Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

CURRICULUM STRUCTURE

RQF LEVEL

4

TVET CERTIFICATE IV
in
PLUMBING TECHNOLOGY

CBSPLT4001

Kigali, May 2023

CBSPLT4001-TVET CERTIFICATE IV

Plumbing Technology

RQF Level 4 CURRICULUM

1200

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List of Abbreviations

4IR	Fourth Industrial Revolutions
AI	Artificial Intelligence
PVC	Polyvinyl Chloride
LPG	Liquid Petroleum Gas
UPVC	Unplasticized Polyvinyl Chloride
CAT	Common Assessment Test
GS	Gas supply Installation
PPR	Polypropylene Random
GI	Galvanized iron
HDPE	High Density Polyethylene
MDPE	Medium Density Polyethylene
CAD	Computer Aided Design
CDU	Curriculum Development Unit
CM	Complementary Modules
CV	Curriculum Vitae
DACUM	Developing a Curriculum
HR	Human Resources
IAP	Industrial Attachment Program
IOT	The Internet of Things
IPRC	Integrated Polytechnics Regional College
MINEDUC	Ministry of Education
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
RQF	Rwandan Qualification Framework
RP	Rwanda Polytechnic
RTB	Rwanda TVET Board
SWOT	Strength Weakness Opportunities and Threats
TSS	Technical Secondary School
TVET	Technical and Vocational Education and Training
CBSPLT	Construction Builing Service Plumbing Technology
WHS	Work Health & Safety
PLT	Plumbing Technology
UR/CST	University of Rwanda/ College of Science and Technology
RSB	Rwanda Standard Board
ISO	International Standard Organisation
EAS	East Africa Standard
PLTHW	Plumbing Technology Hot Water
GDP	Gross Domestic Product

Acknowledgments

Rwanda Technical and Vocational Education and Training Board (RTB) wishes to extend its gratitude to the following partners, stakeholders and institutions involved in development of this program including private sector, government institutions and other professionals.

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Curriculum Development Team

1. Specific modules

No	Names	**Organization**	**Position**
1.	SINAYOBYE Pascal	Nyamirama TSS	Plumbing Trainer
2.	MUTEGARUGORI Theodosie	Muganza TSS	Plumbing Trainer
3.	BIZIMANA Jean Bosco	ESTB BUSOGO	Plumbing Trainer
4.	UWIMANA Abdoulkarim	CILECOS Ltd	Plumber
5.	TUYISENGE Emmanuel	Nyamirama TSS	DOS
6.	NIYONZIMA Alphonse	IPRC Ngoma	Chief Instructor
7.	GASAGURE Jean Baptiste	WAGAPE Construction	Senior Plumber
8.	TWAGIRIMANA Jean Claude	RPO	President &Plumber
9.	RENZAHO Emmanuel	Nyagisozi TSS	Head Teacher
10.	NIZEYIMANA Cassien	REAL Contractors Ltd	Senior Plumber
11.	HATANGIMANA Aloys	REAL Contractors Ltd	Senior Plumber
12	UWANYIRIJURU David	KAVUMU TSS	Plumbing Trainer
13	TUMUSABE Yvonne	St Martin Gisenyi TSS	Plumbing Trainer
14	Bashir KATUREEBE BULWANYI	UGHE	Campus Plumber
15	MAHIRANE Olivier	Don Bosco GATENGA TSS	Plumbing Trainer
16	IRAMBONA Olive	Muganza TSS	DOS
17	NTIVUGURUZWA Jean Berchmas	GS KIGEYO/GIKONKO TSS	Trainer
18	NYIRANEZA Theopiste	EDYS Consultant Ltd	Senior Plumber

2. General modules

No	Names	Organization	Position
1.	HAKIZIMANA Joseph	ST Dominique Mazzarello TSS	Trainer
2.	UWITONZE Modeste	UR/CST	Lecture in Chemistry
3.	UFITINEMA Jean Chrisostome	UR/CST	Assistant Lecture in Biology
4.	MUNEZERO Wivine	IPRC NGOMA	Trainer
5.	MBUGUJE Bienvenu	IPRC NGOMA	Assistant Lecture in French
6.	SIBOMANA Abbas Mohamed	IPRC NGOMA	Assistant Lecture in English
7.	AKINGENEYE Angelique	ACEJ Karama	Trainer of Entrepreneurship
8.	MUHAYIMANA Theoneste	Kayenzi TSS	Trainer of IAP
9.	NTIVUGURUZWA Procure	GSNDP Cyanika	Trainer of Entrepreneuship
10.	HAKUNDWUMUKIZA Henry	Lycee de Ruhango IKIREZI	Trainer of communication skills
11.	RWAGASANA Emmanuel	Buffer Technologies Ltd	Trainer of ICT
12	HARERIMANA Charles	College de la lumiere de Gashonga TSS	Trainer of ICT
13	NGEZAHAYO Emmanuel	RUSUMO High School	Trainer of English
14	UFITINEMA Bonaventure	GSNDP Cyanika	Trainer of Mathematics
15	NDAHAYO Jacques	NYANZA TSS	Trainer of English
16	NTIVUGURUZWA Jean Berchimas	GS KIGEYO/GIKONKO TVET school	EnglishTrainer
17	MUTAGANZWA Gilbert	ES RUKARA	Umwarimu w'Ikinyarwanda
18	MATATA Jean Bosco	GS ADEBE	Umwarimu w'Ikinyarwanda
18	NINKABANDI Theogene	Nyanza TSS	Trainer of Physics
19	DUSABEMARIYA Francine	IPRC Kigali	Lecture
20	RIKUNZE Jean Damascene	APEKI-Tumba	Trainer of French

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, there 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 sector with the high employment potential like Construction and Building Services among others. In this respect, Rwanda TVET Board is honoured to avail the revised curriculum of RQF leve 4 Plumbing Technology 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.

Eng._ Dip. Paul UMUKUNZI

Director General/ RTB

1. GENERAL INTRODUCTION

The curriculum presents a coherent and significant set of competencies to perform the occupation/s of a **hot water system installer**, **Water Distributor**, **Gas supply system installer, Water Pumping System Installer, firefighting system installer,Plumbing draft Man, Plumbing systems Welder,** 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,theelements of competency 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.

2.4 Rationale of the qualification

Rwanda's building and construction industry has rapidly grown in the past couple of years with both government and private sector engaged in the construction of buildings and other infrastructure triggering what is now dubbed as a "construction boom in Rwanda". The construction industry contributes immensely towards the GDP of the Country mainly through direct income and massive employment opportunities generated from various infrastructure projects, rehabilitation and maintenance. It is estimated that the construction sub-sector of the larger industrial sector contributes the highest to the country's industrial GDP. However, there has been a shortage in skilled construction workers to work in the various constructions projects more specifically building services, plumbing among others.

Therefore, skilled **hot water system installer, Water Distributor, Gas supply system installer, Water Pumping System Installer, firefighting system installer,Plumbing draft Man, Plumbing systems Welder** are the key occupations that need to be trained to drive the target of the government in construction and building services sector/plumbing.

2. QUALIFICATION DETAILS

2.1. Description

Title:	TVET Certificate 4 In Plumbing Technology
Level:	RQF Level 4
Credits:	120
Sector:	Construction and Building Services
Sub-sector:	Plumbing Technology
Issue date:	May, 2023

2.3 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 building and construction entreprises where installing pumps,firefighting system, hot water system,water distribution network and fuel gas supply system are needed. 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. Develop a business plan
2. Use intermediate English at workplace
3. Apply computer skills
4. Gukoresha Ikinyarwanda kiboneye
5. Exprimer des opinions en français élémentaire
6. Kutumia Kiswahili katika mawasiliano ya kawaida
7. Citizenship
8. Apply Mechanics and properties of matter
9. Apply Fundamental Mathematical Analysis
10. Demonstrate knowledge of Organic Chemistry
11. Integrate the workplace
12. Apply basic technical drawing and AutoCAD
13. Perform plumbing basic welding
14. Install water distribution networks

15. Perform firefighting installation
16. Perform installation of Fuel gas system
17. Install hot water system
18. Perform pumping system installation

2.4 Minimum entry requirements and pathways

The minimum entry requirement to this qualification is to have successfully completed TVET certificate III in plumbing technology or any other equivalent certification.

Pathways into the qualification

Pathways from the qualification

Preferred pathways for candidates entering this qualification include:

- TVET Certificate III in plumbing technlogy
- Recognition of prior learning related to this qualification

Progression route of candidates achieving this qualification include:

- TVET Certificate V in Plumbing Technology
- A range of other related TVET Certificate V qualifications.

2.5 Job related information

This qualification prepares individuals to integrate the building construction industry with the professionalization of *a* plumbing technician. This qualification again offers the opportunity to execute the works as either hot water system installer, water distributor, fuel gas system installer, water pumping system installer,fire fighting system installer, Plumbing draft Man, and Plumbing systems Welder, while ensuring that safety, security and environmental regulations are respected.

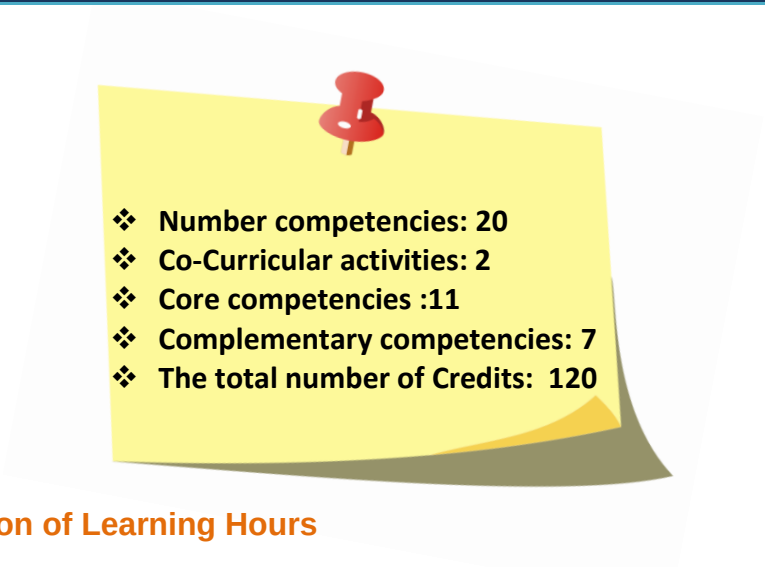
Possible jobs related to this qualification

- Hot water system installer,
- Water Distributor,
- Gas supply system installer,
- Water Pumping System Installer,
- Firefighting system installer,
- Plumbing draft Man, and
- Plumbing systems Welder.

2.6 Information about competencies

No	Code	Complementary competencies	Credit
1	CCMBC402	Entrepreneurship	3
2	CCMEN402	English	3
3	CCMCL402	ICT	3
4	CCMKN402	Ikinyarwanda	3
5	CCMFT402	Français	3
6	CCMKS402	Kiswahili	3
7	CCMCT401	Citizenship	3
Total			**21**

	No	Code	Core competencies	Credit
GENERAL	1.	GENFA402	Applied Mathematics	6
	2.	GENMP402	Applied Physics	4
	3.	GENAC402	Applied Chemistry	3
	4.	PLTPW401	Plumbing basic welding	7
	5.	PLTTD401	Basic technical drawing and AutoCAD	11
SPECIFIC	6.	PLT WD 401	Installation of water distribution networks	10
	7.	PLTGS 401	Fuel gas system installation	9
	8.	PLTFF 401	Fire fighting system installation	9
	9.	PLTPS401	Pumping system Installation	9
	10.	PLTHW401	Hot water system installation	9
	11.	PLTHW401	Integrate the workplace	20
	Total			**97**



2.8 Allocation of Learning Hours

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
1	Entrepreneurship	LO1. Identify elements of business plan	7	3	10
		LO2. Write a business plan in line with the identified elements	5	5	10
		LO3. Establish business contingency plan	4	3	7
		LO4. Present a business plan	1	2	3
Total hours			17	13	30

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
2	ICT	LO1. Describe the operating system	4	11	15
		LO2. Customize the computer features	3	7	10
		LO3. Protect computer system	2	3	5
Total hours			9	21	30
3	Citizenship	LO1. Make a Comparative study of Genocides.	7	3	10
		LO2. Protect human rights	7	3	10
		L.O3. Promote peace and social cohesion	7	3	10
Total hours			21	9	30
4	English	L.O1. Write factual, descriptive, and explanatory correspondence text.	4	5	9
		L.O2. Apply a range of listening strategies and activities to understand predictable messages	4	3	7
		L.O3. Discussion, supporting or refute ideas on general and trade-related topics	3	4	7
		L.O4. Read medium texts on general and trade-related topics	4	3	7
Total hours			15	15	30

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
5	Ikinyarwanda	L.O1. Gukoresha ubuvanganzo gakondo bufatiye ku mwuga ashyikirana n'abandi , gutandukanya ubwoko bw'inshinga no gukoresha ikomorazina n'ikomoranshinga .	6	4	10
		L.O2. Gukoresha Ikinyarwanda uwiga agaragaza ibyiza by'ikoranabuhanga mu iterambere ry'umwuga no gusesengura ibinyazina binyuranye.	2	3	5
		L.O3. Gukoresha Ikinyarwanda uwiga agaragaza ububi bw'ibiyobyabwenge mu rubyiruko, kugaragaza amategeko y'igenamajwi yerekeye n'ingombajwi muizina mbonera no kunoza imyandikire y'inyuguti nkuru mu nteruro.	2	3	5
		L.O4. Gukoresha Ikinyarwanda uwiga agaragaza uburyo bunyuranye bwo gufata neza ibidukikije no gukoresha indangahantu n'ibyungo.	2	3	5
		L.O5. Gukoresha Ikinyarwanda uwiga agaragaza akamaro k'ubutabazi bw'ibanze no gukoresha impakanyi n'indango z'inshinga.	3	2	5
Total hours			15	15	30

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
6	Français	L.O1. Préciser des informations,	6	5	11
		L.O2. Décrire des personnes et des lieux et exprimer ses goûts	4	4	8
		L.O3. Indiquer l'itinéraire.	5	6	11
Total hours			15	15	30
7	Kiswahili	LO1: Kutumia ngeli za Majina ya Kiswahili kimazungumzo na kimaandishi.	6	6	12
		LO2: Kutunga insha.	5	5	10
		LO3: Kutumia kimazungumzo na kimaandishi istilahi/rejesta zinazohusiana na kazi.	4	4	8
Total hours			15	15	30
8	Apply Fundamental Mathematical Analysis	LO1: Analyse algebraic functions	7	8	15
		LO2: Apply fundamentals of differentiation	5	5	10
		LO3: Apply exponential functions	7	8	15
		LO4: Apply logarithmic functions	5	5	10
Total hours			30	30	60
9	Apply Mechanics and Properties of Matter	LO1: Describe laws of motion and their applications	3	1	4
		LO2: Apply static equilibrium and elasticity	4	4	8
		LO3: Analyse fluid mechanics	4	2	6
		LO4: Apply thermodynamics	4	5	9
		LO5: Examine effects of electric current flow in DC electric circuit	3	4	7
		LO6: Apply geometric instruments	3	3	6
Total hours			21	19	40

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
10	Apply Basic Knowledge of Organic Chemistry	LO1: Explain organic compounds	8	2	10
		LO2: Discuss biochemical molecules	5	5	10
		LO 3: Describe polymers	2	8	10
Total hours			15	15	30
11	Perform plumbing basic welding	LO 1: Prepare welding operations	3	7	10
		LO3: Perform arc welding	10	25	35
		LO4: Apply oxy acetylene gas welding on mild steel	7	18	25
Total hours			20	50	70
12	Perform firefighting system installation	LO1: Perform pre-installation activities	3	7	10
		LO2: Perform Installation activities	15	35	50
		LO3: Perform post-installation activities	9	21	30
Total hours			27	63	90
13	Perform installation of fuel gas system	LO1: Perform pre-installation activities	4	11	15
		LO2: Perform Installation activities	18	42	60
		LO3: Perform post-installation activities	5	10	15
Total hours			27	63	90

N0	Module name	Learning outcome	Theoretical hours	Practical hours	Total hours
14	Install Hot water system	LO1: Perform pre-installation activities	7	18	25
		LO2: Perform Installation activities	13	29	42
		LO3: Perform post-installation activities	7	16	23
Total hours			27	63	90
15	Perform Pumping System Installation	LO1: Perform pre-installation activities	7	18	25
		LO2: Perform Installation activities	15	35	50
		LO3: Perform post-installation activities	5	10	15
Total hours			27	63	90
16	Apply basic technical drawing and AutoCAD	LO1: Apply technical drawing fundamentals	3	7	10
		LO2: Produce Plumbing drawing	12	28	40
		LO3: Describe AutoCAD software	7	18	25
		LO4: Create drawings	11	24	35
Total hours			33	77	110
17	Install Water Distribution Networks	LO1: Perform pre-installation activities	6	14	20
		LO2: Perform connection activities	15	38	53
		LO3: Perform post-connection activities	8	19	27
Total hours			29	71	100
18	Integrate the workplace	LO1: Investigate and secure industrial attachment place	8	2	10
		LO2: Deal with industrial attachment challenges at workplace	7	3	10
		LO3: Get briefed on industrial attachment program	8	2	10
		LO4.: Develop one's competencies on the workplace	7	163	170
Total hours			30	170	200

3. TRAINING PACKAGE

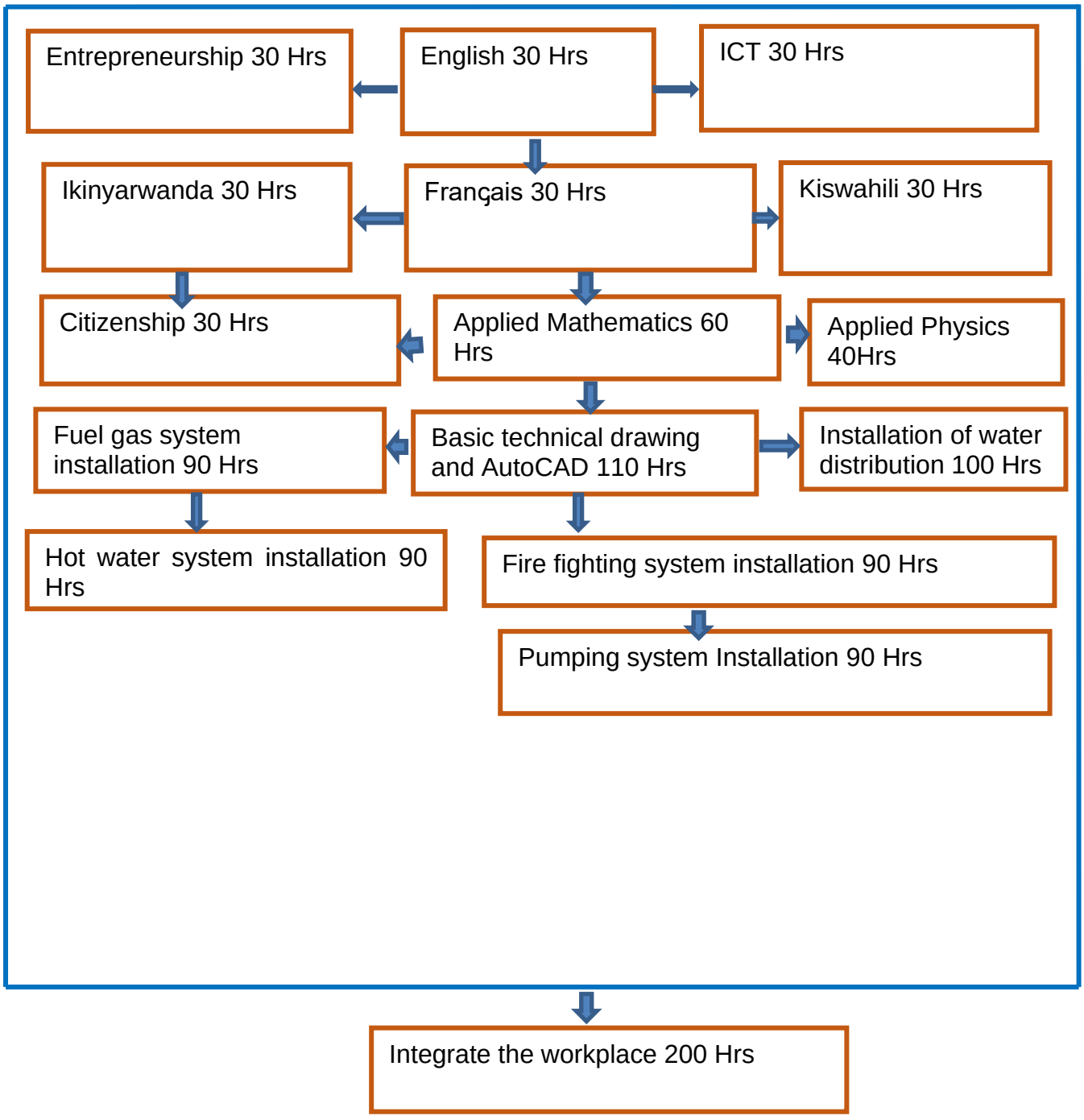
The training package includes the competencies chart, the flowchart, the modules, the course structure, and the assessment guidelines.

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.


Entrepreneurship 30 Hrs
English 30 Hrs
ICT 30 Hrs
Ikinyarwanda 30 Hrs
Français 30 Hrs
Kiswahili 30 Hrs
Citizenship 30 Hrs
Applied Mathematics 60 Hrs
Applied Physics 40Hrs
Fuel gas system installation 90 Hrs
Basic technical drawing and AutoCAD 110 Hrs
Installation of water distribution 100 Hrs
Hot water system installation 90 Hrs
Fire fighting system installation 90 Hrs
Pumping system Installation 90 Hrs
Integrate the workplace 200 Hrs

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.

Formative Assessment

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

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

A trainee to beeligible 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

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="3">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="2"></td><td colspan="2">Summative Assessment</td><td>50%</td></tr>
</table>

Note: 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.

GLOSSARY

1. **Assessment**: A process of gathering and judging evidence in order to decide whether a person has attained a standard of performance.
2. **Assessment criteria:** Statements which describe performances and place them in context with sufficient precision to allow valid and reliable assessment.
3. **Best practice:** Management practices and work processes that lead to outstanding or top-class performance and provide examples for others.
4. **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.
5. **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.
6. **Competency-based assessment (or CBA):** The gathering and judging of evidence in order to decide whether a person has achieved a standard of competency.
7. **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.
8. **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.
9. **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.

10. **Credit**: The acknowledgement that a person has satisfied the requirements of a module.
11. **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.
12. **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.**
13. 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.
14. **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.
15. **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.
16. **Generic modules**: Modules leading to the attainment of complementary competencies.
17. **Informal education:** The acquisition of knowledge and skills through experience, reading, social contact, etc.
18. **Internship**: An opportunity for a learner to integrate career related experience by participating in planned, supervised work.
19. **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.
20. **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.

21. **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.
22. **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.
23. **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.
24. **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.
25. **Module**: A unit of training which corresponds to one competency and which can be completed on its own or linked to others.
26. **Occupation**: The principal business of one's life.
27. **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.
28. **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.
29. **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.
30. **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.
31. **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).
32. **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

33. **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.
34. **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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