ministry of Education |
| OHS | Occupational Health and Safety |
| PPE | Personal Protective Equipment |
| RQF | Rwandan Education Qualification Framework |
| RP | Rwandapolytechnic |
| TVET | Technical and Vocational Education and Training |
| UR/CST | University of Rwanda/ College of Science and Technology |
| GPS | Global positioning system |
| IFS | International food standard |
| ILO | International labour organization |
| ISAE | Higher institute of agriculture and animal husbandly |
| ISCO | International standard classification of occupations |
| NTQF | National TVET qualification framework |
| OHS | Occupational health and safety |
| RDB | Rwanda development board |
| UR | Univesity of Rwanda |
| RTB | RwandaTechnical Vocational  Education and Training Board |
| NST1 | National Strategic Transformation 1 |
| RURA | Rwanda Utility Regulation Authority |
| 4IR | Fourth Industrial Revolutions |
| AI | Artificial Intelligence |

# Acknowledgments

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| # | Names | Organization | Position |
|---|---|---|---|

| | | | |
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| | | | |
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**3. Complentary modules**

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| 7 | NDAHAYO Jacques | Nyanza TVET School | Trainer |
| 8 | MUSHIMIYIMANA Chantal | SJIP NYAMIRAMBO | Trainer |
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| 11 | MUHAYIMANA Theoneste | KAYENZI TVET SCHOOL | Trainer |
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| 13 | INGABIRE Francoise | Nyanza –Busasamana | Trainer |

| | | | |
|---|---|---|---|
| | | TVET | |
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# FOREWORD

The global rapid changes in the labour market tends do 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 1(NST1) calls socio-economic transformation through TVET skills development. The Rwanda TVET Board (RTB) was established to promote quality education in technical and vocation education and training from level one (1) to five (5) aimed at fast tracking socio-economic development of the country. Designing and distributing curricula, teaching materials, trainer's guides, methodologies and establish training methods for technical and vocation education and training from level one (1) to five (5); is among other RTB's responsabilities

The existing curricula were limited and narrowed in terms of acquired skills and knowledge and were not meeting the requirements of the current labour market at both national and regional level. In addition there were barriers in vertical mobility and pathways in TVET which resulted in negative TVET perception. Furthermore, they were barriers to admission of TVET graduates of certain programs into higher learning institutions.

The TVET modernization process has begun with a clear picture of the programs focusing on Technical service sector with the high employment potential like Electronics and Telecommunication among others. In this respect, Rwanda TVET Board, is honoured to avail the revised curriculum of Electronics and Telecommunication which serves as the official document and respond to the above mentioned concerns.

With the help of the training providers, trainers, parents whose role is central to the success of this curriculum, the trainees will gain appropriate hand on skills which will make a difference not only to their own lives but also to the success of Rwanda's economy.

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

**Dipl. - Eng. Paul UMUKUNZI**

**Director General/ RTB**

# 1. GENERAL INTRODUCTION

The curriculum presents a coherent and significant set of competencies to perform the occupation/s of of a **Consumer Electronics Equipment Repairer, Sound System Installer, Video System Installer, Mobile Phone Hardware Repairer, Telecommunication Reception Systems Installer**. It is designed with an approach that takes into account the training needs, the work situation, as well as the goals and the means to implement the training.

The modules of the curriculum include a description of the expected results of the training. They have a direct influence on the choice of the theoretical and practical learning activities. The competencies are the targets of the training: the acquisition of each is required for certification.

The curriculum is the reference to carry out the assessment of learning. Assessment tools of learning are developed based on this document.

The curriculum consists of three parts. The first part is of general interest and shows the nature and goals of the program and the key concepts and definitions used in the document. The second part presents the qualification, its level in the qualification framework, its purpose, its rationale and the list of modules it comprises. The third part deals with the training package. It includes the competencies chart, the sequencing of module learning, the description of each module and the course structure.

The pages describing the modules are the heart of a curriculum. They present the title of the module, the length of training, the amount of credits, the context in which the competency is performed, the prerequisite competencies, the learning units and the performance criteria.

In each module, a course structure is provided. The course structure describes the learning outcomes (knowledge, skills and attitudes) and the learning contents related to each learning unit. In addition, the learning activities and resources for learning are suggested.

Finally, the assessment specifications and guidelines are included in each module.

## 1.1 Rationale of the qualification

Rwanda has set an ambitious target to achieve the middle income country status by 2035 and the higher income status by 2050. The technical service sector, which encompasses electronic and telecommunications subsector among others, will be among the driving sectors towards achievement of the afore-mentioned targets.

Over the last decades, electonic and telecommunucation sub-stector has experienced a significant growth. The current trends in the use of mobile phones and computers / IT equipment-based technologies, and in the adoption of electronic consumer equipment are among the key indicators of how this field is pivotal to the socio-economic development of the country. According to the 2019/2020 household survey conducted by the National Institute of Statistics, 77.7% of households had radio receivers, 12.4% had TV sets, 3.9% had computers and 70.6% had mobile phones. The previous figures show how this subsector is so demanding in terms of trained proffesionals in electronic and telecommunication systems installation and repair. Furthermore, the fact that this equipment are available on the market in different types and models, and that they keep on changing as the technology evolves, has been creating gaps in the required knowledge and skills to install and repair these systems. Therefore, there is continuous need for trained professionals in this field to addres the gaps.

# 2. QUALIFICATION DETAILS

## 2.1 Description

| | |
|---|---|
| **Title:** | TVET Certificate 3 in Electronics and Telecommnunication |
| **Level:** | RQF Level 3 |
| **Credits:** | 120 |
| **Sector:** | Technical Services |
| **Trade:** | Electronics and Telecommunication |
| **Issue date:** | May 2022 |

## 2.2 Graduate profile

This qualification provides the skills, knowledge, and attitude for a learner to be competent in a range of routine tasks and activities that require the application of practical skills in a defined context. Work would be undertaken in various Electronic and telecommunication entreprises where different electronic services are carried out. Learners may work with some autonomy or in a team but usually under close supervision.

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

1. Describe the occupation and learning process
2. Maintain SHE at workplace
3. Apply computer literacy
4. Communicate simply using English in familiar situations
5. Gukoresha Kinyarwanda kiboneye
6. Create a business
7. Co-curricular activities
8. Comply with Citizenship Values
9. Apply Algebra and trigonometry
10. Apply General Physics
11. Apply basics of electricity
12. Apply electronic fundamentals
13. Apply Telecommunication systems fundamentals
14. Apply basics of C programming
15. Install telecommunication reception system
16. Install Sound System
17. Install Video System
18. Repair Mobile Phone Hardware

19. Repair Consumer Electronic Equipment
20. Integrate the workplace
21. Pratiquer l'activité de communication en français dans le milieu du travail

## 2.3 Minimum entry requirements and pathways

The minimum entry requirement to this course is to be mentally fit with an interest in Electronic and Telecommunication and related areas.



**Pathways into the qualification**

Preferred pathways for candidates entering this qualification include:

- To have completed 9 Years Basic Education with Outstanding performance in National examination of Ordinary Level in the following subjects: Mathematics and physics which are considered as key prerequisites.
- A range of other related qualifications equivalent to 9 Years Basic Education with Outstanding performance in the following subjects: Mathematics and Physics which are considered as key prerequisites.

**Pathways from the qualification**



Progression route of candidates achieving this qualification include:

- TVET Certificate in **Electronics and Telecommunication**
- A range of other related TVET Certificate IV qualifications.

## 2.4 Job related information

This qualification prepares individuals to integrate the agriculture industry with the professionalization of Electronics and Telecommunication. This qualification again offers the opportunity to execute the works as Sound system installer, Video system installer, Mobile Phone Hardware Repairer, consumer electronic equipment repairer and Telecommunication reception systems installer while ensuring that safety, security and environmental regulations are respected.

**Possible jobs related to this qualification**

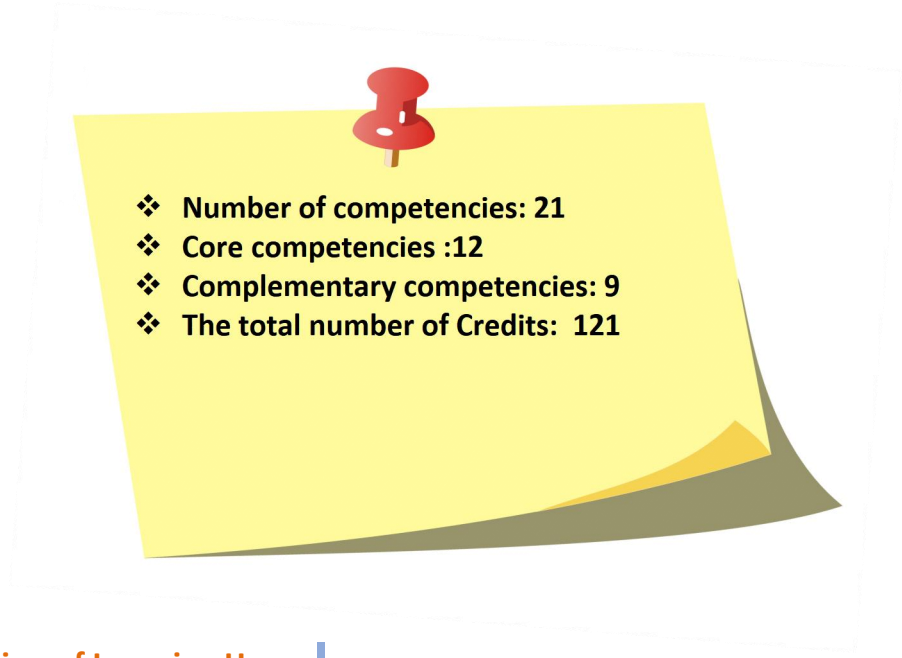
- Consumer Electronic Equipment Repairer
- Sound System Installer
- Video System Installer
- Mobile Phone Hardware Repairer
- Telecommunication Reception Systems Installer

## 2.6 Information about competencies

| No | Code | Complementary competencies | Credit |
|---|---|---|---|
| 1 | CCMOL302 | Describe the occupation and learning process | 3 |
| 2 | CCMHE302 | Maintain SHE at workplace | 3 |
| 3 | CCMCL302 | Apply computer literacy | 3 |
| 4 | CCMEN302 | Communicate simply using English in familiar situations | 3 |
| 5 | CCMKN302 | Gukoresha Kinyarwanda kiboneye | 3 |
| 6 | CCMCB302 | Create a business | 3 |
| 7 | CCMFT302 | Pratiquer l'activité de communication en français dans le milieu du travail | 3 |
| 8 | CCMCZ301 | Comply with Citizenship Values | 3 |
| 9 | CCMKK302 | Kiswahili Watsani | 3 |
| **Total** | | | **27** |

| | No | Code | Core competencies | Credit |
|---|---|---|---|---|
| GENERAL | 1. | **GENAT302** | Apply Algebra and trigonometry | **6** |
| | 2. | **GENAP302** | Apply General Physics | **4** |
| | 3. | **ETEBE302** | Apply basics of electricity | **7** |
| | 4. | **ETEEF302** | Apply electronic fundamentals | **12** |
| | 5. | **ETETF302** | Apply Telecommunication fundamentals | **6** |

| | | | | |
|---|---|---|---|---|
| SPECIFIC | 6. | ETECP302 | Apply c programming fundamentals | 9 |
| | 7. | ETETR302 | Install telecommunication reception system | 4 |
| | 8. | ETESS302 | Install Sound System | 4 |
| | 9. | ETEVS302 | Install Video System | 5 |
| | 10. | ETEMP302 | Repair Mobile Phone Hardware | 6 |
| | 11. | ETECE302 | Repair Consumer Electronic Equipment | 11 |
| | 12. | ETEIA302 | Integrate the workplace | 20 |
| **Total** | | | | **94** |




## 2.7 Allocation of Learning Hours

| N0 | Module name | Learning outcome | Theoretical hours | Practical hours | Total hours |
|---|---|---|---|---|---|
| 1 | **Occupation and Learning Process** | LO1: Participate in a team and respect the rules and regulations of training. | 3 | 7 | 10 |
| | | LO 2: Explain the occupation and learning process | 1 | 4 | 5 |
| | | LO3: Respect the facilitation and apply learning methods. | 1 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| | | LO4: Develop personal plans based on self assessment practices | 3 | 7 | 10 |
| **Total hours** | | | **8** | **22** | **30** |
| **2** | **Safety, Health and Environment at Workplace** | LO1: Maintain personal hygiene, health and safety | 7 | 8 | 15 |
| | | LO2: Sustain a safe and healthy environment at workplace | 3 | 4 | 7 |
| | | LO3: Ensure environmental sustainability | 4 | 4 | 8 |
| **Total hours** | | | **14** | **16** | **30** |
| **3** | **Français** | LO1: Lire un texte lié à son métier | 2 | 6 | 8 |
| | | LO 2:Pratiquer l'expression orale | 2 | 6 | 8 |
| | | LO 3: Accorder les verbes | 2 | 12 | 14 |
| **Total hours** | | | **6** | **24** | **30** |
| **4** | **Entrepreneurship** | LO1: Describe basic aspects of Entrepreneurship | 5 | 5 | 10 |
| | | LO2: Assess Business Environment | 2 | 3 | 5 |
| | | LO3: : Generate Business Idea | 7 | 8 | 15 |
| **Total hours** | | | **14** | **16** | **30** |
| **5** | **Citizenship** | LO1: Describe Rwanda colonization period | 6 | 2 | 8 |
| | | LO2: : Describe the Independent Rwanda | 7 | 3 | 10 |
| | | LO3: E Patriotism and Heroism in Rwanda | 5 | 1 | 6 |
| | | LO4: Examine leadership and management | 5 | 1 | 6 |
| **Total hours** | | | **23** | **7** | **30** |
| | | LO 1: Narrate about familiar events and activities | 1 | 6 | 7 |

| | | | | | |
|---|---|---|---|---|---|
| **6** | **English** | LO2: Write short compositions on familiar topics | 2 | 6 | 8 |
| | | LO3: Read and interpreting messages from simple texts and social letter | 1 | 6 | 7 |
| | | LO4: React to common trade-related oral English. | 2 | 6 | 8 |
| **Total hours** | | | **6** | **24** | **30** |
| **7** | **Information and Communication Technology** | LO1: Apply computer basics | 3 | 8 | 10 |
| | | LO2: Use a current Word processing package | 1 | 4 | 5 |
| | | LO3: Use current spreadsheet package | 1 | 4 | 5 |
| | | LO4: Use current power point presentations | 1 | 4 | 5 |
| **Total hours** | | | **7** | **23** | **30** |
| **8** | **Ikinyarwanda** | LO1: Gukoresha ubuvanganzo gakondo ashyikirana n'abandi | 1 | 5 | 6 |
| | | LO 2: Gukoresha Ikinyarwanda kiboneye agaragaza itandukaniro ry'amazina bwite n'amazina rusange n'imiterere y'isanisha ryo mu bisekuru. | 1 | 5 | 6 |
| | | LO3 :Kugaragaza amategeko y'igenamajwi mu izina mbonera. | 1 | 5 | 6 |
| | | LO 4: Kugaragaza intêgo ya ntera n'amategeko y'igenamajwi. | 1 | 5 | 6 |
| | | LO5: Gukoresha imyandikire ikwiye y'Ikinyarwanda. | 1 | 5 | 6 |
| **Total hours** | | | **5** | **25** | **30** |
| | | LO1: Kutumia msamiati wa Kiswahili katika maandishi na | 2 | 8 | 10 |

| | | | | | |
|---|---|---|---|---|---|
| | | mazungumzo kimsingi | | | |
| **9** | **Kiswahili Wastani** | LO2: Kutumia aina za maneno ya lugha ya Kiswahili kimazungumzo na kimaandishi. | 2 | 8 | 10 |
| | | LO3: : Kutumia nyakati za Kiswahili kimaandishi na kimazungumzo. | 2 | 8 | 10 |
| **Total hours** | | | **6** | **24** | **30** |
| **10** | **Applied Mathematics** | LO5: **Use Internet/Intranet (outlook)** | 1 | 4 | 5 |
| | | LO2: Apply matrices insolving simultaneous linear equations | 5 | 5 | 10 |
| | | LO3: Applyfundamentals of trigonometry | 7 | 8 | 15 |
| | | LO4: Apply fundamentals ofcomplex numbers | 8 | 7 | 15 |
| **Total hours** | | | **30** | **30** | **60** |
| **11** | **Applied Physics** | LO1: Describe basic measurements in physics | 4 | 4 | 8 |
| | | LO2: Describe Motion in 1-Dimension | 2 | 3 | 5 |
| | | LO3: Analyse motion in 2-Dimensions | 3 | 3 | 6 |
| | | LO4: Demonstrate electrostatic phenomena | 4 | 4 | 8 |
| | | LO5: Apply Geometric optics | 4 | 3 | 7 |
| | | LO6: Characterize sources of energy in the world | 3 | 3 | 6 |
| **Total hours** | | | **20** | **20** | **40** |
| **12** | **Apply basics of electricity** | LO1: : Apply basic concepts of electricity | 20 | 10 | 30 |
| | | LO2: Perform domestic electrical installations | 10 | 25 | 35 |
| | | LO3: Prepare technical report and invoice | 2 | 3 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| **Total hours** | | | **32** | **38** | **70** |
| **13** | **Electronic Fundamentals** | LO1: Apply passive components | 10 | 10 | 20 |
| | | LO2: Apply Active components | 10 | 35 | 45 |
| | | LO3: Use electronic lab/ workshop equipment | 5 | 5 | 10 |
| | | LO4: Use electronic circuit simulation software | 5 | 15 | 20 |
| | | LO5: Perform PCB design and implementation | 10 | 15 | 25 |
| **Total hours** | | | **40** | **80** | **120** |
| **14** | **Telecommunication Systems fundamentals** | LO1: Describe telecommunication systems | 15 | 5 | 20 |
| | | LO2: Use transmission media | 5 | 10 | 15 |
| | | LO3: Apply Networking skills | 5 | 10 | 15 |
| | | LO4: Apply modulation/ Demodulation and Multiplexing/ Demultiplexing Techniques | 5 | 5 | 10 |
| **Total hours** | | | **30** | **30** | **60** |
| **15** | **C Programming Fundamentals** | LO1: Describe Computer programming Languages | 10 | 15 | 25 |
| | | LO2: Write C Programming codes | 5 | 30 | 35 |
| | | LO3: Perform Program Debugging | 4 | 6 | 10 |
| **Total hours** | | | **24** | **66** | **70** |
| **16** | **Telecommunication Reception System Installation** | LO1: Conduct site survey | 2 | 3 | 5 |
| | | LO2: Install TV reception antenna | 5 | 20 | 25 |
| | | LO3: Configure the TV receiver and Decoder | 5 | 5 | 10 |
| **Total hours** | | | **12** | **28** | **40** |
| **17** | **Sound System Installation** | LO1: Conduct site survey | 2 | 3 | 5 |
| | | LO2: Select and Prepare | 5 | 5 | 10 |

| | | | | | |
|---|---|---|---|---|---|
| | | equipment | | | |
| | | LO3: : Install and Test the Sound System | 5 | 20 | 25 |
| **Total hours** | | | **12** | **28** | **40** |
| **18** | **Video System Installation** | LO1: Conduct pre-work activities | 2 | 3 | 5 |
| | | LO2: Prepare video system equipment | 5 | 10 | 15 |
| | | LO3: Perform video system installatio | 10 | 20 | 30 |
| **Total hours** | | | **17** | **33** | **50** |
| **19** | **Mobile Phone Hardware Repairing** | LO1: Conduct pre-repair activities | 5 | 5 | 10 |
| | | LO2: Repair system charge | 2 | 3 | 5 |
| | | LO3: Replace the screen | 3 | 9 | 12 |
| | | LO4: Replace and repair mobile phone motherboard and peripherals | 5 | 10 | 15 |
| | | LO5: Clean the workplace | 1 | 2 | 3 |
| | | LO6: Prepare technical report and invoice | 2 | 3 | 5 |
| **Total hours** | | | **18** | **32** | **50** |
| **20** | **Integrate the workplace** | LO1:Apply for internship | 10 | 0 | 10 |
| | | LO2:Demonstrate workplace behaviour and attitudes | 10 | 0 | 10 |
| | | LO3:Analyze own professional gaps in line with industry demands | 10 | 0 | 10 |
| | | LO4:Enhance acquired competencies at the workplace | 0 | 170 | 170 |
| **Total hours** | | | **30** | **170** | **200** |
| **21** | **Consumer Electronic Equipment Repairing** | LO1: Conduct pre-repair | 3 | 2 | 5 |
| | | LO2: Repair radio receiver | 5 | 10 | 15 |
| | | LO3: Repair TV receiver | 10 | 30 | 40 |
| | | LO4: Repair power audio | 5 | 10 | 15 |

| | | | | | |
|---|---|---|---|---|---|
| | | amplifier | | | |
| | | LO5: Repair audio mixer | 5 | 10 | 15 |
| | | LO6: Repair synthesizer | 5 | 10 | 15 |
| | | LO7: Prepare technical report and invoice | 3 | 2 | 5 |
| **Total hours** | | | **36** | **74** | **110** |
| **Total hours** | | | | | **1180** |

# 3. TRAINING PACKAGE

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

## 3.1 Course structure

The course structure describes the learning outcomes for each learning unit. 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.

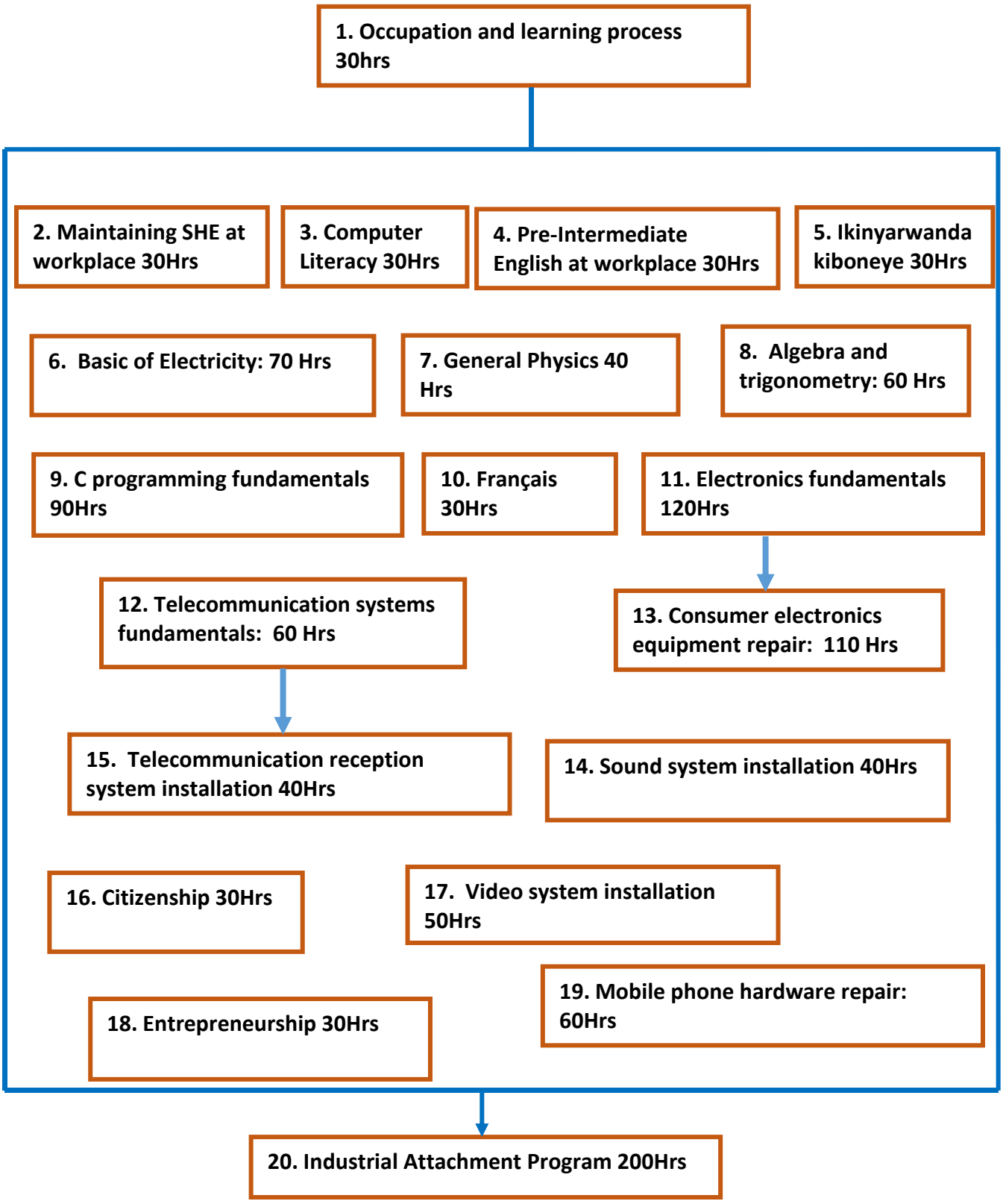



Figure 1: *Flowchart*

# 4. 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.

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

## 4.2 Formative Assessment

This is applied on all types of modules (e.g. Complementary, General and Specific modules)

A trainee to be competent for a formative module must have at least 70%

A trainee to be eligible to undertake integrated assessment of specific modules must have at least 50% as passing line for general and complementary modules.

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

### 4.3 Summative 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.
The integrated situation provided in the curriculum is a sample of the assessment to be carried out, the Trainer/Teacher has the role of developing another one referring to the task to be carried out in the integrated situation in accordance to the circumstances inside school, but the integrated situation should stick on the components of a task.
During Summative/Integrated assessment, assessor panel members should be three (3).

The trainee can be declared competent based on the assessment CRITERIA and its respective assessment indicators

The Passing Line for the modules is:

- 50 % for general and complementary modules
- 70 % for specific modules

<table>
<tr><th colspan="2">Training delivery</th><th>100%</th><th colspan="2">Assessment</th><th>Total 100%</th></tr>
<tr><td colspan="2">Theoretical content</td><td>30%</td><td rowspan="4">Formative assessment</td><td>30%</td><td rowspan="4">50%</td></tr>
<tr><td colspan="2">Practical work:</td><td rowspan="3">70%</td><td rowspan="3">70%</td></tr>
<tr><td>Group project and presentation</td><td>20%</td></tr>
<tr><td>Individual project /Work</td><td>50%</td></tr>
<tr><td colspan="3"></td><td colspan="2">Summative Assessment</td><td>50%</td></tr>
</table>

**Note:**

1. Summative assessment is always conducted at the completion of module delivery. It should be practical through an integrated situation for specific modules and in any other forms of assessment for complementary and general modules.

2. Learning hours assigned to specific module includes the duration assigned to integrated assessment

# 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.

*Employable Skills for Sustainable Job Creation*

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